BEST MANAGEMENT PRACTICE (BMP) WATER QUALITY PROTECTION GUIDELINE SURFACE CLEANING

Surface Cleaning

For the purpose of this Water Quality Protection Guideline, surface cleaning is defined as the cleaning of surfaces, such as parking lots, fuel bays, roads, sidewalks, roofs, walls, driveways and other similar surfaces, whether by mechanical or manual means, where washwater is generated and where such washwater does not contain any hazardous wastes. This definition does not include the cleaning of vehicles or equipment.

Section 1. Introduction

According to the EPA, the majority of water pollution in our streams today is directly caused by pollutants that have been dumped or spilled onto the ground and that are then washed from these surfaces into our creeks and streams by rainwater. This pollution is caused by many different sources and activities, each of which may seem insignificant when considered in isolation. However, stormwater runoff, acting as nature's bath, has the effect of collecting and combining each of these small pollutant sources, which drain into a local stream and causes significant levels of water pollution.

Surface cleaning activities have the potential to add pollutants such as oil, grease, chemicals, bleach, dirt, heavy metals, degreasers and detergents into our waterways.

Pollution from surface cleaning activities can be minimized or eliminated through the implementation of the simple water quality best management practices (BMPs) contained within this guideline.

With respect to surface cleaning activities this guideline is intended to provide minimum requirements for compliance with Gwinnett County's Illicit Discharge and Illegal Connection (IDIC) Ordinance (Chapter 100, Gwinnett County Code of Ordinances). It is expected that individuals and companies involved in surface cleaning operations will fully implement these guidelines and take any additional necessary and reasonable actions, as needed on a case-by-case basis, to prevent stormwater pollution.

Section 2. Purpose

The purpose of this Water Quality Protection Guideline is to:

1) provide details of water quality BMPs that may be implemented to assist in controlling pollutants associated with surface cleaning so as to prevent water pollution;
2) serve as a reference for regulators, inspectors and others who assess the water quality impacts of surface cleaning activities; and
3) provide guidance that, if implemented, will assist in securing compliance with Gwinnett County's Illicit Discharge and Illegal Connection (IDIC) Ordinance.

Section 3. Best Management Practices

3.1. General Surface Cleaning Requirements

1) Reasonable efforts must be made to remove, via “dry cleaning methods”, all visible accumulations of pollutants from surfaces prior to commencement of surface cleaning. For example:
    a) Oil/fuel accumulations should be pre-cleaned via use of oil absorbents.
    (a) Powders, loose dirt and other similar material shall be swept or vacuumed prior to surface cleaning.
    (b) Litter, animal waste and other solid waste shall be collected prior to surface cleaning.
    (c) Liquid contaminants shall be mopped up, soaked up or otherwise collected prior to surface cleaning.

    All waste collected in this manner shall be disposed of appropriately.

2) Except as allowed by section 3.2.1.4 of this guideline, washwater generated during surface cleaning must never be allowed to enter into a storm drain. All washwater must be properly contained and disposed of in accordance with this guideline.
3) The individual completing the surface cleaning is responsible for the selection and appropriate use of an adequate collection, containment and disposal method that provides for the effective collection of all generated washwater and the prevention of discharge of such washwater to a storm drain. Possible containment and collection methods could include vacuum pumps, booms/berms, portable containment areas, weighted storm drain covers, holding tanks, portable sump pumps, hoses and absorbents. Refer to Attachment 1 of this guideline for examples of devices that can be used for the containment and collection of washwater during pressure washing activities. Please note that mention of any of these products or methods does not constitute an endorsement by Gwinnett County. Different cleaning tasks and site conditions will affect which collection, containment and disposal methods are adequate and effective.
4) Individuals who contract with a surface cleaning company should ensure that the selected contractor is capable of completing surface cleaning in accordance with this guideline. Individuals may wish to utilize those companies who are listed on the County’s “List of Businesses Capable of Collecting Surface Cleaning Washwater”. Please note that the Illicit Discharge and Illegal Connection Ordinance requires within 100-23(a)(1) that a person must not allow others under that persons control to discharge a pollutant into the storm sewer system.
5) Leaving washwater on paved areas to dry by evaporation is not an acceptable method of disposal because residues remaining on the ground following evaporation will be washed by rainwater into storm drains during the next rain event. However, evaporation may be used where the requirements for discharge of washwater to storm drains established under section 3.2.1.4 of this guideline are met.
6) Where collection of washwater is required, high and low-spots on the property should be located to determine the area where washwater can best be pooled for collection. Collection areas should be kept as far away from storm drains and as close to cleaning areas as possible.
7) Where cleaning products must be used, the minimal amount of the least toxic cleaners and degreasers appropriate for the job should be used, and only then if adequate washwater collection, containment and disposal methods are employed. Where possible cleaning should be completed without the use of cleaning chemicals and with potable water only.
8) Washwater generated during the cleaning of areas used to store potential storm water pollutants (eg. chemical/oil drums, solid chemical storage containers) must be contained and collected for

appropriate disposal. Washwater from this type of cleaning activity must never enter a storm drain and must always be considered contaminated.

