



# Community Partners for Clean Streams



## SERIES #3: Maintaining Equipment and Vehicles



# COMMUNITY PARTNERS FOR CLEAN STREAMS

*NOTE: This handbook is one in a series of handbooks that describes specific practices businesses can use to protect water quality. A complete list of all handbooks and fact sheets available through the Community Partners for Clean Streams program is provided on the back cover. To obtain other handbooks in this series, contact the Office of the Washtenaw County Drain Commissioner at the address or phone number provided below.*

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## **Becoming a “Community Partner for Clean Streams”**

We hope you'll join with the Washtenaw County Drain Commissioner's Office and other area businesses and institutions by participating in the Community Partners for Clean Streams program. Through this program, businesses help protect County rivers and streams.

To participate in the program, the checklist in the back of this handbook must be completed and approved. In return for your effort, we'll publicly acknowledge your business through newspaper articles, displays and speaking engagements. We'll also encourage consumers to look for the Community Partners logo at your business when they select services.

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## **Washtenaw County Award for “Environmental Excellence”**

By becoming a Community Partner, your business will have completed the water quality criteria for Washtenaw County's “Environmental Excellence” award. These annual awards are presented to businesses in the County that proactively protect the environment. For more information about this award program, contact the Community Partners Program Manager, or the Office of the Washtenaw County Drain Commissioner.

Community Partners for Clean Streams Program Manager  
Washtenaw County Drain Commissioner's Office  
705 North Zeeb Rd.  
Ann Arbor, MI 48107

Phone: (734) 222-6833 or (734) 222-6813

Fax: (734) 994-2459

<http://drain.ewashtenaw.org>

*Handbook Design and Illustration by David Zinn*

# Directions for Completing the Water Quality Assessment Checklist Questions at the End of this Booklet

**- Please Read Carefully -**

1. For each question, check the appropriate answer box in the Assessment column (*Always*, *Needs Improvement*, or *Not Applicable*).
2. Next, check the corresponding box in the Action Plan column (*Plan to Continue* or *Plan to Improve*).
3. For every activity, indicate:
  - **Who** is, or will be responsible. It is best to answer with a job position, i.e. facility manager.
  - **Schedule** or proposed date by which the activity will be completed.
  - **Action(s)** - please provide additional details regarding the implementation of a proposed activity, or explain what is already being done.
  - If the action requires ongoing employee training or commitment from management, check that box as a reminder to include it in your employee education activities.

(See example below)

THE ASSESSMENT IS NOT COMPLETE UNTIL THIS INFORMATION IS PROVIDED FOR EACH QUESTION.

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705 North Zeeb Rd.  
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## SAMPLE CHECKLIST QUESTION:

**1. Steps are taken to minimize the amount of potentially polluting materials and wastes kept in storage.**

ASSESSMENT

- |   |   |
|---|---|
| <input type="checkbox"/> Not applicable                     | ACTION PLAN   |
| <input type="checkbox"/> Always .....                       | <input type="checkbox"/> Plan to continue           |
| <input checked="" type="checkbox"/> Needs Improvement ..... | <input checked="" type="checkbox"/> Plan to improve |

Responsible job or staff position(s): Safety Manager

Schedule: Materials will be in place by 12/01

Action(s): Spill kits, absorbent pads, and spill response plans will be placed near all areas that have the potential for spills.

Requires ongoing education/commitment







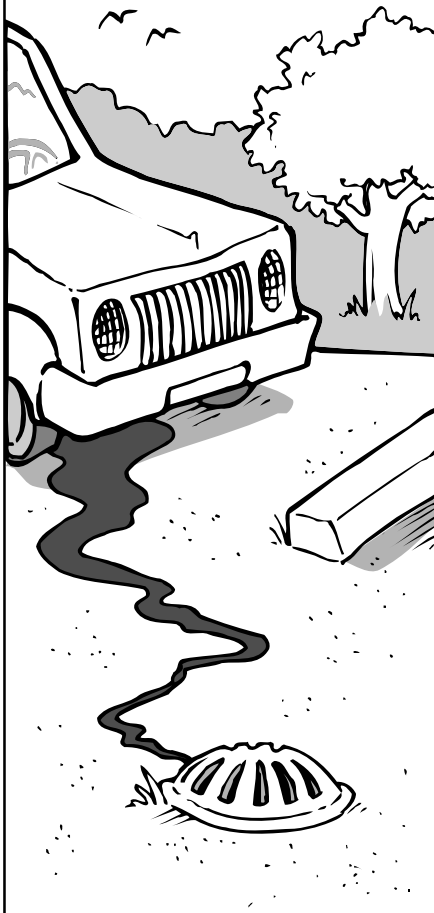
# Storing and Maintaining Equipment and Vehicles



## Why be concerned?

Dirty or leaking equipment and vehicles can deposit oil, grit, coolants, and other pollutants onto the ground. These pollutants can filter through soils to the groundwater table or be washed by stormwater into a lake, river or stream.

