



Stormwater Management Good Housekeeping Manual

City of Maryville, TN
Updated - July 2024



Stormwater Management
Good Housekeeping Manual

Maryville, TN

July 2016

Peter E. Yakimowich, PE

Vaughn & Melton

Prepared by:



YaugfznAHeften

Vaughn & Melton Consulting Engineers

537 Market Street

Suite 12

Chattanooga, TN 37402

(423) 713-7024



INTRODUCTION	I
Governing Authority	i
Purpose	i
Users and Usage	i
Organization of the GHM	ii
1. MUNICIPAL OPERATIONS	1
Facilities	1
Operational Assessment	2
2. GOOD HOUSEKEEPING PRACTICES	3
Potential Pollutants	3
General Good Housekeeping Practices	3
Activity and Facility Specific Good Housekeeping Practices	4
Building, Facility and Grounds Maintenance, FA-1	6
Parking and Public Maintenance, FA-2	10
Waste Handling and Disposal, FA-3	13
Vehicle and Equipment Fueling, FA-4	19
Vehicle and Equipment Maintenance, FA-5	21
Vehicle and Equipment Washing, FA-6	24
Storage and Handling of Raw Materials, FA-7	26
Roads and Streets Maintenance, FA-8	29
Drainage System Maintenance, FA-9	31
3. IMPLEMENTATION	33
Stormwater Pollution Prevention & Control Plans	33
SWPPC Guidance	33
Appendix A – Assessment of Practices	A-1
Appendix B – Outfall Inspection Form	B-1
Appendix C – References	C-1



Introduction

Governing Authority

The City of Maryville (City) owns, operates, and maintains a Small Municipal Separate Storm Sewer System (MS4) which discharges stormwater runoff from the municipality directly to surface waters. These discharges are regulated by the Tennessee Department of Environment and Conservation (TDEC) through an MS4 Stormwater Permit Program. Maryville is subject to the Tennessee General Permit TNS000000 effective October 1, 2010.

Paragraph 4.2.6, Pollution Prevention/Good Housekeeping for Municipal Operations, of the New Tennessee NPDES MS4 Permit (TNS000000) requires that the City “develop and implement an operation and maintenance program that has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.”

Purpose

The City of Maryville has an established stormwater management program and has been operating in compliance with their NPDES MS4 Permit. As such, The City’s program already includes many of the requirements of the new permit. The City has recognized that several measures and tools need to be documented and as necessary further developed and implemented to comply with the provisions of the new permit. The City determined that compliance with Paragraph 4.2.6 of the permit can be aided by the development of a “Good Housekeeping Manual” (GHM).

Good housekeeping practices have been generally identified and described in the available technical literature. It is not the purpose of this manual to just collect those and organize them in this manual. While some generic content may be useful, the intent is to provide the city an instructional document with the goal of pollution prevention from the city’s facilities and operations. Facility specific pollution prevention plans are essential for the city to have an effective and operationally accountable program.

The document will serve as a resource for the development of facility specific measures and practices that will be needed to comply with the new provisions described in Section 4.2.6 of the Tennessee NPDES MS4 Permit (TNS000000).

Users and Usage

The GHM will provide operations and facility managers guidance and tools for the development of site-specific pollution prevention and control plans (SWPPC) and associated operational and maintenance tools. The GHM also serves to augment the City’s Illicit Discharge Detection and Elimination Program (IDDE) by providing Best Management Practices (BMP) to prevent pollutant discharges from City operations and facilities. State-of-the-art BMPS continue to evolve rapidly. It is recommended therefore that the GHM be maintained and kept current as additional facilities, operations and practices are developed. Annual reviews and updates are recommended.



Organization of the GHM

The GHM is organized to assist the facility manager in selecting and implementing good housekeeping and best management practices to reduce or eliminate pollutant impacts of stormwater discharges on receiving waters.

Section 1. Municipal Operations

This section identifies municipal facilities and provides a tool for operational assessment and documentation of good housekeeping and best management practices.

Section 2. Good Housekeeping Practices

This section provides a description of practices and methods to control or eliminate sources of stormwater pollutants that should be considered in efforts to reduce pollutants from municipal facilities and operations.

Section 3. Implementation

This section provides guidance on the development, implementation, and documentation of facility specific stormwater pollution prevention and control plans (SWPPC). This measure is key to an effective program and necessary to assure compliance with TNS000000.

Appendix A

Assessment documentation of the City's facilities is located in Appendix A. This is to be an active portion of the manual with annual reviews and updates.

Appendix B

The Outfall Inspection Form is to be used in conjunction with the development of SWPPCs as provided.

Appendix C

Useful references and sources are provided in Appendix C.



1. Municipal Operations

This section identifies municipal facilities and provides a tool for operational assessment and documentation of good housekeeping and best management practices.

Facilities

The City owns and/or has jurisdictional control over several facilities. The operational responsibility for these facilities is divided among several departments and operational units. In some cases, properties within the City, such as with Parks and Recreation Facilities, operational control is exercised by Blount County.

The City has identified those facilities that are within the MS4 area and a department of City government that exercises operational control. Also identified are facilities within the MS4 jurisdictional area that are managed by Blount County. None of these facilities report directly to the Stormwater Program Manager and as such the adoption and application of the GHM for these facilities remains the responsibility of the respective facility manager or superintendent of operations whether under City or County control.

The following facilities are under the jurisdictional control of the City:

- Streets and Roads
- Storm Drainage System
- Maryville Municipal Center
- Municipal Operations Center
- Municipal Parking Lot
- Recycling Center
- Wetlands Education Center
- Fire Department Facility
- City Schools

The following facilities are under control of Blount County Government:

- Sandy Springs Park
- Pearson Springs Park
- Greenbelt Lake Park
- John Sevier Park
- Everett Park
- College Hill Park



Operational Assessment

It is recognized that facility managers currently apply many good housekeeping practices (GHP) and that these serve as foundation for the City's overall program of meeting the specific permit requirement of good housekeeping and pollution prevention. It is important that these are documented and maintained. Several City facilities were inspected and reviewed to determine existing practices and to provide an overview assessment of GHP. The manual serves to document those as well as identify other GHP to be included in the manual.

Representative City facilities were reviewed with a focus on operations and maintenance activities with greater potential for control of stormwater pollution. The review was documented with an "Assessment of BMP Practices at Municipal Facilities" (AP). The purpose of the AP is threefold: (1) to provide a current assessment of practices; (2) to provide the Stormwater Manager with a tool to assess every facility on a periodic basis to assure that GHP are in place; and (3) to provide a template for the development of facility specific SWPPP by facility managers.

Appendix A includes a blank AP (Assessment of Practices) template as well as completed AP. Appendix A of the Manual is intended to be used to maintain a hard copy for each facility as well as provide a structure for an electronic database.