9) Surfaces that have come into contact with washwater generated during surface cleaning ("contaminated areas") must be rinsed with potable water (not recycled water) of any residues at the end of each day's operation or prior to a rain event. Rinse water must be treated as washwater and collected and disposed of in accordance with this guideline. Solid residues should be collected for appropriate disposal. Removal of residues will prevent these residues from being washed into storm drains during the next rain event.
10) There are NO "environmentally friendly" or "biodegradable" cleaning products that are approved for discharge to storm drains.
11) As the generator of the washwater the surface cleaner is considered jointly responsible with the property owner for its appropriate disposal.
12) Surface cleaning should not be completed during rain events where washwater could intermingle with stormwater runoff.

3.2. Disposal Options

Available disposal options for washwater generated as a by-product of surface cleaning will vary depending on various factors including site characteristics, materials being cleaned, cleaning methods utilized and cleaning chemicals that may be used during the surface cleaning process. Depending on these factors, appropriate disposal options can include the sanitary sewer, septic systems, grassy areas and screened/filtered storm drains.

3.2.1. On-Site Disposal

By default, unless excepted below, all washwater generated as a by-product of surface cleaning activities and planned for on-site disposal must be properly contained, collected and disposed of to the sanitary sewer or to an appropriately permitted on-site wastewater disposal system (septic tank).

3.2.1.1 Disposal to Sanitary Sewer

a) Disposal of surface cleaning washwater to the sanitary sewer must meet the sanitary sewer discharge standards which are administered by Gwinnett County Department of Public Utilities. Common discharge standards* are as follows:
    i. Temperature: Less than 150° F;
    ii. PH: Between 5.5 and 10.5;
    iii. Oils and Grease: Less than 200 mg/L;
    iv. Solids or viscous substances may only be discharged in amounts that will not obstruct sewer flow;
    v. Toxic Pollutants identified in Section 307(a) of the Clean Water Act;
    vi. Lead: 116 ug/L;
    vii. Copper: 109 ug/L;
    viii. Total Petroleum Hydrocarbon (TPH): 20 mg/L;
    ix. Biological Oxygen Demand (BOD5): 700 (300**) mg/L;
    x. Total Suspended Solids (TSS): 700 (350**) mg/L;

    *Please note: This is not a complete list. If you have questions about the discharge limits of a specific pollutant please contact the Department of Public Utilities at 678-376-6700.

**Requirement in “No Business Creek”

b) Surface cleaning operators must have permission from the property owner before discharging washwater to the sanitary sewer on the property.

c) All discharges to the sanitary sewer must be free of grease, oil, grit or any other material that could possibly clog the sanitary sewer.

d) The Department of Public Utilities recommends filtering the washwater through a 400 micron (about 1/64”) filter before discharging. The waste left in the filter may be bagged, dried and placed in a dumpster.

e) Any washwater that may contain oil or grease must be discharged to the sanitary sewer through an oil/water separator.

f) Discharges to the sanitary sewer must not contain pollutants that could create a fire or explosion hazard.

g) Washwater must only be discharged to parts of the sanitary sewer that are privately owned. Surface cleaning operators must not discharge directly into the publicly owned sanitary sewer system (ie. via sanitary sewer manholes.)

h) Use of appropriate pretreatment device(s) (see examples listed in Attachment 2) may assist operators in achieving compliance with sanitary sewer discharge standards. Use of such devices, while initially expensive, will likely be an operator’s best protection against non-compliance. Operators may minimize risk of non-compliance with sanitary sewer discharge standards by having a sample of washwater, typical of the type generated by their various business practices, analyzed for expected pollutants of concern. Portable water quality monitoring equipment is also available but may be cost prohibitive.

3.2.1.2 Disposal to Septic System

a) Most septic systems, including systems that service commercial establishments, are only permitted to receive bathroom and kitchen type wastewater (domestic wastewater). Additional permits through the Georgia Environmental Protection Division would be needed to discharge non-domestic wastewater to septic systems. Non-domestic wastewater would likely include washwater generated during many surface cleaning operations.

b) Prior to discharging surface cleaning washwater to a septic system, the surface cleaning operator and owner of the septic system must confirm that the discharge is covered by the appropriate EPD permit. Please contact EPD’s Georgia Geologic Survey - Underground Injection Control Coordinator at (404) 656-3214 for more information.

c) Surface cleaning operators must not discharge washwater to septic systems in violation of the terms of the permit.