In addition, spills may occur during fueling and other maintenance activities. Designing outdoor maintenance areas to completely contain leaks and spills is an important part of protecting water quality.



## Eight Steps to Preventing Water Pollution

### 1 Regularly maintain equipment and vehicles

- Keep equipment and vehicles clean and regularly inspect them for leaks. Immediately repair and clean up any leaks that are found. Wash equipment and vehicles according to the recommendations in **Series #3, Fact Sheet 3.2**.
- Calibrate equipment frequently to ensure proper application patterns and rates.
- Drain all the fluids from equipment and vehicles before they are placed in seasonal or long-term storage. Remove fluids only in paved areas that are designed to contain spills. Recycle or otherwise properly dispose of drained fluids.

### 2 Perform maintenance activities only in designated areas

Maintain equipment and vehicles indoors, if possible. If maintenance activities must take place outdoors, make sure they're performed only in designated areas that are clearly marked and designed to prevent water pollution.

### 3 Properly design outdoor storage, fueling and other maintenance areas

- Don't locate outdoor storage, fueling, or maintenance areas within a floodplain or within 100 feet of any part of the stormwater management system.

- Pave the area with concrete to prevent pollutants from filtering into the ground. Avoid the use of asphalt, since fuel will cause it to deteriorate.

- If necessary, construct curbs or berms around the perimeter to contain spills and prevent stormwater from washing through the area.

- Connect drains to a dead-end holding area or the sanitary sewer. Don't allow storage, fueling or other maintenance areas to drain to any part of the stormwater management system. If you aren't sure where a drain leads, call the Drain Commissioner's office and request that it be dye-tested. Before allowing fluids to drain to the sanitary sewer, call your local wastewater treatment plant and make sure they can be accepted.

- Equip drains with shutoff valves in case of a spill and regularly inspect these valves to ensure they work. Alternatively, keep rubber mats or temporary plugs on hand to block drain inlets. If plugs are used, employees must be trained in advance on how to use them.

- Cover storage and maintenance areas to keep rainwater from entering and mixing with pollutants. If rainwater accumulates and becomes contaminated, it must be pumped out and disposed of at an approved facility. For more information about disposing of accumulated rainwater, see **Series #1, Fact Sheet 1.1**.

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#### 4 Keep service areas clean and take steps to prevent spills

Keep drip pans and absorbent materials readily available, appropriate to the types and quantities of potential spills. If possible, buy absorbent materials that can be reused or recycled: avoid the use of cat litter, since it's relatively inabsorbent (which increases waste) and must be landfilled. For more information about preventing and cleaning up spills, see **Series #1, Fact Sheet 1.2**.

When cleaning floors, prevent pollutants from entering the storm sewer system. The following three-step process is recommended:

1. clean up spills with absorbent materials
2. sweep the floor
3. wet mop and recycle wash water or dispose of it via the sanitary sewer.

#### 5 Prevent overfilling gas tanks

Gasoline and other fuels are toxic and can be highly flammable. Unfortunately, spills are common during fueling activities.

- Make sure that dispensing hoses are equipped with automatic shutoff valves and that these valves work.
- Post signs instructing fuel pump operators not to overfill gas tanks or leave them unattended while fueling.
- Locate temporary fuel tanks in a bermed, paved area. Design the area to completely contain at least 110% of the tank's total volume.
- Per state law, protect the area surrounding the fill pipe for underground gas tanks to prevent any spills from reaching the soil or groundwater.

#### 6 Properly store, use and dispose of maintenance products

For information about storing maintenance products, see **Series #1, Fact Sheet 1.1**. For information about using and disposing of them, see **Series #7**.

#### 7 Completely drain and recycle used oil filters

A used oil filter typically contains 1/3 of a quart of oil and sludge, as well as acid and heavy metals. If not properly drained, used filters can leak this contaminated oil into the environment.

Drain used oil filters for at least 24 hours and then recycle both the oil and filters. If you can't recycle them, filters can be put into the trash provided they're *not* terne-coated. (The EPA classifies oil and transmission filters as non-hazardous if they *aren't* terne-coated and they *are* completely drained.)

