GOOD HOUSEKEEPING/ POLLUTION PREVENTION

A Programmatic Overview of the City of Salem's Good Housekeeping/Pollution Prevention Practices

October 2014
(Revised October 2016)

For concerns related to Good Housekeeping/Pollution Prevention or for reporting pollution into stormwater runoff contact Chuck Van Allman, Jr. (Director, Department of Community Development) at 540-375-3032.

City of Salem
Virginia

EEE Consulting, Inc.

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APPENDICES

ACRONYMS

BMP	Best Management Practice
CCA	Chromated Copper Arsenate
DEQ	Department of Environmental Quality
EPA	Environmental Protection Agency
FLB	Fluorescent Light Ballasts
HID	High Intensity Discharge
City	City of Salem
MCM	Minimum Control Measure
MS4	Municipal Separate Stormwater Sewer System
MSDS	Material Safety Data Sheets
MVAC	Motor Vehicle Air-Conditioning
NMP	Nutrient Management Plan
NPDES	National Pollutant Discharge Elimination System
PCB	Polychlorinated Biphenyls
PCP	Pentachlorophenol
RCRA	Resource Conservation and Recovery Act
SWM	Stormwater Management
SWPPP	Stormwater Pollution Prevention Plan
TCLP	Toxicity Characteristic Leachate Procedure
VSMP	Virginia Stormwater Management Program

1.0 INTRODUCTION AND PURPOSE

City staff engage in a variety of activities that have the potential to influence water quality. This manual presents the standard protocol which the City of Salem (City) will utilize to implement its Good Housekeeping/Pollution Prevention Program. The manual provides a set of written procedures and Best Management Practices (BMPs), which are meant to ensure that City operations are managed in ways that will minimize pollutants from entering the City's small municipal separate storm sewer system (MS4). The written procedures are required to be developed, implemented, and updated by the City as a condition of Salem's MS4 General Permit (MS4 Permit), the permitting mechanism designed to prevent pollutants from entering water bodies through stormwater runoff. The MS4 Permit authorizes stormwater discharges from MS4s to surface waters in urbanized areas of the Commonwealth of Virginia.

The MS4 program is part of the National Pollutant Discharge Elimination System (NPDES), which is authorized through the Clean Water Act (See Figure 1). With delegation from the Environmental Protection Agency (EPA), MS4 permits in Virginia are issued through the Virginia Pollutant Discharge Elimination System (VPDES) and administered by the Virginia Department of Environmental Quality (DEQ). To ensure compliance with Good Housekeeping/Pollution Prevention requirements of the MS4 Permit, the City is required to perform the procedures outlined in this manual.

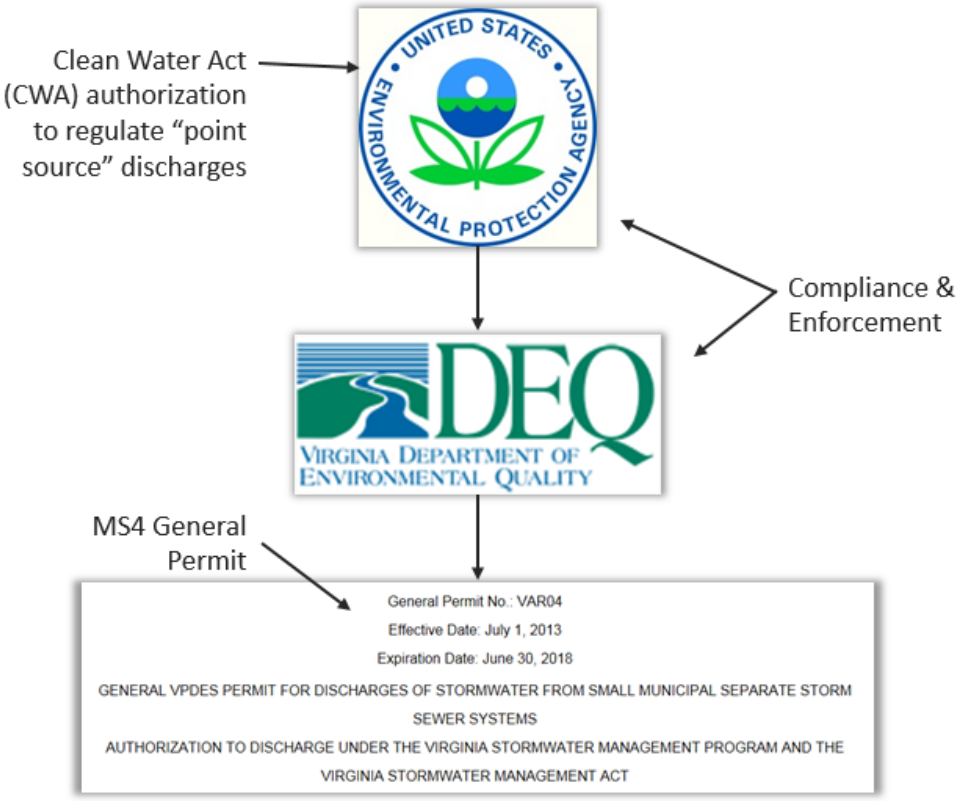

Figure 1. Generalized depiction of the regulatory framework for the MS4 permit.

The City's Good Housekeeping/Pollution Prevention Program includes four distinct components:

- **Training** – Schedules and materials to train applicable field personnel related to the Program are discussed in Section 2.0 of this manual.
- **Site-Specific Stormwater Pollution Prevention Plans** – Site-specific plans intended to address water quality concerns at City properties that have high potential to contribute pollutants to surface waters are discussed in Section 3.0 of this manual.
- **Documentation and Reporting** – Procedures to document all efforts related to the Good Housekeeping/Pollution Prevention process are outlined in Section 4.0 of this manual.
- **General Operations & Maintenance Procedures** – Procedures for daily maintenance and operational activities observed in the City are outlined in Section 5.0 of this manual.
- **Waste Management & Disposal Procedures** – Procedures for waste management and disposal of pollutants are outlined in Section 6.0 of this manual.

2.0 GOOD HOUSEKEEPING/POLLUTION PREVENTION TRAINING PROGRAM

The City's MS4 Program Plan requires Salem to conduct, or have provided, **biennial training** to applicable field personnel, identified by the Director, Department of Community Development (Director), who play a role in the recognition and reporting of Good Housekeeping/Pollution Prevention. As part of the City's Program, this manual serves as training material for annual training to meet the permit requirement. Note that training is also required for the Illicit Discharge Detection and Elimination (IDDE) Program to applicable employees, and the City provides a separate manual as training material for those activities.

The written procedures herein serve as the foundation of a successful Good Housekeeping/Pollution Prevention Program that helps the City achieve MS4 Permit compliance. However, implementation and documentation of the procedures are critical for achieving the Good Housekeeping/Pollution Prevention Program **goal to eliminate non-stormwater discharges** to the City's storm sewer system and, ultimately, receiving waters. These written procedures are to serve as guidance to all City-owned properties and operations that do not currently utilize a site-specific Stormwater Pollution Prevention Plan (SWPPP). The City-owned property subject to a site specific SWPPP is the City's Streets and General Maintenance Facility.

As referenced throughout this manual, the Good Housekeeping/Pollution Prevention Program relies on supplemental materials to assist with implementation and documentation. Applicable field personnel identified for Good Housekeeping/Pollution Prevention training should be familiar with each Section of this Manual and the supplemental materials provided in the Appendices of this Manual, which include:

- **Good Housekeeping/Pollution Prevention Training**– Appendix C and D are intended for use by the Director, or designee, for training documentation purposes. For the applicable field personnel, the following is required to be completed each year:
    - Attend training session. The session will be scheduled by the Director, or designee, with proper notice provided to each applicable field personnel.
    - Completion of the 'Knowledge Check' quiz in Appendix C at the conclusion of the training session. The quiz will be provided to the trainer at the end of the training session for documentation of completion and as a measure of assessing the effectiveness of the training.

In addition to the documentation above, the City will incorporate and reference the **Nutrient Management Plan (NMP)** into training. This plan includes conservative practices for the use of nutrients such as fertilizer and how they can be effectively applied to minimize adverse effects.

3.0 STORMWATER POLUTION PREVENTION PLANS

Under the MS4 Permit, the City is required to develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for City-owned locations identified as having a high potential for exposing pollutants to the MS4. However, activities performed by City employees or contractors throughout the City could also potentially introduce pollutants to surface waters or wetlands. Once these areas and activities are identified, staff can be more aware of potential sources of pollutants and implement practices to minimize or eliminate them from entering the storm sewer system.