2. Good Housekeeping Practices

This section provides a description of practices to control or eliminate sources of stormwater pollutants that should be considered in efforts to reduce pollutants from municipal facilities and operations. Note: the terms best management practices and good housekeeping practices in the context of this manual are synonymous.

Potential Pollutants

The following chart identifies the potential pollutants associated with identified city facilities operations and activities. These pollutant categories are the principal types of pollutants associated with the respective operations. The objective of good housekeeping practices is to prevent and eliminate the discharge of these pollutants from City facilities.

ID Tag	Facility/Activity	Potential Pollutants								
		Sediment	Nutrients	Trash	Metals	Bacteria	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances
FA-1	Building, Facility and Grounds Maintenance	X	X	X	X	X	X	X	X	X
FA-2	Parking and Public Space Maintenance	X	X	X	X	X	X	X		X
FA-3	Waste Handling and Disposal	X	X	X	X	X	X	X	X	X
FA-4	Vehicle and Equipment Fueling			X	X		X	X		
FA-5	Vehicle and Equipment Maintenance				X		X	X		
FA-6	Vehicle and Equipment Washing	X	X	X	X		X	X		
FA-7	Storage and Handling of Raw Materials	X	X	X			X	X	X	X
FA-8	Roads and Streets Maintenance	X	X	X	X		X	X		X
FA-9	Drainage System Maintenance	X	X	X	X	X	X	X	X	X

General Good Housekeeping Practices

A variety of specific good housekeeping practices and procedures are described in this manual. All these practices share some unifying fundamental principles. Facility managers and operators must apply these as they develop and employ specific Stormwater Pollution Prevention Plans (SWPPP). These principles should also be the foundational basis of the educational content for employees and facility staff.



A successful program of good housekeeping and pollution prevention must also engage the community as well. The City already has a number of related and ongoing programs that support the overall pollution prevention effort. These include litter control, pet waste management, waste management, recycling, hazardous materials collection, literature, and educational materials for a variety of practices such as pesticide and herbicide application, yard waste management, car washing, waste oil and battery collection, and rainwater harvesting.

In addition, the City already has a formal and documented program of Illicit Discharge Detection and Elimination. This program is a component of the overall Good Housekeeping and Pollution Prevention Program of the City. The City also has a program of maintenance of the storm drainage system to maintain proper functional operation necessary to prevent erosion and remove sediments, litter, and other pollutants. The application of methods and prevention measures described in this manual will serve to augment the existing program.

Activity and Facility Specific Good Housekeeping Practices

There is a set of common or unifying principles for pollution prevention at municipal facilities. These principles and practices form the basis of most of the good housekeeping practices described in this manual.

Unifying Principles of Good Housekeeping

- *Minimize or prevent exposure of materials to precipitation*
- *Good Housekeeping*
- *Preventative Maintenance*
- *Spill Prevention and Response*
- *Erosion and Sediment Control*
- *Management of Runoff*
- *Control Measure Maintenance*
- *Reduce, reuse, and recycle materials and wastes where possible*
- *Utilize non-toxic eco-friendly materials*
- *Provide primary and secondary containment of raw materials*
- *Provide physical barriers and filters for stormwater inlets*
- *Engage and educate employees and public in pollution prevention practices*
- *Keep work sites clean and orderly removing debris in a timely manner*



Good housekeeping practices are described for the activities and facilities noted above in the sections that follow. Nine activity/facility specific good housekeeping practices are provided and incorporate the common practices noted above.



Building, Facility and Grounds Maintenance, FA-1



Description

Building and landscape maintenance activities can provide a source of potential pollutants such as solvents, fertilizers and pesticides, suspended solids, nutrients, heavy metals, and abnormal pH. Good housekeeping through the application of basic protocols and preventive measures can minimize and prevent the release of contaminants into the stormwater system.

Basic practices for typical operation and maintenance activities are as follows:

Building or Facility Maintenance

- Wash or pressure wash without the use of detergents or other chemicals and direct discharges across grassed or landscaped areas to be absorbed, infiltrated, evaporated, and transpired by the plants. Prevent or limit wash runoff to impervious surfaces that drain directly to the stormwater system
- If it is necessary to use detergents or other chemicals for washing or other cleaning activities with water or fluids, limit this practice to where the discharge is directed to a landscape bed, grassy area, or other vegetated area and is fully absorbed and infiltrated without wash-off or discharge into the stormwater system or sinkhole. Caution: Be sure the chemicals and concentration do not harm the vegetation. Where this is not possible or assured, wastewater or fluids must be collected and disposed to an approved wastewater collection system.
- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- Dispose fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to storm drain or infiltration due to potential high levels of pollutants in fire sprinkler line water.
- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Clean paint brushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.
- Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. The containment device(s) must be in place at the beginning of the workday and accumulated dirty runoff and solids must be collected and disposed of before removing the containment device(s) at the end of the workday.



- If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. In which case you should direct the water through hay bales and filter fabric or use other sediment filters or traps.
- Store toxic material under cover with secondary containment during precipitation events and when not in use. A cover would include plastic, tarps, or other temporary cover material.

Grounds Maintenance Activities

- Sweep paved areas regularly to collect loose particles and wipe up spills with rags and other absorbent material immediately; do not hose down any area to a storm drain.
- Follow application directions and guidelines provided for the insecticide, herbicide, or fertilizer. Do not over apply. Do not apply when there is a risk of rain and/or runoff. Note: Schedule irrigation to avoid waste or runoff.



- Do not apply any chemicals (insecticide, herbicide, or fertilizer) directly to surface waters, unless the application is specifically approved and permitted by the state.
- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage, or by composting.
- Do not dispose of collected vegetation into waterways or storm drainage system.
- Follow City procedures for erosion prevention and sediment control. Ref: TN Erosion and Sediment Control Handbook.



- Maintain and post an irrigation schedule. Minimize irrigation and sprinkling to avoid runoff.
- Consider the use of rain barrels or cisterns as an alternative to the use of potable water for irrigation.
- Landscape mulch should be contained in such a manner as to prevent discharge and floating into the drainage system. Consider the use of pine straw mulch in lieu of wood chips or other mulch that may run off.
- Consider maintaining a higher grass height to reduce irrigation demand.
- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Use hand or mechanical weeding where practical.
- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides, as well as training of applicators and pest control advisors.
- Use less toxic pesticides that will do the job, whenever possible. Avoid use of copper-based pesticides if possible.
- Do not mix or prepare pesticides for application near storm drains.
- Use the minimum amount of lawn and landscape chemicals needed for the job.
- Employ techniques to minimize off-target application (e.g., spray drift) of pesticides, including consideration of alternative application techniques.
- Where practical, work fertilizers into the soil rather than dumping or broadcasting them onto the surface.
- Irrigate slowly to prevent runoff and then only water as much as is needed.
- Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Dispose of empty pesticide containers according to the instructions on the container label.
- Use up the pesticides. Rinse containers and use rinse water as product. Dispose of unused pesticide as hazardous waste.



- Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.
- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.

Training and Quality Assurance

- Educate and train employees on use of chemical application techniques to prevent pollution.
- Use qualified contractors. Include contract specifications for pollution prevention.
- Train employees in proper techniques for spill containment and cleanup.



Parking and Public Maintenance, FA-2



Description

Parking lots and public space areas can contribute many substances, such as trash, suspended solids, hydrocarbons, oil and grease, and heavy metals to receiving waters through stormwater runoff or non-stormwater discharges. The following practices are intended to prevent or reduce the discharge of pollutants from parking/storage areas

using good housekeeping practices and training employees.

Stormwater Management Practices

- Keep the parking and storage areas clean and orderly. Remove debris in a timely fashion.
- Allow sheet runoff to flow into grassy areas, or specially designed bio-filters or infiltration devices.
- Utilize litter traps, sediment filters and/or oleophilic (oil adsorbing/absorbing media) collectors for oily waste in low concentrations.
- Clean out catch basins and other stormwater infrastructure regularly, especially after rain events of 1 inch or more.
- Clean parking facilities on a regular basis to prevent accumulated wastes and pollutants from being discharged into conveyance systems during rainy conditions.
- Direct rooftop drains to grassy areas and landscaping and prevent drainage directly onto paved surfaces.
- Incorporate permeable paving and infiltration landscaping into lot design or redevelopment.
- Maintain healthy landscaping.
- Incorporate tree wells filters.
- Convert mounded landscape beds to rain gardens where economically feasible.
- Incorporate rainwater harvesting for irrigation.



Litter and Trash Control

- Maintain “No Littering” signs and enforce anti-litter laws.
- Provide an adequate number of litter and trash receptacles.
- Maintain covers on “dumpsters”.
- Inspect and maintain dumpsters to assure that they are watertight and leak proof.
- Clean out and cover litter receptacles frequently to prevent spillage.
- Provide trash receptacles in parking lots to discourage litter.
- Routinely sweep, shovel, and dispose of litter in the trash.
- Protect storm inlets with filters and sediment traps.
- Have spill cleanup materials readily available and in a known location.
- Inspect cleaning equipment/sweepers for leaks on a regular basis.



Infiltration Landscape Planting at Municipal Parking Garage



Surface Cleaning

- Use sweeping and vacuuming methods with controlled use of water to prevent runoff and the subsequent discharge of pollutants into the stormwater system.
- Establish and maintain a regular and periodic frequency of public parking lot sweeping based on parking lot usage and field observations of waste accumulation.



- If pressure washing is needed, pressure wash without the use of detergents or other chemicals and direct discharges across grassed or landscaped areas to be absorbed, infiltrated, evaporated, and transpired by the plants. Prevent or limit wash runoff to impervious surfaces that drain directly to the stormwater system.
- If it is absolutely necessary to use detergents or other chemicals for washing or other cleaning activities with water or fluids, limit this practice to where the discharge is directed to a landscape bed, grassy area, or other vegetated area and is fully absorbed and infiltrated without wash off or discharge into the stormwater system or into a sinkhole. Caution: Be sure the chemicals and concentration do not harm the vegetation. Where this is not possible or assured, block the storm drain and contain and collect runoff wastewater for disposal at an approved wastewater collection system or use vacuum type wash equipment.
- Dispose of parking lot sweeping debris and dirt at a landfill. Cleanup spills immediately and use dry methods if possible.
- Use absorbent materials on oily spots prior to sweeping or washing. Dispose of used absorbents appropriately.

Surface Repair

- Follow practices identified in the Road and Street Maintenance section, FA-8.
- Follow City procedures for erosion prevention and sediment control. Ref: TN Erosion and Sediment Control Handbook.

Quality Assurance

- Have qualified personnel conduct inspections of the parking facilities and stormwater conveyance systems associated with them on a regular basis.
- If maintenance is contracted, use qualified contractors incorporate specifications for pollution prevention as part of the contract.



Waste Handling and Disposal, FA-3

Description

The City handles and disposes a variety of waste, rubbish, trash, brush, garbage, and other materials. Proper storage, handling, and disposal of solid wastes is in itself a significant good housekeeping practice by the City. Nonetheless the nature of the materials and wastes handled has the potential for the release and exposure of toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants into receiving waters.



"The Python", Maryville's automated garbage truck

The discharge of pollutants to stormwater in this service function of the City is further preventable through the application of good housekeeping practices. While the City already employs many of these, the continued practice of those and following listing of good housekeeping practices will help assure pollution prevention.

The City activities in this capacity cover both municipal owned facilities as well as service to privately owned facilities. The practices identified herein are applicable to all those facilities and services.

Waste Reduction

The reduction of waste is the first step and a major component in an effective program approach to reduce stormwater pollution from waste handling and disposal. Waste reduction should be encouraged through training and public outreach. Reduction requires knowledge of situations where waste can be reduced or eliminated and facilities and services can reduce, reuse, and recycle. A waste reduction program is an economically effective measure to reduce raw material purchases, lower waste disposal fees, and promote a sustainable environment. Waste reduction leads to a better triple bottom line of economy, environment, and social value.

Ref: Advancing Resource Management in Harvard University's Facility Maintenance Operations (<http://www.mass.gov/eea/docs/dep/recycle/reduce/06-thru-l/harvfin.pdf>)

Maryville operates a waste reduction program with several recycling centers, and a bulk waste and brush collection service. **Used oil can be dropped off free of charge at the Operations Center at 332 Home Ave.**

More general information on solid waste is available at: <https://www.maryvillegov.com/sanitation.html>

Information on household hazardous waste is available through the Blount County website at: <http://www.keepblountbeautiful.org/hhw/>



Mobile Recycling Collection Unit

General Practices

- Consider a residential curbside collection program for recyclables; provide special containers or free bags.
- Explore contract services for recyclable pickup.
- Enforce Illicit Discharge Detection and Elimination at Municipal Facilities.
- Install and maintain recyclable program and policy at all municipal operations.
- Do not dispose of any container with product.
- Install water purification dispensers at schools and public facilities in lieu of bottled water dispensers.
- Consider a requirement for all non-residential facilities to segregate wastes and maintain facilities for recyclable materials.
- Consider a waste collection fee structure based on volume and weight collected.
- Partner with other local governments for hazardous waste collection.