#### 8 Discharge equipment condensate and "blowdown" to the sanitary sewer

Air compressors and other equipment may produce small quantities of automatic blowdown water, which contains lubricating oil and other pollutants. Prevent blowdown water from soaking into the ground or running into the storm sewer system. Connect blowdown to the sanitary sewer or, if the compressor has a frequent small bleed, use a drip pan or catchment to collect the water. Oil separator systems are also available for blowdown water.

### GETTING HELP

Michigan Department of Environmental Quality ..... (800) 662-9278

Washtenaw County DPW - Pollution Prevention Program ..... (734) 971-4542

Community Partners for Clean Streams ..... (734) 222-6833

# Washing Equipment and Vehicles

## Why be concerned?

Washing equipment and vehicles can generate significant amounts of polluted runoff. In addition to detergent, oil, grease, heavy metals, sediment and other pollutants, wash water can contain grease cutters, acids and other toxic chemicals. Take steps to prevent untreated wash water from soaking into the ground or from entering the stormwater management system.



## Minimizing Runoff

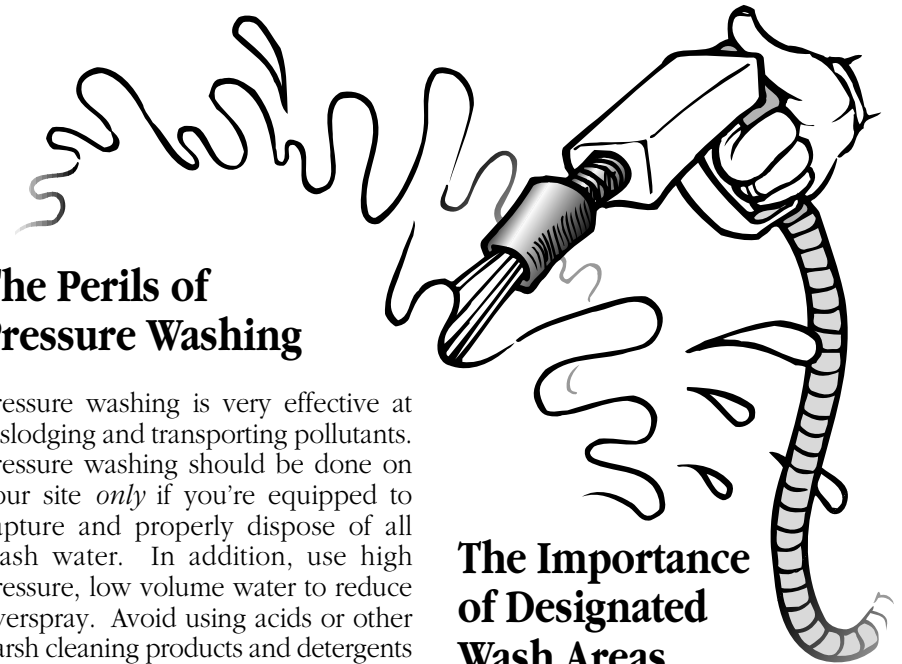
Clean field equipment and vehicles using as little water as possible. For example, remove dirt and grit with wire brushes or other dry methods before applying solvent or water. Be sure to collect the dislodged material and dispose of it properly. To determine proper disposal, call the facility where you expect the material to be taken.

## The Perils of Pressure Washing

Pressure washing is very effective at dislodging and transporting pollutants. Pressure washing should be done on your site *only* if you're equipped to capture and properly dispose of all wash water. In addition, use high pressure, low volume water to reduce overspray. Avoid using acids or other harsh cleaning products and detergents that contain phosphates.

## Washing: It's An Inside Job

Outdoor washing operations are subject to State of Michigan permit requirements. To avoid additional regulations and potential threats to the environment, it's best to take vehicles and equipment to a commercial washing facility if you can't wash them indoors.



## The Importance of Designated Wash Areas

If you must wash equipment or vehicles on-site, wash them *only* in clearly marked, designated areas that are designed to properly manage waste water. Post signs that prohibit other maintenance activities and washing with solvents.

Never locate wash areas within a floodplain or within 100 feet of a drinking water well, wetland, lake, stream or any other part of the stormwater management system.

## Managing Wash Water

Discharge wash water only to the sanitary sewer, an enclosed holding tank, or, if it's relatively clean, a grassy area where the water will be *contained*. Don't allow it to drain off-site via a roadside ditch, stormwater management system, or local stream. Discharging wash water off-site requires a permit from the Michigan Department of Environmental Quality.