3.1 Defining an Illicit Discharge

The conveyance systems of an MS4 are vulnerable to contamination and can carry pollutants in stormwater runoff to receiving waters or wetlands. Substances other than stormwater that enter receiving waters are considered an illicit discharge. An illicit discharge can be: 1) a measurable flow from a storm drain during dry weather that contains pollutants or pathogens; 2) have a unique frequency, composition, and mode of entry in the storm drain system; 3) caused when the sewage disposal system interacts with the storm drain system; and 4) discharges from pollutants from specific source areas and operations known as "generating sites."

For the purposes of the City's Good Housekeeping/Pollution Prevention Program, the VSMP regulation definition for an illicit discharge is generalized as:

> *Illicit Discharge - Any discharge to an MS4 that is not composed entirely of stormwater, except discharges specifically identified in the Virginia Administrative Code and determined not to be a significant contributor of pollutants to the MS4.*

Most sources of an illicit discharge in the City are likely to originate from a generating site or activity, such as a vehicle washing area or maintenance area. These could result from daily practices or from a specific spill incident. Table 1 provides source pollutants that could be generated from areas of the City.

Table 1. Examples of source pollutants of an illicit discharge.

• Automotive fluids (oil, fuel, antifreeze)	• Landscape waste (grass clippings, etc.)
• Cooking oil and grease	• Improperly applied fertilizer
• Solvents	• Sediment
• Paints	• Vehicle wash water
• Chemical cleansers (detergents, soaps)	• Sanitary sewer wastewaters
• Improperly applied pesticides/herbicides	• Dumpster leachate
• Improperly managed salts	• Trash

The regulations do have exemptions for some non-stormwater discharges that would not be considered an illicit discharge if not a significant contributor of pollutants to the City's MS4. Table 2 includes discharges relevant to the City that are not a significant contributors of pollutants and are not considered illicit discharges. If there is uncertainty regarding the source or constituents within an observed discharge, the Director should be contacted immediately so a determination can be made.

Table 2. Examples of sources that are not considered illicit discharges.

• Fire-fighting activities	• Air conditioning condensate
• Water line flushing	• Footing or foundation drains
• Landscape/lawn irrigation	• Springs
• Diverted stream flows	• Water from crawl space pumps
• Rising groundwater	• Dechlorinated swimming pool wastewater
• Uncontaminated groundwater infiltration	• Discharges from potable water sources
• Uncontaminated pumped groundwater	• Flows from riparian habitats and wetlands

Additional detail for identification of an illicit discharge is provided in the *Salem Illicit Discharge Detection and Elimination Program Manual.*

3.2 Awareness during Daily Activities and Operations

Potential illicit discharges can be identified and removed prior to entering the storm sewer through inspection and appropriate follow-up of sources of pollutants that are exposed to precipitation, and subsequently to stormwater runoff. The City maintenance and operations employees are in the best position to identify these pollutants, such as those identified in Table 1. Figure 3 provides several examples of the observations and actions that could prevent an illicit discharge. If the observer is not qualified or appropriately trained to take the appropriate action, or if illegal dumping is observed, notify the Director or designee.

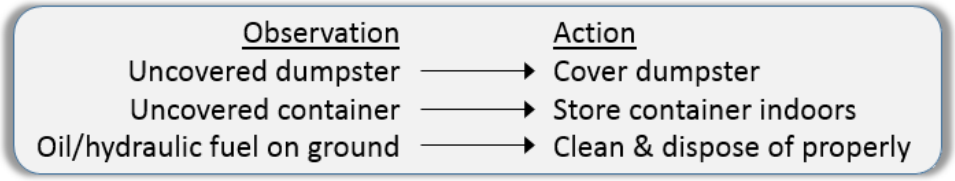

Figure 3. Example daily observations and subsequent actions can prevent an illicit discharge.

The following City-owned properties subject to a site specific SWPPP include:

- Public Works Facility
- Tidewater Street
- Roanoke Boulevard

The following City-owned properties subject to Spill Prevention, Control, and Countermeasure (SPCC) plans include:

- 703 West Main Street (Main Facility)
- 40 Dixie Drive (Pole Yard)
- 720 West Calhoun Street (Sub-station)
- 751 Cleveland Street (Sub-station)
- 2055 Apperson Drive (Sub-station)
- 407 Electric Road (Sub-station)
- 1650 Indiana Street (Sub-station)
- 2180 Industrial Drive (Sub-station)
- 930 Union Street (Sub-station)
- 40 Wortham Street (Sub-station)

4.0 REPORTING PROCEDURES

The City operations and maintenance employees are the first line of defense for preventing sources that could contribute to an illicit discharge. General guidance and steps to clean and contain a spill, release or discharge are provided in Appendix A. Actions that are taken to remove potential sources of an illicit discharge do not need to be reported unless it is suspected an illicit discharge has occurred or is occurring. In this case, the employee needs to report the concern to the Director or designee within 1 business day, who will then document the report. The Director will utilize the Reportable Discharge Form in Appendix B to determine if a discharge, spill or release is reportable to DEQ under the MS4 General Permit reporting requirements Section II(B)6(b)(4)(h) and Section III G, H & I.

An illicit discharge or potential source for an illicit discharge may also be reported by other individuals who are not trained or authorized to perform necessary actions, such as residents or contractors. These individuals may recognize a potential illicit discharge after learning about pollution in stormwater runoff through the City's public education and outreach efforts, or by other means. The City stormwater webpage directs these individuals to contact the Director or designee, who will subsequently perform the appropriate follow-up action and provided documentation. If an employee is otherwise notified, the appropriate action should be taken and the Director or designee shall be notified. Figure 4 summarizes this procedure.

VDOT, the City of Roanoke and Roanoke County have interconnected MS4's with the City, meaning there is stormwater being conveyed to and from the City property. Any report from either interconnected MS4 of a potential illicit discharge originating from the City should be immediately directed to the Director or designee for investigation and documentation.

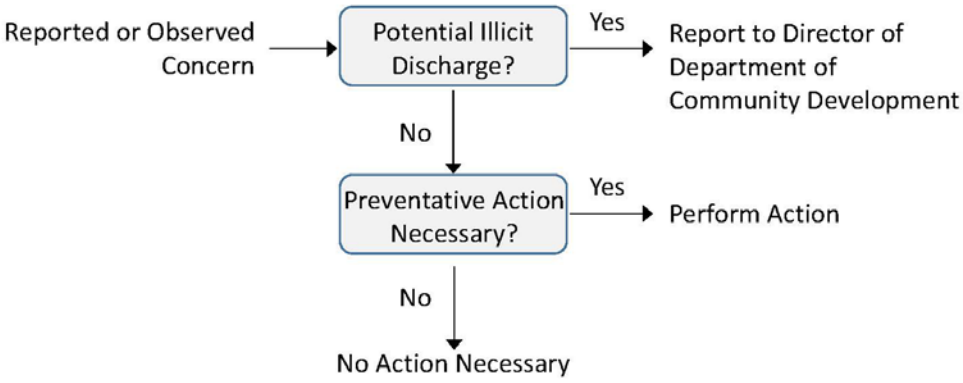

Figure 4. Reporting procedures for the City field staff.

5.0 GENERAL OPERATIONS & MAINTENANCE PROCEDURES

The following sections review common procedures and operations that take place at specific locations in the City. These operations may be potential sources of pollutants that can enter and contaminate the stormwater system and the receiving downstream waters. An overview of risk factors associated with each operation is provided, in addition to suggested Best Management Practices to help reduce the potential for contamination.

5.1 Vehicle Washing

Improper vehicle washing can introduce a number of compounds into the MS4, including solvents, grease, sediment, and petroleum products as point source pollution (illicit discharge). Washing vehicles near any part of the MS4, including ditches or other conveyances that lead to the storm sewer, may cause these compounds to pollute a nearby water body. In order to avoid this, wash vehicles away from the storm sewer system and areas such as mixing pads, staging areas, or other surfaces where vehicle washing is not permitted.

Best Management Practices

- ✓ Wash in designated wash bays that drain directly to the sanitary sewer
- ✓ Use commercial car washes for typical fleet vehicles
- ✓ Wash vehicles on pervious surfaces, such as grass or gravel (only with water- no soap, detergents, waxing, etc.)
- ✓ Use nozzles that automatically turn off water when not in use.
- ✓ If detergents or cleaners must be used, collect wash water and dispose of in the sanitary sewer using berms or pumps. Alternatively, use biodegradable detergents/cleaners and ensure that wash water is directed onto a pervious surface (i.e. grass).
- ✓ If washing is done outdoors on a flat pervious surface, the washing area should be visually inspected after each washing event to ensure that no unexpected pollutant sources are visually apparent in the waste water.
- ✓ Regular inspections should be conducted on wash bays to ensure that applicable components such as sand filters and drainage systems are functioning properly. Report any issues to the Physical Plant Services Director.
- ✓ Facilities with SWPPPs should utilize written checklist inspections at least once annually.