Waste Oil and Battery Collection Facility

Storage and Containment Practices

- Inspect storage containers on a regular basis for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- Maintain cover on storage containers with leak proof lids or other means to block precipitation, fugitive emissions, vermin, and other vectors.
- Toxic or hazardous wastes must be in a secured facility.
- Do not store wastes on unprotected ground.
- If waste is not in containers, cover to prevent stormwater exposure.
- Protect wastes stored on the surface with diversion devices.
- Sweep and clean the storage area regularly.
- Do not hose down the area to a storm drain.
- Dispose of rinse and wash water from cleaning waste containers into a sanitary sewer as permitted. Wash water is not to be discharged or released to the street or a storm drain.
- Take special care when loading or unloading wastes to minimize losses including aerial releases. Utilize waste handling equipment or systems that control fugitive releases.
- Place waste containers under overhead cover if possible.
- Do not introduce washout water or any other liquid to waste containers.
- Disinfect storage containers exposed to garbage on a regular basis.
- Ensure that only appropriate solid wastes are added to the solid waste container.



- Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal.



Brush Collection Facility



Garbage Collection Provision at Recycling Facility



Discharge Control Pond at Operations Center

Site Design and Management

- Consider landscaping and beautification of public storage facility sites to discourage dumping and provide green infrastructure to minimize runoff.
- Employ site management practices consistent with City ordinances.
- Stencil storm drains on the facility's property with prohibitive message regarding waste disposal.
- Select designated and controlled hazardous waste collection areas on-site.
- Provide secondary containment for hazardous waste containers.
- Maintain site stormwater management facilities in proper order.
- Consider a retrofit of site stormwater management to capture and treat the rainfall event that is consistent with the City's NPDES MS4 Permit.
- Prevent stormwater run on from entering the waste management area by enclosing the area or using diversion methods.
- Keep your Spill Prevention Control and Countermeasure (SPCC) plan up-to-date and implement accordingly.
- Have spill response materials readily available and in a known location.
- Clean up spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup materials.
- Train employees on pollution prevention measures and proper disposal methods.
- Train employees and contractors proper spill containment and cleanup. The employee should have the tools and knowledge to immediately begin cleaning up a spill if one should occur.
- Train employees and subcontractors in proper hazardous waste management.



Equipment Practices



- Vehicles transporting waste should have spill prevention equipment that can prevent spills during transport such as baffles for liquid waste, sealed gates, and spill guards.
- Maintain and clean equipment used in waste management to avoid leaking and exposure to wash off.



Vehicle and Equipment Fueling, FA-4

Description

The City of Maryville maintains a central fueling facility located on the secured premises of the Operations Center at 332 Home Avenue shown below. The central location provides a single point of control for fueling all City operated vehicles and equipment. This arrangement is a pollution control practice in that it facilitates operational control.



Fueling Center at the Operations Center

Spills and leaks that occur during vehicle and equipment fueling can contribute hydrocarbons, oil and grease, as well as heavy metals to stormwater runoff. The following practices can help prevent fuel spills and leaks and reduce potential for pollutant discharge. Successful practice also depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Practices

- Post signs for proper fueling procedures.
- Post emergency spill response procedures in the event of a spill.
- Keep the Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Place stockpiles of spill cleanup materials where they are readily accessible.
- Focus pollution prevention activities on containment of spills and leaks, most of which may occur during liquid transfers.
- "Spot clean" leaks and drips routinely. Leaks are not cleaned up until the absorbent is picked up and disposed of properly. Do not wash down storm drains.



Emergency Shut Off for Maryville Fueling Station



- Maintain clean fuel-dispensing areas using dry cleanup methods such as sweeping for removal of litter and debris. Do not wash down areas with water.
- Provide structural containment to intercept and contain leaks and spills. This can be accomplished at the City facility with a retrofitted low rise drive over curb at both the upside and downgrade side of the facility. This is especially important on the upside to divert run on of stormwater.
- Report leaking vehicles to fleet maintenance.
- Periodically inspect to ensure the following safety features are operational:
 - Overflow protection devices on tank systems to warn the operator.
 - Shutdown transfer pumps when the tank reaches full capacity.
 - Clearly tagging or labeling all valves to reduce human error.
 - Automatic shut off for severed fuel hoses.
 - Automatic shut off on fuel dispensers
- Fit fuel dispensing nozzles with “hold-open latches” (automatic shutoffs) except where prohibited by local fire departments.
- Use secondary containment when transferring fuel from the tank truck to the fuel tank.

Waste Collection at Fueling Station

- Provide waste receptacles at the fueling station
- Use watertight waste receptacle(s) and keep the lid(s) closed
- Keep receptacles under the canopy and on the raised curb
- Empty receptacles frequently and examine contents for illicit dumping
- Dispose of waste properly



- There is an emergency shut-off for the curbed and covered fueling station.
- Stormwater from the property is discharged and collected in a detention basin.

Continued observance and/or implementation of the existing and the following activities associated with vehicle and equipment maintenance will further prevent or reduce the discharge of pollutants to stormwater.

General Best Management Practices

- Keep accurate maintenance records of material use.
- Use non-toxic chemicals for maintenance when practicable.
- Use cleaning agents that can be recycled.
- Clean parts without using solvents whenever practicable.
- Cover idle equipment with tarps when covered space is unavailable to prevent stormwater exposure.
- Clean work areas with dry cleaning agents. If work areas are washed, collect and vacuum wash for proper disposal - never to a storm drainage system.
- Clean storm drain inlets(s) regularly.
- Do not pour materials down drains or hose down work areas; use dry sweeping.
- Provide containment curbs where practicable around process equipment with fluids.
- Drain all fluids from wrecked vehicles promptly.
- Do not pour liquid waste to floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections.
- Do not dispose of used or leftover cleaning solutions, solvents, and automotive fluids and oil in the sanitary sewer.
- Dispose of all waste materials according to applicable laws and regulations.
- Collect leaking or dripping fluids in drip pans or containers and keep separate from others.
- Provide means for collection and recycling of spent oil filters or other equipment components.
- Keep equipment clean of excessive build-up of oil, grease, refuse, and other contaminants with regular use of Operations Center's wash facility.
- If temporary outdoor work is necessary, use a tarp, ground cover and drip pans beneath the vehicle or equipment to capture all potential spills and drips.
- Promptly transfer used fluids to the proper waste or recycling drums. For reasons of safety as well as pollution prevention, do not leave drip pans or other open containers on the floor or places where they may be inadvertently spilled.
- Change or remove vehicle or equipment fluids in designated areas only.
- If equipment or equipment components are to be stored outdoors, drain and properly store or dispose of all fluids or components that may leak. Cover such equipment with tarps. Store in an area that is protected from stormwater run on. Monitor for any evidence of leaking or discharges. Correct and clean



up any discharges as soon as possible to prevent exposure to rain and discharge into the storm drain system.