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- Before discharging wash water to the sanitary sewer, call your local wastewater treatment plant to make sure it can be accepted. Certain materials are prohibited due to health and safety risks. In addition, water used to wash muddy trucks or equipment can contain high volumes of sediment that may clog sewer lines.

- Wash water that can't be discharged to the sanitary sewer should be drained the area to an enclosed holding tank. The tank's contents must be removed periodically by a licensed waste hauler. While businesses that use a holding tank incur the cost of regular pumpouts, they avoid the risk of costly environmental cleanups.

- Install an oil/water separator to remove oil and grit from runoff before routing to a holding tank or sanitary sewer. For more information about oil/water separators, see **Series #2, Fact Sheet 2.2**.

- If you're washing relatively clean vehicles *with water only*, wash water can be diverted to a large grassy area. This will allow it to filter into the ground. *Be aware, however, that any dislodged pollutants or cleaning products that are used can also filter down to drinking water supplies.*

## Alternatives to Engine Cleaning

- Avoid cleaning engines for aesthetic purposes only.
- Instead of cleaning the entire engine to locate oil leaks, try using rags and solvent to clean small portions of the engine.

### GETTING HELP

Michigan Department of Environmental Quality ..... (800) 662-9278

Community Partners for Clean Streams ..... (734) 222-6833

**Waste Water Treatment Plants:**

City of Ann Arbor ..... (734) 994-2840  
City of Ypsilanti ..... (734) 484-4600

## Completing Your Water Quality Assessment and Action Plan

Assessment and action planning requires respondents to assess their current activities and identify any specific actions needed to prevent pollution and improve water quality stewardship.

To create your own "Water Quality Action Plan," please fill out the following checklist. Directions are included on the other side of this page. The "Actions" in this checklist directly correspond to recommendations made within this handbook. If you have any questions or would like help completing this form, please contact the Community Partners for Clean Streams Program Manager at (734) 222-6833 or (734) 222-6862. Send completed checklists to:

Community Partners for Clean Streams  
 Washtenaw County Drain Commissioner's Office  
 705 North Zeeb Rd.  
 Ann Arbor, MI 48107  
 Fax: (734) 994-2459

*NOTE: To become a "Community Partner for Clean Streams," all checklists that apply to your business must be completed and returned. A complete listing of all program handbooks/checklists is provided on the inside of the back cover. To obtain copies, contact the Community Partners Program Manager.*

### Business Information

Business name: \_\_\_\_\_  
 Type of Business: \_\_\_\_\_ No. of employees: \_\_\_\_\_  
 Address: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Contact person: \_\_\_\_\_ Title: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Water Quality Action Plan prepared by: \_\_\_\_\_ Date: \_\_\_\_\_  
 e-mail: \_\_\_\_\_ Fax: \_\_\_\_\_

### Business Activities That Can Affect Water Quality

Please check the activities that your business is responsible for:

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Storing materials              | <input type="checkbox"/> Maintaining buildings/pavement              | <input type="checkbox"/> Maintaining landscapes          |
| <input type="checkbox"/> Spill containment and response | <input type="checkbox"/> Maintaining constructed stormwater controls | <input type="checkbox"/> Site design and/or construction |
| <input type="checkbox"/> Managing wastes                | <input type="checkbox"/> Managing employees                          |  |

### MAINTAINING EQUIPMENT AND VEHICLES (FACT SHEETS 3.1 AND 3.2)

**1. The least hazardous products and procedures are identified and used whenever possible.**

- |  |  |   |  |
|--|--|---|--|
| ASSESSMENT                                       |  | ACTION PLAN                               |  |
| <input type="checkbox"/> Not applicable          |  | <input type="checkbox"/> Plan to continue |  |
| <input type="checkbox"/> Always .....            |  | <input type="checkbox"/> Plan to improve  |  |
| <input type="checkbox"/> Needs Improvement ..... |  |   |  |

Responsible job or staff position(s): \_\_\_\_\_  
 Schedule: \_\_\_\_\_  
 Action(s): \_\_\_\_\_

\_\_\_\_\_  Requires ongoing education/commitment



**2. Vehicles and Equipment are regularly inspected for leaks; any leaks that are found are repaired immediately.**

ASSESSMENT

ACTION PLAN

- Not applicable
- Always .....  Plan to continue
- Needs Improvement .....  Plan to improve

Responsible job or staff position(s): \_\_\_\_\_

Schedule: \_\_\_\_\_

Action(s): \_\_\_\_\_

Requires ongoing education/commitment

**3. Application equipment (e.g., salt, irrigation and fertilizer) is calibrated to ensure proper coverage patterns and rates.**