Maintenance Schedule

Maintenance should be conducted on applicable wash bay components per the manufactured directions (i.e. sand filters) or on an as-needed basis. Director should retain record of any maintenance work and store on-site alongside this document.

Commonly Generated Potential Pollutants

- ❖ Vehicle soap
- ❖ Oil and hydraulic residue
- ❖ Sediment

Photo 1: *Indoor Wash Bay.*

5.2 Vehicle Maintenance

Vehicle maintenance practices involve a number of solvents, petroleum products, and other toxic compounds that must be stored and handled in accordance with procedures that prevent potential contamination of the MS4 or associate water bodies.

Best Management Practices

- ✓ Vehicles should be maintained inside and under cover.
- ✓ Vehicles that are leaking any fluids should be put inside and under cover unless a drip pan can be utilized and emptied into the designated hazardous waste containers.
- ✓ Waste water should be disposed of in the sanitary sewer only.
- ✓ Remove leaking vehicles from service until repaired.
- ✓ Store leaking batteries in a secondary plastic container and store undercover in a designated hazardous waste location until third party contractor picks up. Schedule needed pickup with Physical Plant Services Director.
- ✓ Apply absorbent on large spill areas and scrub immediately with a broom to encourage absorption. Once absorbed pick up with a flat shovel and dispose of the waste in a plastic bag and secure the bag for disposal in a covered dumpster. If material is hazardous, dispose of in labeled barrels or waste bins. Never hose down the affected area. Prevent fluids from entering the storm sewer by diverting any flows.
- ✓ Maintenance areas should be visually inspected at the end of each working day to ensure that issues are not present that could possibly effect water quality. Areas of concern should be addressed immediately.
- ✓ Facilities with SWPPPs should utilize written checklist inspections at least once annually.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

Photo 2: *Indoor Vehicle Maintenance.*

Commonly Generated Pollutants

- ❖ Oil and hydraulic fluid
- ❖ Antifreeze
- ❖ Batteries
- ❖ Grease
- ❖ Fuel

5.3 Vehicle/Equipment Storage

Vehicles are stored in the City due to seasonal operations (snow removal), infrequent use, etc. Vehicles are potential sources of pollutants into the MS4 and other bodies of water, and therefore must be stored appropriately. Maintenance should take place in designated locations indoors or under cover, otherwise special care should be taken to ensure spilled or leaked fluids are contained.

Best Management Practices

- ✓ Store vehicles under cover, if possible.
- ✓ If leaking occurs outside, move vehicles away from storm drains and utilize a drip pan or absorbent material.
- ✓ Leaking vehicles should be placed inside or undercover unless a drip pan can be utilized and disposed of into designated waste containers.
- ✓ Clean up any observed spills or leaks and address the source. Ensure that parking areas are free of sediment and debris. Street sweep or clean as required to reduce mobilization of materials in stormwater.
- ✓ Regularly inspect individual pieces of equipment.
- ✓ Facilities with SWPPPs should utilize written checklist inspections at least once annually.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

***Photo 3**: Covered vehicle and equipment storage.*

Commonly Generated Pollutants

- ❖ Coolant (Antifreeze) – Green
- ❖ Oil – Brown or Black
- ❖ Fuel – Odor
- ❖ Brake Fluid – Clear, Oily, Yellow
- ❖ Power Steering Fluid – Yellow/Brown
- ❖ Transmission Fluid – Oily or Reddish
- ❖ Washer Fluid – Blue

5.4 Fueling Areas

The City utilizes a number of vehicles for operations and maintenance, in addition to other gas-powered equipment. Fuel for fleet vehicles and equipment presents a particularly hazardous set of toxic compounds that can seriously impair the water quality of receiving water bodies if spilled or leaked. Extra care must be taken to ensure that staff are adequately trained to avoid spills, clean them if they do occur, and prevent them from entering the storm sewer or any receiving water bodies. Other best management practices can also be employed to reduce the risk, in addition to procedures in applicable permits governing storage tanks.

Best Management Practices

- ✓ Refuel vehicles and equipment offsite at locations with designated fuel areas that are graded away from storm sewer inlets.
- ✓ Onsite refueling locations should be designed to prevent runoff and spills by having an impervious surface graded away from storm sewer inlets.
- ✓ Fuel stations should be covered with an area at least as large as the grade break or fuel dispensing area, and this cover should direct stormwater to a perimeter drain or away from the area.
- ✓ Install oil control devices in storm drains or basins that may receive contaminated runoff.
- ✓ Install vapor recovery nozzles to reduce drips and vapor.
- ✓ Develop a spill prevention plan that standardizes training and procedures related to use, storage, and potential spills of fuel. Additionally, provide equipment to both clean up the spill and prevent contamination of the storm sewer.
- ✓ Routinely inspect refueling structures and equipment for proper function and condition, as well as any signs of corrosion or potential failure. Above ground tanks should be inspected periodically by a professional.
- ✓ Facilities with SWPPPs should utilize written checklist inspections at least once annually.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

Photo 4: *Fueling area.*

Commonly Generated Pollutants

- ❖ Gasoline and Diesel Fuel
- ❖ Waste Oil

5.5 Dumpsters/Trash Cans-Solid Waste Collection and Recycling

Dumpsters and trash cans are potential producers of illicit discharges if polluted materials leak and travel to the storm sewer or receiving water bodies. However, as with other waste and chemical storage, proper storage and careful handling will minimize exposure. Unlidded dumpsters and trash cans allow rainwater to mix with the waste inside and produce polluted leachate that could then spill during unloading. Dumpsters and trash cans must also remain in good condition where nothing can leak out of the bottom and possibly contaminate the storm sewer and water bodies.

Best Management Practices

- ✓ Provide only covered containers, rather than those with completely open tops, to reduce the amount of rainwater entering the container and the potential for leaking during normal use.
- ✓ Place trash containers, recycling containers, and cigarette butt containers in high pedestrian traffic areas, common areas, entrances to buildings, and sidewalk entries from parking lots. Increase the number of containers if overfilling is a problem.
- ✓ Provide adequate containers at building rear and services entrances so trash materials from within the buildings are immediately transferred to covered containers during routine cleaning.
- ✓ Provide secure areas for dumpster loading and unloading to prevent tampering, unwanted dumping, and damage from other vehicles.
- ✓ Routinely inspect dumpster and trash can lids and other surfaces for deterioration or damage that may cause exposure to stormwater or allow leakage.
- ✓ If any leaks are detected, install berms or other devices to ensure nothing flows into the storm sewer system or receiving waters.
- ✓ Facilities with SWPPPs should utilize written checklist inspections at least once annually.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

Commonly Generated Pollutants

- ❖ Leaks
- ❖ Leachate
- ❖ Trash and Debris

Photo 5: *Dumpsters.*

5.6 Chemical Storage

The City has a number of chemicals onsite that are related to routine cleaning and maintenance, and contractors possessing chemicals and chemical-dispensing equipment may also be in the City. All chemicals that could potentially contaminate stormwater and local waterways should be clearly marked and stored in secure locations.

Best Management Practices

- ✓ Plainly label containers that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if a spill occurs.
- ✓ Store materials away from high traffic areas and on structures that keep them from coming into contact with the floor.
- ✓ Storage areas, loading and unloading areas should be covered or enclosed to reduce potential contact with stormwater.
- ✓ Storage spaces and containers should be routinely checked for leaks or signs of deterioration.
- ✓ Site Supervisors should set up periodic pick-up of waste chemicals through a third party contractor who can assist with providing the proper storage containers and proper disposal.
- ✓ Facilities with SWPPPs should utilize written checklist inspections at least once annually.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

Photo 5: *Chemical storage.*

Commonly Generated Pollutants

- ❖ Solvents
- ❖ Automotive lubricants
- ❖ Pesticides
- ❖ Fertilizer

5.7 Outdoor Loading

Outdoor loading areas are potential sources of illicit discharge if polluted materials leak during transport to/from containers and vehicles. Spilled materials can mix with stormwater, so proper storage and handling is necessary to help minimize exposure.

