

POLLUTION PREVENTION PRACTICES FOR SURFACE CLEANING

**YOUR GUIDE TO PRACTICAL METHODS THAT PROTECT
OUR LOCAL CREEKS, RIVERS, LAKES, AND THE SAN FRANCISCO BAY.**

DECEMBER 2004



CREATED BY THE NAPA-SOLANO-SONOMA STORMWATER AGENCIES (NSSSA)



TABLE OF CONTENTS

INTRODUCTION	1
THE REGULATIONS	1
SURFACE CLEANING AS PART OF THE SOLUTION	2
WASTEWATER DISPOSAL REQUIREMENTS AND PROHIBITIONS	2
BEST MANAGEMENT PRACTICES	3
METHODS OF COLLECTING WASTEWATER	5
RESOURCE DIRECTORY	6
10 THINGS YOU SHOULD KNOW ABOUT SURFACE CLEANING	7

INTRODUCTION

This booklet provides information on the use of Best Management Practices (BMPs) for surface cleaning activities that must be used to protect water quality and to comply with regulatory requirements.

These requirements and BMPs apply to anyone who generates wastewater from surface cleaning, including:

- ⇒ Contractors that provide surface cleaning service to others
- ⇒ Businesses that wash surfaces and equipment as part of their operations or maintenance
- ⇒ Homeowners
- ⇒ City and County employees



Any substance, including surface cleaning wastewater that enters the storm drain system flows directly into lakes, rivers, and streams.

This water is not treated or cleaned to remove pollutants. Pollutants discharged to the storm drain system harm fish and wildlife and contaminate recreational sites and drinking water supplies.

Most surface cleaning activities are conducted outside. This often results in the discharge of wastewater to the storm drain, unless the operator takes steps to collect and dispose of it properly. Discharge of surface cleaning wastewater to the storm drain is prohibited because it contains pollutants from the objects or surfaces being cleaned and/or from the cleaning compounds being used.

Even cleaners labeled “biodegradable” and “nontoxic” may be harmful to aquatic life, especially after cleaning various surfaces (e.g. dumpster areas, parking lots, equipment and more) that contain fats, oils, grease, metals, chemicals (such as herbicides, insecticides, pesticides, solvents, anti-freeze, and fertilizers) as well as other substances.



THE REGULATIONS

To improve the quality of water we fish and swim in, not to mention drink, Federal and State regulations prohibit discharges of pollutants to water bodies without a permit. Because of these regulations, most cities and counties are subject to a Municipal Stormwater (MS4) Permit issued to them by the State of California. The Municipal Stormwater Permit requires local agencies to implement programs to reduce pollutants in stormwater runoff (directly caused by rainfall) and to effectively prohibit non-stormwater discharges.

As required by the Municipal Stormwater Permit, these local agencies have or will soon adopt a Stormwater Ordinance that prohibits illicit discharges. The discharge of many types of wastewater from surface cleaning to the storm drain system is prohibited by these ordinances. Check with your local stormwater agency for more information on local requirements.

However, preventing discharges to the storm drain is only part of the story. Improper discharges to the sanitary sewer, septic tanks, or land can also cause environmental harm, damage equipment and facilities, and violate regulations. Check with your local sanitation agency for information on discharge requirements.

SURFACE CLEANING AS PART OF THE SOLUTION

Pressure washing is an activity that can help improve the quality of our waters when done properly. By cleaning surfaces (e.g. equipment, parking lots, sidewalks, buildings, etc.), collecting wastes (water and/or debris), and properly disposing of the wastes, there is less chance of pollutants ending up in our waterways. It is through education, proper collection, and disposal that pressure washing can have a positive impact on the environment.

WASTEWATER DISPOSAL REQUIREMENTS AND PROHIBITIONS

To be in compliance with environmental regulations, proper disposal of surface cleaning wastewater depends on the nature of the pollutants in the wastewater. It is the responsibility of the generator to determine the proper collection and disposal method for this wastewater. To avoid unanticipated costs, delays, and violations, this determination should always be made prior to starting any job.