3.2.1.3 Disposal to Grassy/Vegetated Areas

1) Discharge to a grassy/vegetated area is only permitted:
    a. where the grassy/vegetated area is sufficiently sized to provide a minimum separation of 50 feet between the discharge point to the grassy/vegetated area and the nearest storm drain or waterway; and
    b. where the grassy/vegetated area adequately allows for the absorption of the discharged washwater; and
    c. where the discharge is distributed across the grassy/vegetated area as sheet flow and at a rate that allows for the effective infiltration of the washwater and does not allow any runoff from the grassy area; and
    d. where any visible gross pollutants left on the grass after the discharge are collected for appropriate disposal; and

e. during dry weather; and

f. when the discharge contains only insignificant levels of pollutants that will biodegrade naturally and will not accumulate within the soil or groundwater (eg. cooking oils, detergents, dirt, and other organic matter, but excluding petroleumbased products and sewage)

2) Surface cleaning operators incur a greater level of risk when utilizing this disposal option. Operators and property owners as the generators of this waste are responsible for knowing what pollutants may be contained within the washwater and are responsible for satisfying all applicable regulations that may govern a discharge of this waste to land.

3) If you have any doubt that your generated washwater would meet all of the requirements for discharge to ground it should be collected and disposed of via one of the other more secure methods mentioned in this environmental guideline.

3.2.1.4. Disposal to Storm Drain

1) Discharge of washwater to a storm drain will not be allowed unless ALL of the following criteria are satisfied:

a. Washwater must not contain any detectable pollutants; and

b. Surfaces to be cleaned must not contain any visible or known contaminants; and

c. Washwater being discharged to the storm drain must meet the following minimum requirements:

i. PH: between 6.0 and 8.5; and

ii. Temperature: must not exceed 90° F; and

iii. Conductivity must be less than 300 µS/cm; and

iv. There shall be no traces of copper, phenols, surfactants, emulsifiers, dispersants, detergents, solvents, degreasers and other cleaning chemicals; and

v. Fecal Coliform: shall be less than 150 cfu/100 mL; and

d. Discharges must first be screened and drained through an oil absorbent berm which shall be located and installed in a manner so that all washwater is forced to drain through that berm prior to it's entry into the storm drain; and

e. Washwater from the cleaning of areas where potential pollutants are stored must be properly collected and disposed of regardless of cleaning methods used. Washwater from this type of cleaning activity must never enter a storm drain and must always be considered contaminated; and

f. Discharge to a grassy area in accordance with 3.2.1.3 of this guideline is not possible

2) Discharge to the storm drain of washwater that contains pollutants will constitute a violation of the county's Illicit Discharge and Illegal Connection Ordinance and all appropriate penalties may be applied.

3) If you have any doubt that your generated washwater would meet all of the requirements for discharge to the storm drain it should be collected and disposed of via one of the other more secure methods mentioned in this environmental guideline.

4) This disposal option is intended to allow for cosmetic cleaning of surfaces stained with leaves, mildew, or atmospherically deposited dusts and pollens only.

3.2.2. Off-Site Disposal

1) If the on-site disposal methods cannot be utilized because of the restrictions contained within section 3.2.1 above, all generated washwater must be collected and disposed of offsite.

2) All washwater generated must be collected.
3) Any surfaces contaminated by washwater generated during surface cleaning must be adequately rinsed with potable water (not recycled water) following completion of surface cleaning. Following rinsing, rinse water must be treated as washwater and must be collected for off-site disposal.
4) Off-site disposal locations must have and maintain any required permits necessary to accept and handle the collected washwater. Generally, non-hazardous wastes may only require a sanitary sewer pretreatment permit from Gwinnett County.
5) Washwater must be transported in a manner that ensures that no discharge occurs between the surface cleaning site and permitted off-site disposal location.
6) Operators may, upon purchase of a permit, dispose of generated washwater at Gwinnett County's Crooked Creek Treatment Plant which is located in Norcross. Application form WQ-1b (attached) must be completed and authorization granted before a permit may be purchased. A separate application must be submitted for each vehicle used to deliver washwater to the plant.
7) Operators who choose to dispose of collected washwater to a private sanitary sewer connection at a location remote to that at which the surface cleaning was completed must submit to Gwinnett County Department of Public Utilities the attached Form WQ-1a. This form serves as notice to the county of the operator's intent. Operators are reminded that under these circumstances they must still meet sanitary sewer discharge standards as described in section 3.2.1.1 above.