Best Management Practices

- ✓ If possible, perform outdoor loading under a tarp or covered structure and in dry weather.
- ✓ Avoid positioning loading areas near storm drains.
- ✓ Grade or berm the loading area so that stormwater drains to a dead-end connection or sanitary sewer, rather than a water body or storm drain.
- ✓ Address material spills in a timely manner to avoid contact with stormwater.
- ✓ Routinely inspect loading areas for leaks or signs of deterioration that may cause exposure to stormwater or allow leakage.
- ✓ Facilities with SWPPPs should utilize written checklist inspections at least once annually.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

Commonly Generated Pollutants

- ❖ Varies based on material being loaded

Photo 7: *Loading area.*

5.8 Outdoor Material Storage

The City has material storage areas outside, and houses substances such as grease, paints, detergents, metals, and bulk materials, such as mulch, in these locations. These materials must be stored and handled in accordance with procedures that prevent potential contamination of the MS4 or associate water bodies.

Best Management Practices

- ✓ Store all materials in appropriately labeled containers, if applicable.
- ✓ Avoid placing materials near storm drains.
- ✓ Make sure all outdoor storage containers have lids that are kept closed to prevent stormwater contamination.
- ✓ If materials are too large to store in containers, cover with a tarp and appropriately label the area to indicate the stored materials that are present.
- ✓ Provide perimeter controls for erodible stockpiles of materials such as mulch, sand, and gravel to prevent migration into the stormwater system.
- ✓ Routinely inspect outdoor material storage areas for leaking or corrosion of stored substances.
- ✓ Clean up all migrating materials upon discovery and repair the source of the migrating pollutant to prevent potential contamination of stormwater and water bodies.
- ✓ Facilities with SWPPPs should utilize written checklist inspections at least once annually.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

Commonly Generated Pollutants

- ❖ Corroded materials
- ❖ Wood preservatives

Photo 8: *Outdoor material storage.*

5.9 Outdoor Material Stockpiling

The City has material stockpiling areas for the storage of bulk materials such as sand, mulch and gravel. These materials must be stored and handled in accordance with procedures that prevent potential contamination of the MS4 or associate water bodies. Long-term stockpiling is any material that will remain on site for more than 14 days. **Inert demolition debris such as broken asphalt and concrete should only be taken for disposal to approved permitted sites with properly designed, installed, and maintained erosion and sediment perimeter controls in place as determined by the Director.**

Short-Term Best Management Practices

- ✓ Consider placing material on top of an impermeable membrane for quick clean-up.
- ✓ Consider placing an impermeable membrane on top of the stockpile and secure with cinder blocks/weight.
- ✓ When utilizing a portion of the stockpile, remove only a section of the protective covering to prevent moisture absorption and to minimize exposure to precipitation and wind.
- ✓ Store materials sufficiently away from storm drains or water bodies.
- ✓ Clean up all migrating materials upon discovery and repair the source of the migrating pollutant to prevent potential contamination of stormwater.
- ✓ Routinely inspect outdoor material stockpiles for migrating materials.

Long-Term Best Management Practices

- ✓ For soil stockpiles storage over 14 days, cover with a tarp or provide temporary turf stabilization to prevent erosion.
- ✓ Store materials sufficiently away from storm drains or water bodies.
- ✓ Provide three-sided jersey barriers to serve as perimeter controls and sediment barriers. Install addition ESC controls as necessary (i.e. erosion eels, etc.).
- ✓ Provide inlet protection or move stockpile where migrating materials may enter storm drains.
- ✓ Clean up all migrating materials upon discovery and repair the source of the migrating pollutant to prevent potential contamination of stormwater.
- ✓ Routinely inspect outdoor material stockpiles for migrating materials.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

Photo 9: *Outdoor material stockpiling.*

Commonly Generated Pollutants

- Migrating bulk material

5.10 Salt Storage/Operations

Road treatment materials used during inclement weather, such as deicing salt and sand grit, should be carefully stored and handled to prevent migration into storm drains and waterways.

Best Management Practices

- ✓ Storage, loading, and unloading areas should be covered or enclosed to reduce potential contact with stormwater.
- ✓ Another option for seasonal storage of sand/grit is to cover all outdoor material stockpiling areas with a tarp and secure tarp edges with sand bags or other heavier objects.
- ✓ Clean up all migrating materials upon discovery and repair the source of the migrating pollutant to prevent potential contamination of stormwater.
- ✓ During material delivery or loading, immediately clean spilled or tracked materials.
- ✓ Routinely inspect storage areas for migrating materials or deterioration of containment structures.
- ✓ Facilities with SWPPPs should utilize written checklist inspections at least once annually.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

Commonly Generated Pollutants

- ❖ Salts
- ❖ Sand and sediment

Photo 10: *Salt storage.*

5.11 Power Washing

Power washing can concentrate organic sediment, precipitates, surface material, and cleaning solutions into wash water, which is characterized as an illicit discharge if it enters the MS4. Power washing water, cleaning agents, and other compounds should not enter the storm sewer system or water bodies. Care should be taken to prohibit the wash water from flowing into the storm sewer, including roof drains, downspouts, and any other conveyances leading to them.

Best Management Practices

- ✓ Identify storm drains and possible conveyances to storm drains prior to commencing with cleaning or washing, and take measures to prevent wash water from entering them.
- ✓ Use dry cleanup methods to remove debris prior to washing surfaces.
- ✓ Determine where wash water may pool and vacuum up or allow it to evaporate.
- ✓ Water not containing chemicals or cleaning agents may be allowed to infiltrate in grass or gravel areas. Wash water containing chemical pollutants must be captured and disposed of in the sanitary sewer. Suspended solids and oils must be removed from the wash water using booms, absorbent pads, or other devices.
- ✓ Apply minimal water and prioritize dirty areas rather than cleaning or pressure washing an entire building surface.
- ✓ Inspect work areas after completion to ensure all potential pollutants have been contained and adequately disposed of.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

Photo 11: *Power washing.*

Commonly Generated Pollutants

- ❖ Sediment
- ❖ Detergents

5.12 Pesticide Application

Anywhere pesticides and herbicides, even when used occasionally, are used or loaded into equipment is subject to an accidental discharge into the MS4. Care should be taken to properly store, handle, and apply these chemicals in much the same manner as other hazardous materials, and only adequately trained staff should be responsible for their use. Applications of pesticides and herbicides over waters of the state or at water's edge are governed under a separate NPDES permit from DEQ.

Best Management Practices

Application:

- ✓ Pesticide and herbicide application needs to be done by a certified applicator.
- ✓ Apply herbicides and pesticides only after other, non-chemical approaches fail.
- ✓ Determine which products are the most useful and least environmentally harmful for a given situation and use sparingly and as directed by the manufacturer.
- ✓ Use chemical products only during weather conditions appropriate for the application and that will not potentially mix with stormwater in a rain event.
- ✓ Avoid applying chemicals within 5 feet of pavement, 25 feet of storm drain inlets, or 50 feet from a water body.

Spill Prevention:

- ✓ Spray equipment must be emptied of solutions before and storage.
- ✓ Wash water from application equipment must be disposed of in the sanitary sewer and any leftover material resealed in a container or disposed of at a hazardous waste collection location and disposed of by a contracted waste hauler.
- ✓ Store materials in a secure location and keep containers clearly labeled.
- ✓ Routinely inspect storage areas for leaks or signs of deterioration that may cause exposure to stormwater or allow leakage.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

Photo 12: *Pesticide Application.*

Commonly Generated Pollutants

- ❖ Pesticides

5.13 Street Sweeping

Streets and parking areas are prone to collect and concentrate significant amounts of materials that contribute to polluted runoff into storm sewer systems and water bodies. Sediment, debris, trash, automotive fluids, road salt, and trace metals can be minimized by such practices as street sweeping. Standard street sweeping equipment can be employed along curbed streets and parking lots, while smaller equipment can be used to access other hardscape areas that may accumulate sediment and debris. In additions to reducing the chance and severity of polluted discharges into downstream waters, the practice also extends the useful life of stormwater basins by reducing the sediment load.

Best Management Practices

- ✓ Establish a schedule that best addresses the rate of accumulation of materials on pavement and hardscapes, and adjust the schedule after significant events such as snowfall (sand, salt).
- ✓ Materials collected during cleaning activities should not be temporarily stored onsite. If stored onsite, dewater the material; and then move the material to a location away from water bodies and drainage systems. Provide perimeter controls at the location until such time that the material can be hauled offsite.
- ✓ Equipment washout areas should be kept clean and inlets free of debris and sediment to prevent bypass. Use the minimum amount of water to wash equipment.

Maintenance Schedule

Maintain equipment per the manufacturer's recommendations. Director should retain record of any maintenance work and store on-site alongside this document.

Commonly Generated Pollutants

- ❖ Sediment
- ❖ Heavy Metals
- ❖ Automotive lubricants

Photo 13: *Street Sweeper.*

5.14 Storm Drain Maintenance

Storm drains are often the point of entry into the storm sewer system, and they need to be cleaned and maintained on a regular basis to reduce the amount of pollution, trash, and debris into receiving water bodies. Clogged drains can overflow, thereby increasing the volume of water flowing into downstream structures and streams, as well as the chances for damage and erosion.