All disposal methods are subject to requirements, restrictions, and prohibitions outlined below.

Storm Drains

Discharging surface cleaning wastewater, into any natural body of water or any stormwater conveyance system such as storm drains, ditches, and gutters is prohibited by Federal, State, and local laws.

Exceptions to this prohibition include the following:

1. Soapless wastewater from sidewalk and plaza cleaning provided the surface is pre-swept and free of significant pollutants (e.g. free of visible oils and grease).
2. Soapless wastewater from building surfaces without loose paint.

These exceptions only apply when landscape infiltration is not practicable and wastewater does not violate water quality standards for receiving waters.

Evaporation

Surface cleaning wastewater that contains visible debris or residue, soap, detergent or other cleaning agents, hazardous waste, or excessive amounts of any pollutant, may not be left on paved surfaces to evaporate because the residues will eventually be discharged to the storm drain system.

Land Disposal

- ◆ Wastewater disposal to land must not create a nuisance condition, flow into the storm drain, reach the shallow aquifer, or contaminate soil with excessive hazardous wastes.
- ◆ Wastewater containing garbage, food wastes, or visible trash may not be discharged to land.
- ◆ Any wastewater disposal to land must have the approval of the property owner.
- ◆ A permit is not a release from liability for contamination.

Sanitary Sewer

Disposal of surface cleaning wastewater to the sanitary sewer must meet the requirements of the local Sanitation Sewer Agency. Refer to the Resource Directory on page 10 for local contact information.

Septic Systems

Discharges of surface cleaning wastewater to a septic system must be approved by your local Environmental Health Agency.

Discharges that contain hazardous waste, have the potential to harm septic systems, or are likely to contaminate groundwater, *will not* be approved.

Hazardous Waste

Depending on the condition of the surface being cleaned, the wastewater generated could be classified as hazardous waste. Some examples include:

- ◆ Wastewater generated from parking lots, storage areas, and gas stations may contain oil, gas, solvents, antifreeze, metals, and/or pesticides.
- ◆ Washing building exteriors with paint made prior to 1978 may contain lead.



Generating hazardous waste may dramatically increase your operating costs and limit your disposal options. Refer to the Resource Directory on page 10 for more information on hazardous waste determination and disposal.

BEST MANAGEMENT PRACTICES

Planning

- ◆ Prior to beginning washing activities, determine what collection method you will be using and how you intend to properly dispose of the wastewater generated from each cleaning activity.
- ◆ Obtain all necessary permits and authorizations.
- ◆ Always obtain the property owner's permission before disposing of wastewater at the job site (i.e. sanitary sewer, landscaping, etc.).

Surface Pre-Cleaning

Consider using dry methods for surface pre-cleaning, such as using absorbents on small oil spots and sweeping up trash, debris, dirt, and used absorbent before wet washing. The use of dry cleaning methods will significantly reduce the amount of wastewater generated and therefore reduce operating costs. Waste materials from dry cleanup such as absorbents, paint chips, etc. may often be disposed of in the trash. Check with the local solid waste authority to be sure. For local contact information, refer to the Resource Directory on page 10.



Pressure Washing

- ◆ Minimize the amount of water used during pressure washing activities. This will reduce the volume of wastewater that will need to be disposed.
- ◆ Avoid using cleaning products that contain hazardous substances (e.g. hydrofluoric acid, muriatic acid, sodium hydroxide, bleach, etc.) that can turn wastewater into a hazardous waste.
- ◆ Acidic, caustic, and detergent cleaners may damage paved or coated surfaces.
- ◆ Wastewater with high pollutant concentrations, including wastewater that contains cleaning compounds, must be completely collected and may not be left to evaporate.