3.3. Storage and Maintenance Facilities

3.3.1 Storage

1) Detergents, solvents and other cleaning chemicals should only be stored in their original containers and must have their labels intact. Damaged labels should be replaced.
2) All detergents, solvents, cleaning chemicals and other potential stormwater pollutants are to be stored on an impervious surface within a contained and covered area to prevent water pollution associated with leaks and spills. An adequate storage area will:
    i. be capable of effectively containing 110% of the volume of the largest single container stored within the area; and
    ii. will effectively prevent the ingress of rainfall and stormwater surface runoff into the storage area. See Gwinnett County Water Quality Guideline: WQ3 Secondary Containment Design and Operation Standards for more information.

3.3.2 Equipment and Vehicle Washing

1) Washwater generated during vehicle or equipment cleaning must not be allowed to enter into a street, storm sewer or waterway.
2) The washing of any equipment or vehicles that has the potential to contribute pollutants to stormwater runoff must be performed in an appropriately designed wash bay.
3) Wash bays shall be designed and constructed to meet three basic goals:
    i. collect and contain waste water for appropriate disposal;
    ii. prevent storm water runoff or rainwater from entering the wash bay; and
    iii. prevent the intermingling of storm water with wastewater.
4) Washing of equipment and vehicles without the use of chemicals or detergents to remove grass clippings, dust or pollen may be completed on a grassy area.
5) Please refer to Gwinnett County Water Quality Guideline WQ6 - Wash Bay Design Standards* and WQ5 - Commercial Car Washing Operations* for more information.

*Gwinnett County Stormwater Management Division is currently developing these Water Quality Guidelines.

3.3.3 Equipment Maintenance

1) Mechanical maintenance on equipment (such as oil changing or hydraulic servicing) that may involve a release of oil, fuel or other potential stormwater pollutant must be completed within a contained and covered workshop area.
2) Cleaning of mechanical parts shall be completed in a self-contained parts cleaner or within a wash bay (see 3.1.2 above) or facility that allows for the appropriate collection and disposal of generated wastewaters.
3) Any waste liquids produced, as a byproduct of maintenance, must be stored in an appropriate waste container and in accordance with 3.3.1 above.
4) Mechanical parts that are contaminated with oil or other similar products must not be left outside where they will be exposed to rainfall. They should be stored in a contained and covered area.
5) To prevent ingress of rainwater, dumpsters that are located outside must have their lids closed and drainage plugs inserted at all times, other than during servicing.
6) Liquid wastes must not be disposed of into a dumpster.

3.4 Pollution Prevention Voucher (for commercial surface cleaners)

1) It is suggested that commercial surface cleaners complete one Pollution Prevention Voucher (see Form WQ-1d attached) for each job site.
2) It is considered that use of this voucher will raise awareness amongst consumers about the need to protect water quality during surface cleaning and will also provide a record of cleaning activities and disposal options used at each job site.
3) The form should be printed in duplicate with one copy kept by the surface cleaner and the other given to the customer. 4)
4) A copy of this form should not be submitted to Gwinnett County.
5) Use of this form is not required but is recommended.
6) Surface cleaners should keep this form as a record for at least one (1) year.

Section 4. General

1) It is illegal to dispose of any waste or pollutants into the storm sewer system. Penalties for non-compliance include fines of up to $1,000 and/or 60 days in county jail.
2) The county has established a “List of Businesses Capable of Collecting Surface Cleaning Washwater.” Operators who believe they have equipment that allows them to complete surface cleaning and adequately collect washwaters as required by this guideline may apply to the county to have their company included on this list. This list will be supplied to the public. Inclusion on this list does not constitute an endorsement of the operator by the county. Operators will be required to demonstrate the capabilities of their equipment. Please apply using the attached form WQ-1c.
3) To report a spill or discharge into the storm sewer system contact Gwinnett County’s Storm Water Management Division’s 24-hour call center at 678-376-7000.
4) Additional information regarding water quality, storm water programs and storm water best management practice implementation can be obtained by contacting Gwinnett County’s Storm Water Management Division at 678-376-6700 or visiting www.gwinnettstormwater.com.

Attachment 1
Washwater Collection Methods

Berms

Berms may be used to prevent washwater from entering a storm drain by placing a protective barrier around the storm drain inlet, thus allowing the washwater to pool up around the storm drain 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 washwater is generated.