Best Management Practices

- ✓ Maintain an accurate storm sewer map and information table depicting all components of the MS4 and receiving water bodies.
- ✓ Establish a routine inspection schedule for observing structural conditions and for screening potential illicit discharges.
- ✓ Utilize a vacuum truck for emptying materials trapped in drainage inlets and junction sumps or otherwise dispose of materials in accordance with state and federal regulations.
- ✓ Keep impervious surfaces clean of trash, debris, and sediment.
- ✓ Mark drainage inlets to maintain public awareness about illegal dumping.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

Commonly Generated Pollutants

- ❖ Trash and debris
- ❖ Sediments
- ❖ Oil and Grease
- ❖ Antifreeze
- ❖ Paints
- ❖ Cleaners and solvents
- ❖ Pesticides
- ❖ Fertilizers
- ❖ Animal waste
- ❖ Detergents

Photo 6: *Leaves in storm inlet.*

5.15 Exterior Building Maintenance

Maintenance of building exteriors may involve a number of different practices, from cleaning to resurfacing. Pressure washing, for example, can concentrate organic sediment, precipitates, surface material, and cleaning solutions into the wash water, which is characterized as an illicit discharge if it enters the MS4. Care should be taken to prohibit fluids from flowing into roof drains, downspouts, and any other conveyances leading to them.

Best Management Practices

Cleaning:

- ✓ Identify storm drains and possible conveyances to storm drains prior to commencing with cleaning or washing, and take measures to prevent wash water from entering them.
- ✓ Use dry cleanup methods to remove debris prior to washing surfaces.
- ✓ Determine where waste water may pool and vacuum up or allow it to evaporate.
- ✓ Water not containing chemicals or cleaning agents may be allowed to infiltrate in grass or gravel areas. Wash water containing chemical pollutants must be captured and disposed of in the sanitary sewer. Suspended solids and oils must be removed from the wash water using booms, absorbent pads, or other devices.
- ✓ Prioritize dirty areas rather than cleaning or pressure washing an entire area.

Painting:

- ✓ Use water-based paints and thinners instead of oil-based whenever possible.
- ✓ Mix paint indoors before starting work to minimize the potential for spills entering the MS4.
- ✓ When spray painting use smaller paint containers with high pressure sprayers to minimize waste.
- ✓ Clean water-based paint off of brushes in a sink connected to the sanitary sewer. Oil-based paint waste must be reused, recycled, or disposed as hazardous waste.
- ✓ Dry paint containers completely before disposal.
- ✓ Use impermeable drop cloths when painting.
- ✓ Immediately clean up all spills when they occur.
- ✓ Recycle or donate excess paint.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

Photo 7: *Pressure washing.*

Commonly Generated Pollutants

- ❖ Paints & Solvents

5.16 Landscape Management

Typical landscape maintenance practices can produce stormwater contaminants such as pesticides, soil, fertilizers, and debris which can pollute receiving water bodies. Maintaining an attractive landscape can require considerable efforts in pruning, dressing, watering, and fertilizing. Steps can be taken to reduce the harmful effects of these practices on the stormwater system and water flowing into water bodies by reducing the number of inputs and waste, and by keeping maintenance crews adequately trained in best management practices. **The City should never apply any de-icing agents containing urea or other forms of nitrogen or phosphorus to parking lots, roadways, and sidewalks, or other paved surfaces.**

Best Management Practices

- ✓ Compost lawn wastes and re-till into the soil of planting areas or mix into mulch.
- ✓ Minimize turf areas by planting groundcovers, wildflowers, and shrubs, thereby reducing mowing and water requirements.
- ✓ Select drought and heat resistant turf species, and do not cut turf shorter than 3 to 4 inches. Mower clippings should be left on the turf as a natural fertilizer, and ensure clippings are swept away from paved surfaces.
- ✓ Replace exotic plant species when necessary with regional, indigenous plants, which are typically more water efficient and disease resistant.
- ✓ Utilize low-volume irrigation methods and only water areas as needed to enhance plant root growth and avoid excessive runoff.
- ✓ Avoid stockpiling materials leftover from landscape maintenance. Install composting facilities for light litter and remove other materials to an offsite recycling/composting facility.
- ✓ Routinely inspect work areas to ensure materials do not migrate to storm sewer inlets.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

Photo 8: *Landscaped area.*

Commonly Generated Pollutants

- ❖ Sediment
- ❖ Landscape Materials
- ❖ Fertilizers & Pesticides

5.17 Street Parking and Maintenance

Street parking often occurs in conjunction with parking lots. Vehicles and towed trailers have the potential to contaminate the MS4 and nearby streams, but careful maintenance of these areas will prevent these consequences from occurring.

Best Management Practices

- ✓ Ensure streets are free of sediment and debris. Street sweep or clean as required.
- ✓ Ensure oil drippings and spills are managed appropriately. If leaking vehicles are stored in the street parking, consider moving the vehicle away from storm drains and placing a drip pan beneath the leaking equipment. Captured fluids should be disposed in designated hazardous waste containers.
- ✓ Park maintenance equipment and portable toilets away from storm sewer connections.
- ✓ Validate inlet protection and other erosion and sedimentation control measures are installed correctly before performing any maintenance operations where sediment or other pollutants could enter the storm system.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Director should retain record of any maintenance work and store on-site alongside this document.

Photo 9: *Street Parking.*

Commonly Generated Pollutants

- ❖ Fuel
- ❖ Oil
- ❖ Hydraulic Fluids
- ❖ Grease

5.18 Absorbent Matting Maintenance

Absorbent matting is designed to catch oils, fuels, and chemicals from leaking vehicles and equipment to ensure materials do not migrate to storm sewer inlets or directly into water bodies. They are most effective when covered and not directly exposed to precipitation. However, absorbent matting can be used as a temporary best management practice without cover as long as they are frequently inspected and routinely replaced.

Best Management Practices

- ✓ Place absorbent matting directly under leaking vehicles and equipment.
- ✓ For Facilities that do not have a SWPPP, establish a routine schedule for inspecting, cleaning and replacing matting.
- ✓ Wash matting in wash pad or wash bay where the waste water will enter sanitary system.
- ✓ Keep surface of matting clean of trash, debris, stone, and sediment.
- ✓ Facilities with SWPPPs should utilize written checklist inspections at least once annually.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Conduct maintenance on the pollutant source as soon as practicable. Physical Plant Services Director should retain record of any maintenance work and store on-site alongside this document.

Photo 10: *Absorbent matting.*

Commonly Generated Pollutants

- ❖ Fuel
- ❖ Oil
- ❖ Hydraulic Fluids
- ❖ Grease

5.19 Dewatering Structure

Dewatering structures are devices designed to temporarily settle and filter water discharged from dewatering activities by means of pumping for utility construction and various maintenance activities. The purpose is to filter the sediment-laden water prior to the water being discharged off-site.

Best Management Practices

- ✓ A well-stabilized, vegetated area onsite may be used to filter sediment, if the area can withstand the velocity of the discharged water without eroding; and a minimum of 75 feet filtering length must be available.
- ✓ Size and operate a dewatering structure to allow pumped water to flow through the filtering device without overtopping the structure.
- ✓ Portable Sediment Tanks, Filter Box and Straw Bale/Silt Fence Pit are all dewatering devices with specific design criteria that can be found in the Virginia Erosion and Sediment Control Handbook Standard and Specification 3.26.
- ✓ An excavated basin (applicable to straw bale/sit fence) may be lined with filter fabric to help reduce scour and prevent inclusion of soil within the structure.
- ✓ Manufactured dewatering devices such as filter bags can also be used per manufacturer's recommendations.

Maintenance Schedule

Immediately place source controls where the identified issue is a potential concern to water quality. Inspect frequently and repair and replace once sediment build-up prevents the structure from functioning as designed. Physical Plant Services Director should retain record of any maintenance work and store on-site alongside this document.

Photo 11: *Dewatering Filter Bag.*

Commonly Generated Pollutants

- ❖ Sediment

5.20 Polychlorinated Biphenyls (PCBs)

PCBs are mixtures of synthetic chemicals used for industrial purposes, primarily in insulating materials for electrical equipment, including transformers and capacitors. While manufacturing, processing, and distribution of PCBs was banned by the Environmental Protection Agency in 1979, they persist in the environment due to their stability. They are considered pollutants that can cause health problems.