Wastewater Collection

- ◆ Identify locations of all storm drains.
- ◆ Locate high and low-spots and determine the area where wastewater can be pooled for collection.
- ◆ Common equipment used for containing and collecting wastewater generated during pressure washing activities include: vacuum pumps, booms/berms, portable containment areas, weighted storm drain covers, oil/water separators, holding tanks, portable sump pumps, absorbents, and more.
- ◆ Avoid mixing non-hazardous wastewater with wastewater known to contain hazardous levels of pollutants. This may increase the volume of waste that requires treatment and/or disposal as a hazardous waste, thus increasing disposal costs.
- ◆ Place an oil-absorbent mat/pad on top of collected wastewater to help reduce the amount of oil re-deposited on the surface of the collection area.
- ◆ Wastewater can be treated with an oil absorbent boom or oil/water separator to decrease the concentration of oil in the wastewater and a filter may be used to decrease the amount of solids in the wastewater.
- ◆ Once wastewater has been collected and/or discharged to the sanitary sewer system, visible solids remaining in the collection area must be swept up to prevent subsequent discharge to the storm drain system.



Wastewater Disposal

All wastewater discharged into the sanitary sewer must meet the requirements of the local sanitation agency and may require obtaining pre-approval prior to disposal.

Please consult with the local sanitation agency regarding disposal requirements.

Landscape Infiltration

Wastewater may be collected and discharged or directed onto landscaped and/or dirt areas only when the wastewater does not create a nuisance condition or contain food products or contaminants (i.e. solvents, cleaners, oils, metals, etc.) that may constitute a hazardous waste.

In addition, such discharges must soak into the ground and may not flow into the storm drain. Make sure to obtain permission from the property owner prior to discharging or diverting wastewater to landscapes and/or dirt areas.

If you are diverting wastewater to landscaped areas, avoid damage to plants and soil by minimizing or eliminating the use of soaps, detergents, and chemicals. In addition, minimize the use of water to avoid wastewater overflowing from these areas. Repeated discharges to landscaped areas may result in an accumulation of contaminants, thus damaging vegetation and increasing contaminant levels in the soil.

Wastewater Treatment

If you operate or are considering using a wastewater recycling or pre-treatment system, make sure you understand the waste streams that are generated. Identify proper disposal methods for these wastes, and consider disposal costs before starting a job. Some units, especially those that separate oil from water, may generate hazardous waste and require special storage and handling practices.



Consider contracting with a company that can provide appropriate treatment and disposal of your wastes. This may save you time and money associated with purchasing, permitting, and using your own wastewater treatment equipment. In some case, you may be able to reduce the liability that comes with the generation and disposal of hazardous wastes. Contact your local stormwater agency for a list of local businesses that that may be able to provide disposal and/or treatment of your wastewater.

Surface Cleaning Best Management Practices		
Type of Surface	Cleaning Method	Proper Disposal
Sidewalks, plazas	Dry cleanup first, wash without soap .	Screen wash water, if needed, to catch debris THEN discharge to landscaping, or to a gutter, street, or storm drain.
Sidewalks, plazas	1. Block the storm drain or contain runoff 2. Dry cleanup THEN wash with soap .	Discharge to landscaping OR collect water and pump to the sanitary sewer.
Parking areas, driveways, drive-throughs	1. Block the storm drain or contain runoff. 2. Use absorbents to pick up oil; then dry sweep. 3. Clean with or without soap.	Collect water and pump to the sewer. <i>Check the local wastewater authority's requirements for discharge.</i>
Restaurant/food handling dumpster areas, grease storage	1. Block the storm drain or contain runoff. 2. Dry cleanup.	If you must use water after sweeping/using absorbents, collect wastewater and pump to the sewer. <i>Check the local wastewater authority's requirements for discharge.</i>
Restaurant floor mats, exhaust filters	Inside Wash mats in a sink or wash area with a floor drain Outside Clean mats in a bermed area.	<i>Mat washing areas must have a drain to the sanitary sewer OR collect wastewater and discharge to the sanitary sewer</i>
Building surfaces, decks, etc, without loose paint	Use high pressure water, no soap .	Screen wash water, if needed, to catch debris THEN discharge to landscaping, or to a gutter, street, or storm drain.
Unpainted building surfaces, wood decks, etc.	1. Block the storm drain or contain runoff. 2. Use soap or acid wash to remove deposits, wood restorer, or other chemicals.	Make sure pH is between 6 and 10 THEN discharge to landscaping OR collect wash water in a tank and pump to the sewer. <i>Check the local wastewater authority's requirements for discharge.</i>
Painted surfaces being cleaned to remove paint or graffiti	Block the storm drain or contain runoff.	Collect wash water in a tank and pump to the sewer, or dispose as hazardous waste, as appropriate.