Berms may also be used to assist in directing washwater to a predetermined collection area. Inexpensive "Pool Cover Water Tubes" available from pool supply stores can be used for this purpose. These berms may not form a water tight seal against the ground and as such may not be suitable as a protective barrier around a storm drain.

Storm Drain Covers/Mats

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

Containment Pools

A portable or temporary containment pool is another option which may be used by pressure washers to collect washwater. Containment pools are easy to assemble, provide an immediate work area, and allow the washwater to be collected in a manner that will prevent pollutants from entering the storm drains. Containment pools vary in size and material, and hold anything from a shopping cart to a truck and trailer.

Vacuums/Pumps

Devices such as wet/dry vacuums, sump pumps, and vacuum pumps may be used to collect washwater after pressure washing. Vacuum devices typically have an extension (vacuum boom) which allows the washwater to be collected efficiently. In addition, many vacuum devices are designed with a second hose (e.g. garden hose) that can run from the pump to the sanitary sewer or a truck/trailer mounted holding tank, depending on disposal method.

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

Inflatable Pipe Plug
Inflatable pipe plugs prevent washwater from entering a storm drain system by blocking the pipe leading from the drain inlet. Unlike the storm drain mats/covers that block 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 washwater. Once inserted, the plug is inflated to make a snug fit. Once the washwater has been contained, it can be collected and properly disposed by using a portable pump device (e.g. sump pump, vacuum pump, etc.). 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.

Vacuum Closed Loop Recycling Systems
Closed-loop surface cleaning systems are capable of removing oil, dirt, grease, rubber and other accumulations. These systems utilize a “mower” attachment that simultaneously pressure washes and vacuums wastewater back to a filtration system mounted on a truck. This system is effective in collecting a significant amount of generated washwater and offers water savings (because the water is treated and recycled) and increased cleaning speeds.

Vacuum Closed Loop Discharge Systems
These systems are capable of pressure washing and vacuuming up generated washwater simultaneously for disposal to an appropriate location. Once again these systems utilize a “mower” attachment. Walk behind and ride on units are available. Ride on units increase the speed at which work can be completed. Note: When working with electrical equipment in wet environments, it is important to understand and comply with applicable health/safety and electrical codes, as well as utilize appropriate safety equipment (e.g. Ground Fault Interrupters, etc.).

Attachment 2
Methods for Treating Wastewater Prior to Discharge to the Sanitary Sewer

Oil Water Separators

These devices are generally capable of removing petroleum hydrocarbons from washwater to a concentration that meets sanitary sewer discharge standards. There are many different manufacturers of these devices. Some are designed for ease of portability. When selecting a device give consideration to the design maximum flow rate to make sure it will meet your needs. Also make sure the device is capable of generating effluent of a quality that will allow for discharge to the sanitary sewer.

Micron Filtration Systems

Such as those sold by Environmental Compliance Systems (www.ecsbiosystems.com) are advertised as being capable of removing and reduce contaminants such as dirt, grime, petro chemicals, metals, hydrocarbons, and sludge down to one micron. The units easily fit into pick-up trucks, vans, or onto trailers. They can also be used to pump to multiple pressure washers over 100 feet away. Systems are capable of supporting 7 to 26 gpm.

Flocculent Based Treatment Systems

This system offered by Parker West (www.parkerwest.com) claims to reduce the cost of storing, hauling, disposing and manifesting of hazardous washwater and solid waste, generated by pressuring washing and water jetting activities. The system offered by this company allows an operator to collect washwater and treat it in the fields using the clay flocculent. Parker West has patented the use of any clay based flocculent to treat wastewater generated by any MOBILE surface cleaning activity. According to the company, this process works through the process of encapsulation, utilizing specialized clay based flocculants, the contaminants removed from the washwater become immediately and permanently fixated, rendering a Class II, non leachable solid waste. The company claims that treated washwater may be legally discharged to the sanitary sewer.

Trailer Mounted Clean and Recovery Incline-Vac

This unit is advertised as being capable of simultaneously operating 1 or 2 “mower” style pressure wash / vacuum attachments, has solids/liquid separation, & hydro-carbon absorption. This trailer mounted system can be used to pump wash water to an on-site sanitary sewer drain while monitoring discharge water temperature and pH. Further information on this product is available from the vendor: www.cleanandrecovery.com

These are only a few of the treatment options available. Many other systems are also available on the market. Operators should identify the pollutants they need to remove from washwater and select a filter that will treat the washwater to the appropriate discharge standard.

Disclaimer:
Gwinnett County does not and cannot endorse these products, nor have we verified any of the claims made by these companies and reproduced as examples above. It is the responsibility of an operator to research the right treatment option for the type of washwater that operator is likely to generate.