Potential sources of PCBs:

- transformers
- capacitors
- fluorescent light ballasts
- plasticizers
- electromagnets
- hydraulic fluids and lubricants

Identifying PCBs:

- Transformers, capacitors, and fluorescent light ballasts manufactured prior to July 2, 1979, or those whose PCB concentration is unknown, are assumed to contain PCBs.
- Those manufactured after July 2, 1979 or marked "No PCBs" are assumed to be free of PCBs.
- Other equipment manufactured prior to July 2, 1979 may contain capacitors with PCBs. Examples include HVAC equipment, microwaves, refrigerators, and television sets.
- Air compressors, cutting oil in lathes, and door closers may contain PCB oils.

Best Management Practices:

- ✓ Before removing potential PCB-containing equipment from service, inspect it for evidence of past or present leakage or external contamination.
- ✓ Dispose of contaminated non-liquid PCB-containing materials in a Toxic Substance Control Act (TSCA) chemical waste landfill or TSCA incinerator.
- ✓ Unless oils removed from equipment are known to be free of PCBs, do not mix with other waste or used oils.
- ✓ Dispose of PCB oils in a TSCA incinerator.

Commonly Generated Pollutants:

- ❖ Non-liquid and liquid PCBs

6.0 WASTE MANAGEMENT & DISPOSAL PROCEDURES

Responsible management of chemical and materials wastes can great reduce the amount of pollution in stormwater runoff. The following sections describe the recommended procedures for managing and disposing of waste materials the City may encounter. For any of the materials listed below, always see the Material Safety Data Sheets (MSDS) if available. The Good Housekeeping/Pollution Prevention Manual is not meant to supersede or replace any Material Safety Data Sheet or manufacturer's instructions, but rather supplement them and further reduce stormwater pollution.

6.1 Aerosol Cans

Aerosol cans should be properly disposed of as hazardous waste, and a local hazardous waste disposal vendor should be contracted to transfer the materials offsite to their facility. Recycling is also an acceptable route, however cans must be punctured and emptied after final use, and the contents must be separately stored and disposed of as hazardous waste. The City is a small quantity generator of aerosol cans, mainly relating to janitorial services, and is not likely to accumulate the necessary volume to make recycling efficient.

A waste disposal vendor will typically provide either a 55-gallon steel drum, fiber drum, or fiber box for collection of aerosol cans, and this container should be placed at a location central to waste collection and storage of other chemicals. The container should remain closed and labeled as "Aerosol Cans." Once the 55-gallon limit is reached, contact the vendor within three days and have them transfer the container offsite. Do not move the container to another offsite location. Obtain a hazardous waste manifest from the vendor and keep the records on file for three years.

6.2 Animal Carcasses

Roadside and property management of animal carcasses is generally dictated by the location and situation, with priority given to ensuring public safety by immediately removing the carcass from the area. Carcasses should be disposed of at a landfill or in a covered dumpster that is frequently emptied.

6.3 Antifreeze

Place used antifreeze in a drum or tank and clearly label as "Used Antifreeze." The container should remain closed when not in use and must be in good condition, with no other fluids being added. Contract a local hazardous waste disposal vendor to transfer the container offsite when it is full, and maintain records about the vendor and the final destination of the container for three years.

6.4 Batteries

Traditional alkaline batteries (AA, AAA, C, D, 9-volt) are not regulated by the EPA and can legally be thrown away with other, non-hazardous waste. However, types of batteries that are classified as Universal Waste and must be collected, stored, and recycled include: Nickel Cadmium, Nickel Metal Hydride, Lithium Ion,

Lithium, Mercury, Silver, Lead Acid, Lead Acid Flooded Cell Batteries, Non-Spillable Lead Acid Batteries, Sodium Batteries, and Potassium Hydroxide.

Recycling vendors are available and may provide a storage container and option to mail the materials to their location, or the batteries can be transported to the nearest recycling facility. Batteries to be recycled should be clearly marked as "Waste Batteries" or "Used Batteries." The battery collection container should have the date that the first battery is collected marked on the outside. Batteries can be stored in the container for up to one year of the marked date. Maintain records for the final destination of the batteries once they leave the site to a recycling facility or vendor for three years.

6.5 Empty Containers

All empty containers should be properly stored to reduce degradation until such time as they are recycled or disposed of at a landfill. Best practices include keeping the containers closed and storing them together in a covered area. Label the containers as "Empty."

- Disposal of empty containers previously storing non-hazardous/non-RCRA materials such as *oils and diesel fuel*:

- Empty the containers. Use absorbents such as rags or oil dry (no liquids) to help capture the remaining material. Dispose of the containers.

- Disposal of empty containers previously storing hazardous/RCRA non-acute hazardous materials or wastes such as *gasoline, low flashpoint solvents, and some paints*:

- Empty the containers so that the remaining residue at the bottom is one inch or less. Use absorbents such as rags or oil dry (no liquids) to help capture the remaining material. Dispose of the containers.

Containers not yet disposed of or recycled can be kept in a central, secure, storage area. Containers must be closed and clearly labeled "Empty Container – Hazardous Waste" and inspected weekly. Containers can be stored for up to 180 days and disposed of by a hazardous waste vendor. Obtain a hazardous waste manifest from the vendor and keep it on file after disposal for three years.

6.6 E-Waste (Monitors and Computers)

All computers, monitors, and other electronic waste should be properly disposed of and/or recycled through an electronic waste vendor. Maintain records of the final destination of the e-waste from the waste hauler for three years.

6.7 Filters-Oil, Gas, Diesel, Paint

Used filters may either be recycled or disposed of as solid waste under the following conditions:

Used Oil Filters

- Oil filters can be disposed of as solid waste when punctured and drained. Drain into an enclosed container labeled "Used Oil." Maintain records of the final destination of the filters from the waste hauler for three years.

Used Diesel Fuel Filters

- Diesel fuel filters can be disposed of as solid waste when punctured and drained. Drain into an enclosed container labeled "Used Diesel Fuel." Maintain records of the final destination of the filters from the waste hauler for three years.

Used Gasoline Filters

- Used gasoline filters may also be managed according to hazardous waste requirements, at or near their point of generation with storage limits up to 55 gallons. Place drained filters into a container labeled "Used Gasoline Filters". Once the 55-gallon threshold is met, the container must be shipped off-site by a hazardous waste hauler. Maintain records of the final destination of the filters from the waste hauler for three years.

6.8 Fluorescent Lamps, Hid, and Metal Halide Lights

Types of lamps that are considered as Universal Waste under the Resource Conservation and Recovery Act and must be collected, stored, and recycled include: fluorescent bulbs, high intensity discharge, metal halide, neon, mercury vapor, and high pressure sodium lights.

Lamps may be collected in an empty box the new ones came in or purchased from a lamp recycling vendor. The lights must be securely stored and unbroken. Label the containers as "Waste Lamps" or "Used Lamps" and indicate the date the first lamp was placed there. Broken bulbs must be contained in leak proof containers. Check with the vendor to see if they will take broken bulbs as well as unbroken. Dispose of the lamps at the nearest recycling facility and maintain a record of disposal for three years.

6.9 Freon

EPA requires service shops to use approved refrigerant recovery equipment for repair of air conditioning systems in motor vehicles. City technicians using refrigerant recovery equipment must be trained and certified by an EPA-approved organization. To comply with the requirements, service shops must send the Motor Vehicle Air-Conditioning (MVAC) Certification form to EPA along with the facility name and address, name of equipment manufacturer, equipment model and serial number, and a manufacture date. Maintain records for three years of the technician certifications and the name and address of the reclamation facility.

6.10 Fluorescent Light Ballasts (PCB and Non-PCB)

PCBs or polychlorinated biphenyls can be present in the solid potting material and in the capacitors of fluorescent light ballasts (FLB) manufactured before 1979, and these devices may still be in use with fluorescent lights in buildings from that era[1]. Non-leaking light ballasts are restricted to disposal in sanitary or industrial landfills with leachate collection, liners, and appropriate groundwater monitoring.

[1] PCB-containing fluorescent light ballasts that are currently in use have exceeded their designed lifespan and pose significant risk. EPA recommends removing PCB-containing FLBs from buildings as soon as possible to prevent potential inhalation or dermal exposure.

A PCB-containing FLB failure, leak, smoking condition, or fire requires the following:

- Isolate the affected area from central ventilation and ventilate the air separately.
- Relocate persons from the affected area.
- Hire experienced cleanup personnel to clean up and decontaminate equipment and surfaces.
- Comply with environmental regulations for proper storage and disposal of contaminated equipment and cleanup materials.

Storage of Non-Leaking Equipment

- Non-leaking equipment can be stored for 30 days, after which point storage is subject to more stringent requirements.
- Dispose of the non-leaking ballasts as a solid waste in a municipal solid waste landfill.