METHODS OF COLLECTING WASTEWATER

The following are examples of devices that may be used to contain and collect wastewater during pressure washing activities. The collection devices described are not endorsed and are only provided as a reference tool. In addition, there may be other containment devices available, which are not listed.

Note: When working with electrical equipment in wet environments, it is important to understand and comply with applicable health/safety and electrical codes, and well as utilize appropriate safety equipment (e.g. Ground Fault Interrupters, etc.)

Berms

Berms may be used to prevent wastewater from entering a storm drain by placing a protective barrier around the storm drain inlet, thus allowing wastewater to pool around the inlet prior to proper collection and disposal. This type of containment may be less effective or ineffective when the storm drain is located at the bottom of a slope and/or a large amount of wastewater is generated.



Storm Drain Covers/Mats

These devices are placed on top of the storm drain cover grate, creating a quick seal, thus preventing wastewater from entering the storm drain system. Storm drain covers/mats (magnetic vinyl mats, PVC drain covers, polyurethane mats, and others) allow wastewater to accumulate on top of it until the pressure washing activity is complete and the wastewater can be collected for proper disposal. Storm drain covers/mats are frequently used along with a vacuum device that diverts wastewater into the sanitary sewer.



Containment Pools

A portable or temporary containment pool is another option which may be used to collect wastewater. Containment pools are easy to assemble, provide an immediate work area, and allows wastewater to be collected in a manner that will prevent pollutants from entering the storm drain system. Containment pools vary in size and material and can be used for washing equipment and vehicles.



Vacuums/Pumps

Devices such as wet/dry vacuums, sump pumps, and vacuum pumps may be used to collect and dispose of wastewater after pressure washing. Vacuum devices typically have an extension (vacuum boom) which allows the water to be collected efficiently. In addition, many vacuum devices are equipped with a hose that can run from the pump to the sanitary sewer, a treatment device, or a holding tank depending on the disposal method.



Vacuum Boom

Vacuum booms are an attachment for the vacuum device. The boom typically rests flush on the ground and draws wastewater through small holes on the bottom of the boom. In addition, different varieties of vacuum booms are available for areas with steep slopes or rough terrain.



Inflatable Pipe Plug

Inflatable pipe plugs prevent wastewater from entering a storm drain system by blocking the pipe leading from the drain inlet. Unlike the storm drain mats/covers that block the storm drain grates, the inflatable pipe plug is inserted into the storm drain pipe and uses the inlet structure beneath the grate to collect the wastewater. Once inserted, the plug is inflated to make a snug fit. Once the wastewater has been contained, it can be collected and disposed of by using a portable pump device.



Note: inflatable pipe plugs should only be used in storm drains on private property. They are not authorized to be used in public storm drain inlets or pipes.