- Check incoming vehicles for leaking oil and fluids. Implement corrective and control measures as problems are discovered.
- Keep the Spill Prevention Control and Countermeasure (SPCC) Plan current.
- Maintain a proper protective sealant on the shop floor and keep the floor clean. Use methods and equipment that do not create dust and do not discharge wastes into the drain system.

Additional BMP Considerations

- Install sediment and oil capturing filter media in all facility storm drains.
- Retrofit the detention pond for improved water quality functionality.
- Install a “green roof” on the fueling canopy.
- Retrofit back side property slope to minimize soil erosion and slough.



Vehicle and Equipment Washing, FA-6

Description

Vehicle and equipment washing is a good housekeeping practice that serves to minimize the introduction of potential pollutants into the City MS4 system. However, wash water from vehicle and equipment cleaning activities must be controlled to prevent a variety of potential pollutant from entering the storm drain system.



The equipment used by the City is particularly subject to harbor and to be laden with many such pollutants. Garbage, refuse trucks, and construction equipment are an example. The City maintains and uses a specially constructed facility at the Operations Center, 332 Home Avenue, shown above, to wash and keep most of its equipment clean. Wash water from the facility drains to the sanitary system of the City of Maryville.

Continued observance and/or implementation of the following best management practices associated with vehicle and equipment washing will further prevent or reduce the discharge of pollutants to stormwater.

Best Management Practices

- Consider filtering and recycling wash water.
- Construct and maintain a drive over berm at both ends of the wash facility to prevent stormwater entry into the facility and contain wash water in the facility. Note: the cost of this is minimal but provides positive structural containment.
- Use biodegradable, phosphate-free detergents for washing vehicles as may be practicable.
- Consider the use of high-pressure wash without the use of detergents or phosphates.
- Provide a covered trash container in the immediate area of the wash facility.
- Use automatic shutoff nozzles.
- Contract with a properly designed and managed commercial facility for automobiles or small utility vehicles.



- Clean washing areas frequently to remove solid debris and sediments.
- Provide a primary sediment trap around the sanitary sewer inlet to facilitate removal of excess sediment and debris and prevent overloading of the drain system.
- Comply with pre-treatment requirements.
- Provide a serviceable sediment and oil trap at the storm water inlet most likely to receive drips and tracked wastes from vehicles and equipment traffic through the wash facility.
- Integrate the management of the wash facility with the Operations Center SWPPP.



Storage and Handling of Raw Materials, FA-7

Description

Containment and elimination of exposure to rain or stormwater run on is a fundamental best management practice for the storage and handling of raw materials. The City of Maryville stores and handles bulk raw materials at both the Operations Center and the Best Street Recycling Center. The materials are under cover and designed to prevent or block run on of stormwater.

A stormwater pollution prevention plan (SWPPP) is the best mechanism to implement and assure measures that will prevent and reduce the risk of the discharge of pollutants to stormwater from the two primary facilities of the City that handle and store raw materials. The SWPPP will entail a number of best management and good housekeeping practices.



Road Treatment Material Storage at Operations Center

The practices such as minimizing the storage of hazardous materials on-site, enclosing or covering materials, storing materials in a designated area, installing secondary containment, conducting regular inspections, preventing stormwater run on and runoff, and training employees and subcontractors can be the elements of the SWPPP and reduce the potential for pollutant discharges into the Maryville MS4.



Material Storage at Best Street Recycling Center



Storage with Secondary Containment



Best Management Practices

- Develop and maintain a site drainage map to develop protective measures for outfalls that capture and eliminate potential spills from entering the stormwater drainage system. Where practicable consider:
 - Installing curbs or berms along the perimeter of the area to prevent the run on of uncontaminated stormwater from adjacent areas as well as runoff of stormwater from the stockpile areas.
 - Protecting catch basins in the interior of the area with barriers to capture sediments and spilled material.
 - Installing and maintaining serviceable catch basin inserts to capture sediments and oily substances.
- Keep accurate maintenance logs to provide an accurate inventory of materials used.
- Develop an operations plan that describes procedures for loading and/or unloading.
- Do not conduct loading and unloading during wet weather, whenever possible.
- Load/unload only at designated loading areas.
- Avoid the use of asphalt for loading/storage areas. Use impervious concrete.
- Consider the use of durable impervious sealants on storage area surfaces.
- Provide protection for any storm drains in the area.
- Keep spill cleanup materials readily available.
- Cleanup spills promptly and use dry methods.
- Keep storage and containments areas clean and dry.
- Secure materials and containers and store in an area where unauthorized persons may gain access to prevent spillage, pilferage, and unauthorized use.
- Keep treated wood products under cover and in a dry place.
- Keep liquids in a secure container on an impervious surface within a secondary containment structure.
- Consider use of small, covered structures with secondary containment for outdoor storage of drums or other raw material containers.
- Keep chemicals, drums, or bagged materials elevated off the ground or in a secure, dry location.
- Provide secondary containment as appropriate.
- Conduct routine inspections of all storage containers and facilities to assure physical integrity and stormwater safe practices. Keep outdoor storage areas in good condition.
- Paved surfaces near bulk materials storage areas should be swept periodically to remove debris blown or washed from storage area.
- Provide signage for identification of materials and proper storage.



Roads and Streets Maintenance, FA-8

Description

The streets and roads maintained by the City of Maryville collectively comprise the largest impervious surface within the municipal boundary. They are also inherently a primary source of potential stormwater pollution. Streets and roads also constitute part of the City's drainage system, in that streets and roads with their curbs, piping, and drainageways, convey and control stormwater runoff.

Streets and roads present a significant opportunity for the control and reduction of common pollutants such as sediments, oils and grease, various hydrocarbons, automotive fluids, pathogens, metals, and nutrients. In addition, the imperviousness character of the roads and streets produces elevated water temperatures in receiving streams and adverse hydrology and secondary ecological impacts.



The City of Maryville has a well-established street and road maintenance program, which already incorporates many best management and good housekeeping practices. These practices include:



- Regular on-going sweeping of all curbed streets on a 5-week cycle using a vacuum/brushsweeper. Street flushing is not allowed.
- Brush and leaf pickup on a rotating 1-month schedule for all areas of the city.
- Prompt pick up of "roadkill" and disposal in an approved landfill.
- Use of roadside herbicides only during dry periods.
- Road and street de-icing in priority areas in controlled amounts. Inventory is tracked and monitored. Equipment is routinely calibrated.
- Proper disposal of surplus amounts of paving materials.
- Dispose sweeping debris at an approved landfill.
- Erosion prevention and sediment control procedures for repairs requiring excavation.



The following description of practices is part of the City's best management and good housekeeping practices for road and street maintenance. These will serve to curb and reduce adverse impacts from this important infrastructure.