6.11 Other PCB-containing Materials

Dispose of non-liquid PCB-containing materials in a Toxic Substance Control Act- approved chemical waste landfill or TSCA-approved incinerator. Dispose of PCB oils in a TSCA-approved incinerator. The closest TSCA-approval disposal company is Environmental Protection Services, Inc. of Wheeling, WV (http://www.envprotsvcs.com/index.shtml).

6.12 Mercury Switches and Equipment

A mercury switch or equipment is any device containing mercury integral to its function (e.g. thermostats, appliances). Spilled or exposed mercury poses significant risk as it can evaporate and become and invisible, odorless and toxic vapor. They are classified as Universal Waste and must be collected, stored, and recycled while intact in the device.

- Collect unbroken mercury switches and equipment in an empty container marked "Waste Mercury Switch/Equipment" or "Used Mercury Switches/Equipment." Mark the outside of the container with the date the first item is placed in the container.
- Store for up to a year in the enclosed container and transfer the materials to a local recycling facility or contact the local hazardous waste authority.
- Maintain a record of the final destination of the equipment.
- If mercury is spilled or exposed, isolate the area and hire experienced professionals to clean up and decontaminate equipment and surfaces.

6.13 Oil, Gas, and Diesel Waste

Waste fuels and oils must be stored in separate, enclosed drums or tanks and clearly labeled as "Used Oil," "Used Diesel Fuel," or "Used Gasoline." Each container should remain closed unless in use and should remain in a covered, secured area. Contact a recycling vendor when the container is full and maintain records from the vendor for three years.

Used oil can be burned provided that:

1. Only used oil that the facility generates or received from household DIYs is burned in the heater,
2. The space heater is rated more than 0.5 million Btu/hr, and
3. Combustion gases from the space heater are vented to the ambient air.

If the space heater does not meet all of the above requirements, Part 279, Subpart G burner standards apply.

6.14 Paint Waste-Latex, Solvent Based

Paints and liquid surface coverings such as polyurethane should be stored in containers that are clearly labeled and remain closed. Store containers in secure, covered area off the floor.

Latex Paint

Latex paint is non-hazardous and its containers may be discarded once completely empty and does not contain free liquid. Absorbents can be used to remove any remaining free liquid, or spread the paint on cardboard or newspaper and allow the container to dry completely.

Solvent Based Paints

These paints—including stains, sealers, and associated thinning agents – should be managed as hazardous waste due to the organic solvents they contain. If minor amounts are leftover and cannot be used, use absorbents to remove any remaining free liquid, or spread the paint onto newspaper or cardboard and allow to dry completely. If the quantity is large, contact a waste disposal vendor and maintain records of the disposal for three years.

6.15 Parts Cleaners

Low-Flashpoint Solvents

Low-flash solvents contained in parts washers become hazardous waste once the solvent becomes too contaminated to clean effectively. Unless the parts washers are under a regularly-scheduled service agreement, a hazardous waste vendor should be contacted when the solvents become ineffective at cleaning. Maintain records of the final destination from the waste hauler for three years.

High Flashpoint Solvents

Waste solvents with a high flashpoint are not typically hazardous and can be recycled, unless the solvent is tested for pH and toxicity and is determined to be hazardous waste. Contact the vendor for related information, or contact a hazardous waste vendor for disposal. Maintain records of the final destination from the waste hauler for three years.

Aqueous Solvents

Waste aqueous solvents are typically not hazardous and can be recycled, unless they have become highly contaminated with materials from the washed parts, such as toxic metals and oils. Unless the spent liquid is tested, it should be assumed that it is hazardous and should be treated as other solvents by a waste vendor. Maintain records of the final destination from the waste hauler for three years.

6.16 Pesticides

Herbicides, insecticides and fungicides, etc. are all considered pesticides under EPA regulation. Containers should be stored in a covered area on impervious flooring, and containers should be segregated according to type. Ensure all containers are labeled and kept closed, and remove only the amount expected to use until the container is empty.

Never pour leftover pesticides down the sink, into the toilet, or down a sewer or street drain. Pesticides may interfere with the operation of wastewater treatment systems or pollute waterways, where they may harm fish, plants, and other living things. Empty pesticide containers may be managed as a universal waste, disposed of, or returned to the vendor.

Partially Full Containers as Universal Waste

- Pesticides that cannot be completely used and the containers are partially full should be marked as "Waste Pesticide" or "Used Pesticide."
- Contact the local hazardous waste authority for disposal as solid waste. Maintain a record of the final destination for used pesticide containers for three years.

Empty Containers for Disposal or Recycling

- Containers should be rinsed three times with potable water and disposed. Save the rinse water in separate container for future applications. If the rinse water is not reused it must be properly managed. Contact the local hazardous waste authority for guidance on proper disposal.

Partially Filled Containers Returned to the Vendor

- Some vendors may accept returned pesticides. Keep all containers clearly marked with original labeling and contact vendor for proper handling and shipment.

6.17 Rags, Wipes, Absorbents

Disposal methods vary for rags, wipes, and absorbents, depending on the type of substance absorbed. They will either fall under the Used Oil Regulation, the Hazardous Waste Regulations, or the Solid Waste Regulations.

Absorbents Used to Capture Used Oil

Waste rags, wipes, and absorbents containing oil (such as motor oil, hydraulic oil, etc.) may be discarded in the trash or laundered at an industrial facility if they are not dripping or completely saturated with oil.

Materials that are saturated with used oil should be wrung out or otherwise managed to remove as much free flowing oil as possible. The extracted oil should be contained with other used oil and recycled by a vendor, and the absorbent materials can be discarded in the trash. Maintain records of the final destination of materials that are recycled from the waste hauler for three years.

Absorbents Used to Capture Diesel Fuel

Waste rags, wipes, and absorbents containing diesel fuel may be discarded in the trash or laundered at an industrial facility if they are not dripping or completely saturated with diesel fuel. Materials that are saturated with used oil should be kept in a closed container marked as "Used Absorbents." Contact a used oil vendor when the container is full, and keep records of the final destination from the waste hauler for three years.

Absorbents Used to Capture Hazardous Materials

Waste rags, wipes, and absorbents containing hazardous materials such as gasoline, solvent-based paint, and some solvents and cleaners must be managed as hazardous waste. Collect the materials into a barrel or bucket with a tightly fitting lid and marked as "Waste Absorbents" and contact a hazardous waste vendor when full, and keep records of the final destination from the waste hauler for three years.

6.18 Scrap Tires

The primary means of scrap tire disposal is recycling through a registered waste tire hauler or at a scrap tire facility. If tires cannot be recycled they can be taken to a landfill that accepts waste tires. Virginia regulation states that no more than 100 scrap tires may be stored on site at any one time without a Solid Waste Permit. When the tires are transported off the site, keep records of the final destination for three years.

6.19 Solid Waste-Trash

All solid items not recycled or managed as hazardous waste may be considered as solid waste and disposed of using a trash collection service or municipal landfill. Liquids generally cannot be disposed of in regular trash collection service and the local hazardous waste authority should be consulted if suspect liquids are in the waste collection. Recycling vendors may collect additional liquid wastes that are not listed in this document.

Waste should be collected in bags that are securely closed and transferred to a lidded dumpster in good condition. Loose trash from unsecured collection could blow into stormwater drainage areas or come in contact with stormwater and potentially contribute pollutants into receiving waters.

6.20 Surplus and Excess Property

Materials and property that are no longer in use and stored should be managed carefully so that they are expeditiously transferred to their next user or location. Materials should not be stockpiled in locations where they might deteriorate and potentially cause pollutants to enter the stormwater.

6.21 Treated Lumber

The priority for treated timber is to first find potential for reuse in another project. If the materials are being discarded, conditions apply based on the chemicals used to treat the wood.

- Timber Treated with Chromated Copper Arsenate (CCA)**:** The Resource Conservation and Recovery Act (RCRA) exempts CCA treated lumber from hazardous waste regulation as long as the wood is in the same form it was for its intended use. Mulch, for example, is not exempt and cannot be legally sent to the landfill.
- Timber Treated with Creosote: Though not required by EPA regulation on weathered wood, a disposal facility may require Toxic Characteristic Leachate Testing (TCLP) prior to disposal. New creosote treated timber must be tested to determine if it is hazardous prior to disposal. Contact the local hazardous waste authority for further guidance on testing.
- Timber Treated with Pentachlorophenol (PCP): All PCP treated timber must be tested prior to disposal. Contact the local hazardous waste authority for guidance.

APPENDIX A: Spill Response Procedures

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In the Event of a Spill or Discharge

1. Contact the City of Salem. Report any spill or discharge immediately to the Director of Community Development: Chuck Van Allman, (540) 375-3032. If spill is large and hazardous call The Salem Fire Department (SFD) at (540) 375-3080 before City staff.