RESOURCE DIRECTORY

TRADE ASSOCIATIONS

Power Washers of North America (PWNA)	www.pwna.org	(800) 393-7962
Cleaning Equipment Trade Association (CETA)	www.ceta.org	(800) 441-0111

EQUIPMENT AND SUPPLIES

Pigalog	www.newpig.com	(800) HOT-HOGS
Lab Safety Supply	www.labsafety.com	(800) 356-0783
C&H	www.chdist.com	(800) 558-9966
W.W. Grainger	www.grainger.com	(888) 361-8649

STORMWATER AGENCIES

Napa County

Napa County Stormwater Management Program (707) 253-4823

Solano County

Fairfield-Suisun Urban Runoff Management Program (707) 429-8930

Vallejo Sanitation and Flood Control District (707) 644-8949 ext 267

City of Benicia (707) 746-4240

Sonoma County

City of Petaluma (707) 762-5892

City of Sonoma (707) 938-3743

Sonoma County Water Agency (707) 526-5370

SANITATION AGENCIES

Napa County

Napa Sanitation District (707) 258-6000

City of American Canyon (707) 647-4550

Town of Yountville (707) 944-2988

City of St. Helena (707) 967-2878

City of Calistoga (707) 942-2828

Solano County

City of Benicia (707) 746-4336

Fairfield-Suisun Sewer District (707) 429-8930

City of Vacaville (707) 469-6400

Vallejo Sanitation and Flood Control District (707) 644-8949

Sonoma County

City of Petaluma (707) 762-5892

City of Sonoma (707) 938-4052

Sonoma County Water Agency (707) 526-5370

HAZARDOUS WASTE DISPOSAL

Napa County and City of Vallejo (800) 984-9661

Solano County (707) 439-2817

Sonoma County www.recyclenow.org (707) 565-3375

10 THINGS YOU SHOULD KNOW ABOUT SURFACE CLEANING

- ◆ Any substance, including surface cleaning wastewater, that enters the storm drain system flows directly into lakes, rivers, and streams without treatment.
- ◆ Discharging pressure washing generated wastewater into the storm drainage system violates municipal, State, and Federal stormwater regulations.
- ◆ The use of Best Management Practices (BMPs) during surface cleaning can reduce the amount of pollution entering our waterways (i.e. rivers, lakes, creeks).
- ◆ Avoid using soap! Even biodegradable soap is harmful to aquatic life. Before you use soap, test to see whether hot water under pressure will do the job.
- ◆ Several options are available for collecting wastewater, including vacuum pumps, booms/berms, portable containment areas, and absorbents.
- ◆ Wastewater should be collected and disposed into the sanitary sewer in accordance with the local sanitation agency regulations.
- ◆ Hazardous waste of any kind (e.g. lead-based paint, oils, antifreeze, solvents, etc.) is prohibited from entering the sanitary sewer system, and any wastewater that constitutes a hazardous waste must be properly disposed of through a licensed hazardous waste hauler.
- ◆ Eliminating the use of chemicals or reducing and/or replacing toxic chemicals (e.g. hydrofluoric acid, muriatic acid) with less toxic chemicals reduces the likelihood of generating hazardous waste.
- ◆ Discharging wastewater onto landscaped/dirt areas requires the property owner's permission and is authorized only when the wastewater does not create a nuisance condition, flow into the storm drain system, and/or contaminate soil.
- ◆ By committing to surface cleaning the environmentally friendly way, your employee or contractor can be certified by the Bay Area Stormwater Management Agency Association (BASMAA) as a Clean Water Recognized Mobile Cleaner. A list of recognized cleaners is distributed to businesses in the Bay Area. To obtain a list of these cleaners or to find out how to become a recognized cleaner, call your local stormwater agency or go to www.BASMAA.org.

INFORMATION USED BY PERMISSION

Best Management Practices for Pressure Washers,

Sacramento County Business Environmental Resource Center,
November 2002.

Pollution from Surface Cleaning,

Bay Area Stormwater Management Agencies Association,
1996

Mobile Cleaner Best Management Practices,

Cleaning Equipment Trade Association,
September, 1994

Disclaimer

The information presented in this document is intended for guidance purposes only and is not all-inclusive. The information provided may be of value as an educational or reference tool. However, we do not endorse any content or product that may be noted in this booklet. Please note that laws and regulations are subject to change. It is recommended that the applicable codes and statutes be reviewed to verify which requirements pertain to your local business. Although the material contained in this field guide will be routinely updated, it may not reflect recent changes in the various laws and regulations.