- Schedule all street and road maintenance activities during dry weather.
- Provide increased street sweeping in litter and erosion prone areas and in higher traffic areas.
- Maintain logs of curb miles swept and waste volume/weight to identify trends and adjust or identify need for equipment repairs or replacement.
- Maintain accurate records of street sweeping equipment maintenance to spot trends and provide for timely replacement.
- Periodically analyze street sweepings for hazardous substances.
- Employ proper handling, application, and cleanup of pavement marking paints and thermoplastics. Sweep roadways promptly of associated debris.
- Always maintain an organized, clean job site for all work in streets and especially near storm drains.
- Increase the street sweeping frequency just after the winter season when deicing operations have concluded to remove sediments and residual deicing materials.
- Operate sweepers at manufacturer recommended speed levels to maintain effectiveness. Excessive speed will diminish effectiveness.
- Protect nearby storm drain inlets and adjacent watercourses with filter bags, sediment traps, or inlet dams prior to conducting pavement repairs including saw cuts or other actions that release fugitive material. Use dry methods for removal.
- Sweep and collect fugitive or waste pavement material and recycle or dispose of properly. Wash down is prohibited.
- Wash concrete trucks off site or in designated area designed to prevent the discharge of wash water into the storm drainage system.
- Avoid runoff when applying water for dust control.
- Install inlet protection whenever there is a potential for a spill.
- Have spill cleanup materials readily available.
- Clean up spills immediately using dry methods as practicable.



Drainage System Maintenance, FA-9

Description

Maryville's municipal separate storm sewer system referred to as the MS4 in the City's NPDES Stormwater Permit is the focus of many related pollution prevention and reduction practices.

The management of the system for flood control and water quality is the primary operational mission of the City's Stormwater Management Department. In concert with this mission, the City has promulgated and observes a number of related ordinances and standards, including for example local ordinances associated with land development and system operation such as buffer requirements, sinkhole protection, land disturbance, construction, illicit discharge prohibition, and a variety of related standard operating procedures.

The purpose of this section is to augment the overall current management plan with a set of general best management practices and policies applicable to the overall system management.



General Practices

- Observe and comply with TN Department of Environment and Conservation (TDEC) rules and regulations with respect to aquatic resources. Require an Aquatic Resource Alteration Permit (ARAP) review or check off on all system altering activities.
- Develop and maintain a database of system maintenance activity. Link the database to the City GIS.
- Define, establish, and publish system functional service levels i.e., storm event and by service location.



- Define the level and extent of service as it relates to location, conveyance, legal standing, and ownership. Use the following four categories of conveyance:
 - In the public right-of-way
 - Outside the public right-of-way, carrying water from public areas and within an easement
 - Outside the public right-of-way, carrying water from public areas but not within an easement
 - Totally private systems
- Establish and maintain a proactive inspection of the system at known choke points or flood prone areas to clear any debris, tree limbs, or trash that may exacerbate flooding.
- Keep a record of the volume of trash removed by location and dispose appropriately
- Keep a record of the weight of sediment removed by location and dispose appropriately
- Do not discharge water from dewatered waste back into the storm system; discharge to an approved sanitary sewer.
- Utilize riparian vegetation to stabilize creek beds.
- Protect and preserve tree and shade canopy over open channel streams.
- Develop a “Green Infrastructure” plan.
- Refer to practices defined for roads and street maintenance for additional guidance.



3. Implementation

This section provides guidance on the development, implementation, and documentation of facility specific stormwater pollution prevention and control plans (SWPPC). This measure is key to an effective program and necessary to assure compliance with TNS000000.

Pollution Prevention/Good Housekeeping for municipal operations is a key element of the MS4 stormwater management program for the City of Maryville. This measure requires the City facility managers to examine and subsequently adjust, as may be required, facility management practices to prevent, reduce and eliminate pollutant discharge from the various municipal facilities identified in Section 1 of this manual.

Stormwater Pollution Prevention & Control Plans

The key tool to a successful good housekeeping program and pollution prevention is a facility specific stormwater pollution prevention and control plan (SWPPC). These plans have several common components that lend themselves to a GIS based means of documentation and management. The City already employs their GIS database for locating and tracking outfalls and “Hotspots” for IDDE purposes. All the facilities listed in Section 1 should be shown and tagged on the system with an associated database that includes the corresponding SWPPC information.

Using the good housekeeping principles and methods identified in Section 2 the facility manager can, in consultation and assistance from the city stormwater manager, develop the SWPPC. The SWPPC should be prepared and kept as a separate document specific to each facility and operation. This document should be maintained both as a hard copy file and electronically for accessibility. The “Assessment of BMP Practices at Municipal Facilities” (AP) found in Appendix A is to be used as a base template. Again, the purpose of the AP is threefold: (1) to provide a current assessment; (2) to provide the Stormwater Manager with a tool to assess every facility on a periodic basis to assure that GHP are in place; and (3) to provide a template for the development of facility specific SWPPC by facility managers.

SWPPC Guidance

The AP tool should be supplemented with the following information to develop the SWPPC:

1. The facility/operations manager, in cooperation with the city stormwater manager, shall identify the specific individual or individuals who, along the facility/operations manager, will be responsible for the development of the storm water pollution prevention and control plan and will assist the facility/operations manager in its implementation, maintenance, and revision. The plan shall identify the responsibilities of each team member and address all aspects of the facility's SWPPC.
2. The facility/operations manager, in cooperation with the city stormwater manager, will prepare a site map of the facility. In the case of the roadway and street system, the existing GIS derived map can be used. The site map shall include topography, location and descriptions of outfalls or sheet flows from the facility, contributing drainage area delineation within the facility; location of loading/unloading areas; waste treatment; storage and disposal locations; liquid storage tanks; vents from any processing operations; significant dust or particulate generating areas; and any other processing and



storage areas exposed to storm water. Where practicable the site and locations of interest shall be photo documented.

3. Where it is practical (roadways and streets excepted) the SWPPC shall include the location and description of the primary or representative outfall or discharge of the facility. This outfall is the one, in the opinion of city stormwater manager, deemed most representative of the water quality of the facility.
4. The facility/operations manager, in cooperation with the city stormwater manager, shall develop a further description of structural stormwater management controls that are in place at the facility. These would include berms, containment devices, detention ponds, inlet protection devices or controls that divert, infiltrate, or reuse stormwater in addition to the good housekeeping measures identified on the second page checklist of the AP. These shall be identified on the site map as practical and photo documented.
5. A semi-annual inspection of the facility shall be performed by the facility manager/operator or his designated responsible person. With the exception of roadways, at least one of these inspections should be performed immediately after a rain that results in a noticeable discharge. The observation should note color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution and possible sources of the contamination for corrective measures. A form for the collection and documentation of this data is included in Appendix B The facility manager/operator shall contact and consult with the city stormwater manager to take corrective action as may be needed. The action taken and resolution shall be documented by internal memo to be kept with the SWPPC.
6. The facility manager and city stormwater program manager shall periodically review compliance with the overall SWPPC. At a minimum, this review should occur annually or at any time that there is a significant change in operations of the facility or a change in the site configuration that alters drainage patterns or materials exposure. This review is to be documented with the preparation of a new and dated AP and an updated SWPPC.