2. Assess the risk. When a spill occurs, determine the risks that may affect human health, the environment and the property. This may be done easily in cases where the type of contaminant spilled is known. In situations where the contaminant is unknown, determining risks may involve some investigation. In cases where the chemical is unknown, the spilled material may be identifiable from the container label or the Safety Data Sheet.

3. Select personal protective equipment (PPE). It is crucial that the appropriate PPE is chosen to stop, confine, and clean up the contaminant. Appropriate PPE may be a pair of gloves, eye and foot protection or face masks. If the chemical is not known, consult the Safety Data Sheet, or the chemical manufacturer. If the chemical remains unknown and the risk level uncertain, use the highest level of caution and protection. Refer unknown chemical cleanup to SFD and do not attempt to clean up without appropriate guidance.

4. Stop the source. Stopping the source of a spill may involve turning a container upright, plugging a leak or moving an operation. In any case, the source leak or spill should be controlled as quickly as possible.

5. Confine the spill. It is crucial to confine the spill before it reaches waterbodies or storm drains. In some cases, this step may need to occur before stopping the source. The proper containment measures necessary should be assessed based on the size and type of the spill. A small spill may be confined with the application of absorbent, whereas a larger spill may require absorbent pads/socks. Spill kits should be utilized where applicable to block nearby storm drains and prevent the movement of the spill. If a large spill of fuel, sewage or other hazardous materials occurs, contact SFD to assist in response and cleanup.

6. Evaluate the incident and implement cleanup. Once the spill is stopped and confined, the person responsible for cleanup should develop a plan of action to cleanup the spill. The person conducting the cleanup should make sure that they have enough spill response supplies to adequately deal with the spill. Once the chemical is cleaned up or the absorbents are saturated, they may contain hazardous waste and should be disposed of properly. See the Waste Management and Disposal Procedures section of Good Housekeeping/Pollution Prevention manual for disposal guidance.

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APPENDIX B: Reportable Discharge Form

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Reportable Discharge Form

Form use: This form is used to determine if a discharge, spill or release is reportable to the Department of Environmental Quality under the MS4 General Permit reporting requirements Section II(B)6(b)(4)(h) and Section III G, H, & I.

Section 1 - Discharge Classification

Note: If any item checked below, proceed to Section 2. If not, the discharge does not require a report to DEQ.

- ☐ Is the discharge "*unusual*" or "*extraordinary*", including a "*bypass*" or "*upset*"?
  - **"***Unusual***"** or **"***extraordinary***"** discharges include but are not limited to any discharge resulting from: Unusual spillage of materials resulting directly or indirectly from processing operations, breakdown of processing or accessory equipment, failure or taking out of service some or all of the facilities or flooding or other acts of nature.
  - "*Bypass*" means the intentional diversion of waste streams from any portion of a treatment facility.
  - "*Upset*" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based state permit effluent limitations because of factors beyond the reasonable control of the operator. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- ☐ Is it possible the discharge may adversely affect surface waters or may endanger public health?
- ☐ Is the discharge sewage, industrial waste, other wastes or any noxious or deleterious substance or a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302?

Section 2 – Potential to Enter Surface Waters

Note: If any item checked below, proceed to Section 3. If not, the discharge does not require a report to DEQ.

- ☐ Did the discharge enter or is reasonably expected to enter surface waters?

Section 3 – DEQ Notification

Note: Only complete this section if yes was answered for item(s) in Section 1 and Section 2 above.

Notify DEQ Blue Ridge Regional Office at (540) 562-6700 within 24 hours after the discharge discovery and provide the information listed below, as applicable. Space has been provided for documentation of information verbally reported to DEQ.

1. Any adverse effects on aquatic life: _____
   _____
2. The known number of fish killed: _____
3. Any unanticipated bypass: _____
   _____
4. Any upset which causes a discharge to surface waters: _____
   _____

For reports outside of normal working hours, leave a detailed message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24-hour telephone service at 1-800-468-8892.

Section 4 – Follow-up Written Report

Note: Only complete this section if items were checked for both Sections 1 and 2 above, and Section 3 has been completed.
Note: The board or its designee may waive the written report on a case-by-case basis for reports of noncompliance under Section III I if the verbal report has been received within 24 hours and no adverse impact on surface waters has been reported.

A written report shall be submitted to the DEQ Blue Ridge Regional Office within five days after the discharge discovery and shall contain the information listed below, as applicable. This completed form may serve as the written report submitted to DEQ.

1. A description of the nature and location of the discharge: _____
   _____
   _____
2. The cause of the discharge: _____
   _____
3. The date on which the discharge occurred: _____
4. The length of time that the discharge continued: _____
5. The volume of the discharge: _____
6. If the discharge is continuing, how long it is expected to continue: _____
   _____
7. If the discharge is continuing, what the expected total volume of the discharge will be: _____
   _____
8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this state permit: _____
   _____
   _____

Please mail completed forms to:

Department of Environmental Quality
Blue Ridge Regional Office
Roanoke Office
3019 Peters Creek Road
Roanoke, VA 24019
(540) 562-6700

Maintain a copy with SWPPP documentation.

APPENDIX C: GH/PP Knowledge Check Quiz

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Pollution Prevention Knowledge Check Quiz

Name: _____
Date: _____

1. IDDE stands for:
    a. Illegal Damage and Discharge Energy
    b. Important Discovery Development and Experiment
    c. Illicit Discharge Detection and Elimination
    d. Illegal Drainage and Dumping to the Environment

2. In reference to an illicit discharge, a generating site is:
    a. Where electrical generators are stored
    b. A specific source area that may produce pollutants
    c. A landscape irrigation area
    d. Where the water supply originates

3. The Stormwater Pollution Prevention Mapping shows all of the following except:
    a. Stormwater pipe locations
    b. Potential pollution generating sites
    c. Stormwater discharge locations
    d. Bus Stops

4. Good Housekeeping/Pollution Prevention inspection records should be kept for ____ year(s):
    a. 1
    b. 10
    c. 3
    d. 5

5. If a potential source of pollution is reported to you, you should:
    a. Take no action
    b. Contact the Director of Community Develpment
    c. Call the police department
    d. Clean up the pollution yourself

6. Vehicles can be washed under all the following circumstances except:
    a. In a designated wash bay that drains to the sanitary sewer
    b. Near a storm drain
    c. On the grass, but with no soap or detergents
    d. At a local commercial car wash

7. Which of the following landscape maintenance materials are considered potential sources of pollution:
    a. Mulch piles
    b. Concentrated grass clippings
    c. Fertilizers
    d. All of the above

8. True or False: Powerwashing is never considered to be a source of illicit discharges.

9. Which is these sources <u>is</u> an illicit discharge:
    a. Waterline flushing
    b. Air conditioning condensate
    c. Automotive fluids
    d. Fire-fighting activities

10. Spilled fuel should be cleaned up in the following manner:
    a. Let it dry and hose off the area
    b. Use kitty litter and sweep it into the drain
    c. Spilled fuel is not a source of pollution, and no action is needed
    d. Use a spill kit and contain any used absorbents

<u>Special Local Water Quality Concerns</u>

11. Which of the following are possible sources of sediment:
    a. Leaves in drain
    b. Dirt stockpiles
    c. Fertilizer
    d. Portable toilet

12. Which of the following is a method to control sediment:
    a. Silt fence
    b. Hay bales
    c. Gutter buddies
    d. All of the above

13. Which of the following is a pollutant of the Chesapeake Bay TMDL:
    a. PCB
    b. Oil
    c. Bacteria
    d. Sediment

14. Which of the following best describes a Nutrient Management Plan:
    a. Conservative practices for the use of nutrients such as fertilizer to effectively provide nutrients to plants while protecting against adverse effects.
    b. Practices on the use of mulch and other ground covers for protecting plants and ensuring that they have adequate nutrients.
    c. Plan for applying nutrients while observing weather conditions to ensure that it does not rain within two weeks of applying fertilizers.
    d. Plan that applies to grass cutting.

15. The nutrient management plan is applicable to:
    a. Personnel applying nutrients
    b. Citizens
    c. Road crews
    d. Visitors

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APPENDIX D: Annual Training Documentation Form

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City of Salem Annual Good Housekeeping/Pollution Prevention Training Form

THIS SECTION TO BE COMPLETE BY THE DIRECTOR OF COMMUNITY DEVELOPMENT ONLY		***THIS SECTION TO BE COMPLETED BY STAFF RECEIVING TRAINING***	
Staff identified to receive training		-	
Name (Printed)	**Position**	**Staff Signature**	**Date of Training**