ASSESSMENT

ACTION PLAN

- Not applicable
- Always .....  Plan to continue
- Needs Improvement .....  Plan to improve

Responsible job or staff position(s): \_\_\_\_\_

Schedule: \_\_\_\_\_

Action(s): \_\_\_\_\_

Requires ongoing education/commitment

**4. Washing and other maintenance activities are performed only in designated areas that drain to the sanitary sewer or an enclosed holding tank. Tank is pumped and contents disposed of properly.**

ASSESSMENT

ACTION PLAN

- Not applicable
- Always .....  Plan to continue
- Needs Improvement .....  Plan to improve

Responsible job or staff position(s): \_\_\_\_\_

Schedule: \_\_\_\_\_

Action(s): \_\_\_\_\_

Requires ongoing education/commitment

**5. Fueling, washing, and other maintenance areas are covered by a nonflammable roof, paved and designed to contain wash water and/or spills.**

ASSESSMENT

ACTION PLAN

- Not applicable
- Always .....  Plan to continue
- Needs Improvement .....  Plan to improve

Responsible job or staff position(s): \_\_\_\_\_

Schedule: \_\_\_\_\_

Action(s): \_\_\_\_\_

Requires ongoing education/commitment

**6. Fluids are completely drained from equipment and vehicles kept in long-term storage.**

ASSESSMENT

ACTION PLAN

- Not applicable
- Always .....  Plan to continue
- Needs Improvement .....  Plan to improve

Responsible job or staff position(s): \_\_\_\_\_

Schedule: \_\_\_\_\_

Action(s): \_\_\_\_\_

Requires ongoing education/commitment

**7. Vehicle/equipment storage areas are designed to contain leaks and spills. If storage areas aren't covered, any rainwater that accumulates is pumped and disposed of at an appropriate site.**

ASSESSMENT

ACTION PLAN

- Not applicable
- Always .....  Plan to continue
- Needs Improvement .....  Plan to improve

Responsible job or staff position(s): \_\_\_\_\_

Schedule: \_\_\_\_\_

Action(s): \_\_\_\_\_

Requires ongoing education/commitment





# Community Partners for Clean Streams Fact Sheets



## **SERIES #1 - HOUSEKEEPING PRACTICES**

- Fact Sheet 1.1 ..... Storing Materials and Wastes
- Fact Sheet 1.2 ..... Preventing and Cleaning Up Spills



## **SERIES #2 - MAINTAINING ENGINEERED STORMWATER CONTROLS**

- Fact Sheet 2.1 ..... Catch Basin Care
- Fact Sheet 2.2 ..... Maintaining Stormwater Management Systems
- Fact Sheet 2.3 ..... Oil/Water Separators



## **SERIES #3 - MAINTAINING EQUIPMENT AND VEHICLES**

- Fact Sheet 3.1 ..... Storing and Maintaining Equipment and Vehicles
- Fact Sheet 3.2 ..... Washing Equipment and Vehicles



## **SERIES #4 - MAINTAINING BUILDINGS AND PAVEMENT**

- Fact Sheet 4.1 ..... Outdoor Pressure Washing
- Fact Sheet 4.2 ..... Maintaining Building Facades
- Fact Sheet 4.3 ..... Maintaining Paved Areas
- Fact Sheet 4.4 ..... Using and Storing Deicing Systems
- Fact Sheet 4.5 ..... Cooling Water Systems



## **SERIES #5 - MAINTAINING LANDSCAPES**

- Fact Sheet 5.1 ..... Maintaining Healthy Lawns, Shrubs and Trees
- Fact Sheet 5.2 ..... Using Fertilizer
- Fact Sheet 5.3 ..... Integrated Pest Management
- Fact Sheet 5.4 ..... Using Pesticides



## **SERIES #6 - SITE DESIGN AND CONSTRUCTION**

- Fact Sheet 6.1 ..... Designing Landscapes for Water Quality
- Fact Sheet 6.2 ..... Designing Stormwater Management Systems
- Fact Sheet 6.3 ..... Clearing and Grading Land



## **SERIES #7 - MANAGING WASTES**

- Fact Sheet 7.1 ..... Minimizing Waste
- Fact Sheet 7.2 ..... Recycling
- Fact Sheet 7.3 ..... Waste Disposal



## **SERIES #8 - EDUCATION**

- Fact Sheet 8.1 ..... Education and Community Leadership



## **SERIES #9 - FATS, OILS AND GREASE**

- Fact Sheet 9.1 ..... Food Service Industry FOG Recycling/Proper Disposal