Appendix A – Assessment of Practices

City of Maryville

Assessment of BMP Practices at Municipal Facilities

Purpose: Identify pollution prevention and good housekeeping practices at each municipal sited¹ facility

Key practices: Outdoor Materials Handling, Physical Plant Maintenance, Stormwater Management, Turf/Landscape Management, Vehicle Operations, Waste Management

Supporting Documents: Aerial Map Topographic Map Photographs, Site Plans Drainage Plan

Basic Facility Information	
Date: _____	By: _____
Facility Name	
Facility Type	
Street Address	
Facility Manager	
Facility Contact Information	
Watershed/Receiving Stream	
Watershed Pollutants of Concern	
Potential Pollutants (Facility)	
Co-ordinates (latitude, longitude)	
Property Size (Acres) _____	Impervious Area (Sq. Ft.) _____
Outfalls/Type/No./Description	
SW Control Type/Control Volume	

¹ Streets and roads, drainage system, utility systems and other municipal properties and related operational activities are not directly covered by this assessment.

Facility Name: _____	
Date: _____	Inspector: _____
Key Practice/Function	Existing Practices (mark all that apply-identify others)
<i>Vehicle Equipment Service</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Drip pans <input type="checkbox"/> tarps <input type="checkbox"/> covered outdoor storage areas <input type="checkbox"/> secondary containment <input type="checkbox"/> wash water to sanitary sewer system <input type="checkbox"/> proper disposal of used fluids <input type="checkbox"/> separate SW drains <input type="checkbox"/> automatic shutoff nozzles <input type="checkbox"/> signs <input type="checkbox"/> spill response plans, <input type="checkbox"/> spill clean-up materials, <input type="checkbox"/> dry clean-up methods, <input type="checkbox"/> employee training <input type="checkbox"/> Signs <input type="checkbox"/> SW quality retrofits. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Material Handling</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Covered loading/unloading areas, <input type="checkbox"/> covered storage, <input type="checkbox"/> secondary containment, <input type="checkbox"/> storm drain disconnection or treatment, <input type="checkbox"/> inventory control, <input type="checkbox"/> spill response plans, <input type="checkbox"/> spill clean-up materials, <input type="checkbox"/> dry clean-up methods, <input type="checkbox"/> employee training, <input type="checkbox"/> SW quality retrofits <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Dumpster Waste Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Dumpster/waste management, <input type="checkbox"/> secondary containment, <input type="checkbox"/> storm drain disconnection or treatment, <input type="checkbox"/> liquid separation/containment, <input type="checkbox"/> employee training <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Building/Parking Lot Maintenance</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Temporary covers/tarps, <input type="checkbox"/> employee training, <input type="checkbox"/> contractor training, <input type="checkbox"/> proper cleanup and disposal procedures, <input type="checkbox"/> disconnected storm drains, <input type="checkbox"/> dry cleaning methods, <input type="checkbox"/> SW quality retrofits, <input type="checkbox"/> sweeping <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Turf/Landscape Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Integrated pest management, <input type="checkbox"/> targeted irrigation, <input type="checkbox"/> careful applications, <input type="checkbox"/> proper disposal of landscaping waste, <input type="checkbox"/> avoid blowing and hosing to storm drain, <input type="checkbox"/> employee training, <input type="checkbox"/> SW quality retrofits <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Stormwater Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Non-SW to SS system, <input type="checkbox"/> allowable water to pervious areas, <input type="checkbox"/> employee training <input type="checkbox"/> Containment <input type="checkbox"/> Spill Containment/Control <input type="checkbox"/> LID Measures <input type="checkbox"/> _____ <input type="checkbox"/> _____

Notes-Sketches- Calculations

Facility Name: _____

A large grid of graph paper, consisting of 20 columns and 30 rows of small squares, intended for notes, sketches, or calculations.

City of Maryville

Assessment of BMP Practices at Municipal Facilities

Purpose: Identify pollution prevention and good housekeeping practices at each municipal sited¹ facility

Key practices: Outdoor Materials Handling, Physical Plant Maintenance, Stormwater Management, Turf/Landscape Management, Vehicle Operations, Waste Management

Supporting Documents: Aerial Map Topographic Map Photographs, Site Plans Drainage Plan

Basic Facility Information	
Date: _____	By: _____
Facility Name	Best Street Recycling Center
Facility Type	Recycling center and construction material storage facility.
Street Address	Best Street at Montvale Station Road
Facility Manager	
Facility Contact Information	
Watershed/Receiving Stream	06010201_0107/ Pistol Creek
Watershed Pollutants of Concern	Siltation and E. Coli
Potential Pollutants (Facility)	
Co-ordinates (latitude, longitude)	-83.977360, 35.736681
Property Size (Acres) 2.51	Impervious Area (Sq. Ft.) 67,395
Outfalls/Type/No./Description	Drains into area drain into closed system.
SW Control Type/Control Volume	None

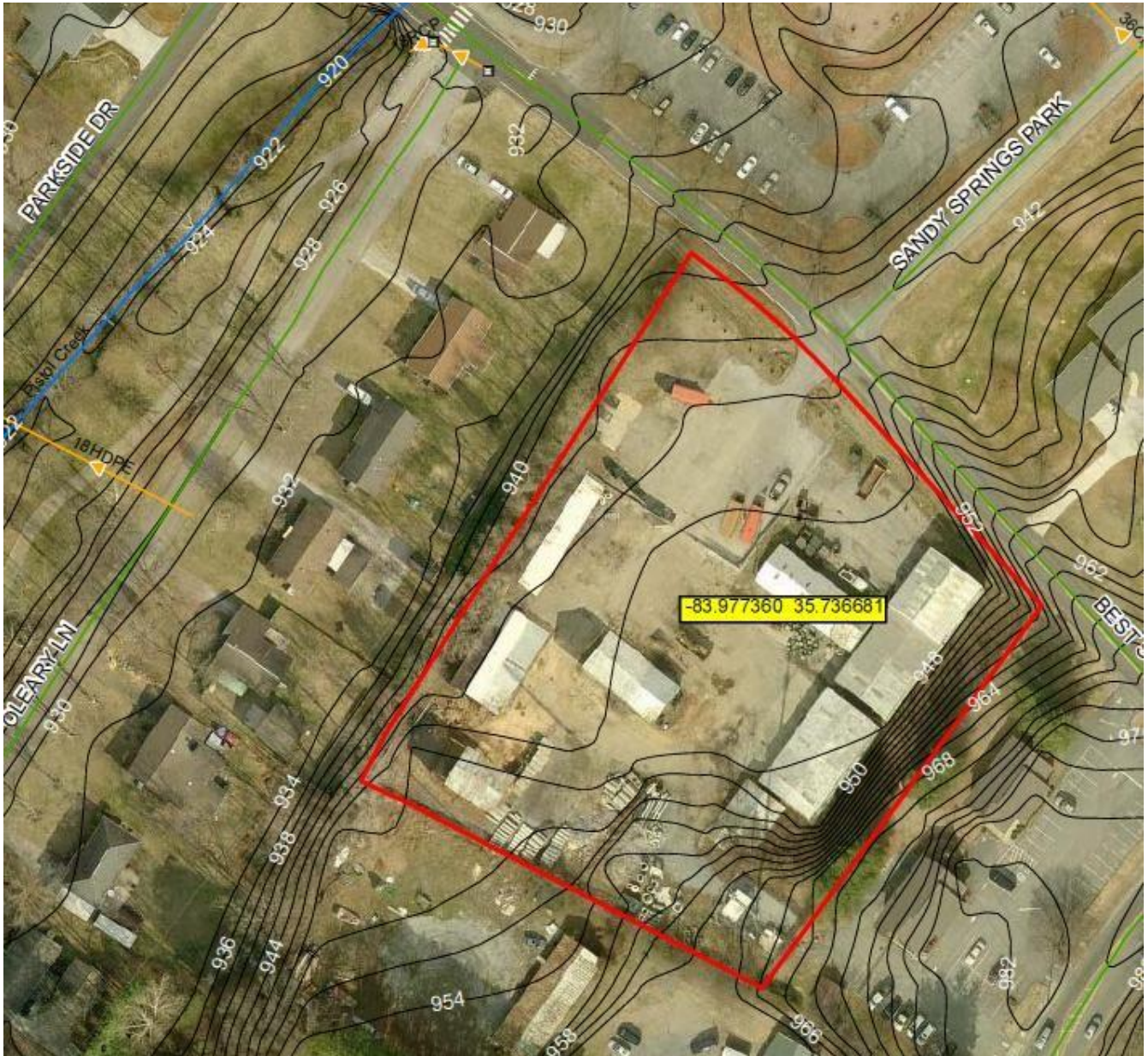
¹ Streets and roads, drainage system, utility systems and other municipal properties and related operational activities are not directly covered by this assessment.

Facility Name: Best Street Recycling Center	
Date: _____	Inspector: _____
Key Practice/Function	Existing Practices (mark all that apply-identify others)
<i>Vehicle Equipment Service</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Drip pans <input type="checkbox"/> tarps <input type="checkbox"/> covered outdoor storage areas <input type="checkbox"/> secondary containment <input type="checkbox"/> wash water to sanitary sewer system <input type="checkbox"/> proper disposal of used fluids <input type="checkbox"/> separate SW drains <input type="checkbox"/> automatic shutoff nozzles <input type="checkbox"/> signs <input type="checkbox"/> spill response plans, <input type="checkbox"/> spill clean-up materials, <input type="checkbox"/> dry clean-up methods, <input type="checkbox"/> employee training <input type="checkbox"/> Signs <input type="checkbox"/> SW quality retrofits. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Material Handling</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Covered loading/unloading areas, <input type="checkbox"/> covered storage, <input type="checkbox"/> secondary containment, <input type="checkbox"/> storm drain disconnection or treatment, <input type="checkbox"/> inventory control, <input type="checkbox"/> spill response plans, <input type="checkbox"/> spill clean-up materials, <input type="checkbox"/> dry clean-up methods, <input type="checkbox"/> employee training, <input type="checkbox"/> SW quality retrofits <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Dumpster Waste Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Dumpster/waste management, <input type="checkbox"/> secondary containment, <input type="checkbox"/> storm drain disconnection or treatment, <input type="checkbox"/> liquid separation/containment, <input type="checkbox"/> employee training <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Building/Parking Lot Maintenance</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Temporary covers/tarps, <input type="checkbox"/> employee training, <input type="checkbox"/> contractor training, <input type="checkbox"/> proper cleanup and disposal procedures, <input type="checkbox"/> disconnected storm drains, <input type="checkbox"/> dry cleaning methods, <input type="checkbox"/> SW quality retrofits, <input type="checkbox"/> sweeping <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Turf/Landscape Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Integrated pest management, <input type="checkbox"/> targeted irrigation, <input type="checkbox"/> careful applications, <input type="checkbox"/> proper disposal of landscaping waste, <input type="checkbox"/> avoid blowing and hosing to storm drain, <input type="checkbox"/> employee training, <input type="checkbox"/> SW quality retrofits <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Stormwater Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Non-SW to SS system, <input type="checkbox"/> allowable water to pervious areas, <input type="checkbox"/> employee training <input type="checkbox"/> Containment <input type="checkbox"/> Spill Containment/Control <input type="checkbox"/> LID Measures <input type="checkbox"/> _____ <input type="checkbox"/> _____

Notes-Sketches- Calculations

Facility Name: _____

A large grid of graph paper, consisting of 20 columns and 30 rows of small squares, intended for notes, sketches, or calculations.



City of Maryville

Assessment of BMP Practices at Municipal Facilities

Purpose: Identify pollution prevention and good housekeeping practices at each municipal sited¹ facility

Key practices: Outdoor Materials Handling, Physical Plant Maintenance, Stormwater Management, Turf/Landscape Management, Vehicle Operations, Waste Management

Supporting Documents: Aerial Map Topographic Map Photographs, Site Plans Drainage Plan

Basic Facility Information	
Date: _____	By: _____
Facility Name	City of Maryville Operations Center
Facility Type	Vehicle Maintenance and Operations Center
Street Address	324 Home Ave
Facility Manager	
Facility Contact Information	
Watershed/Receiving Stream	06010201_0107 / Pistol Creek
Watershed Pollutants of Concern	Siltation and E. Coli
Potential Pollutants (Facility)	
Co-ordinates (latitude, longitude)	(-83.978905, 35.756838)
Property Size (Acres) 28.1	Impervious Area (Sq. Ft.) 575,863
Outfalls/Type/No./Description	One outfall through 24 inch pipe located in stormwater detention pond. Second outlet pipe perched at higher elevation for overflow.
SW Control Type/Control Volume	Probably designed to 25 year pre and post requirements. Approximately 35,000 cubic feet of volume based on as built.

¹ Streets and roads, drainage system, utility systems and other municipal properties and related operational activities are not directly covered by this assessment.

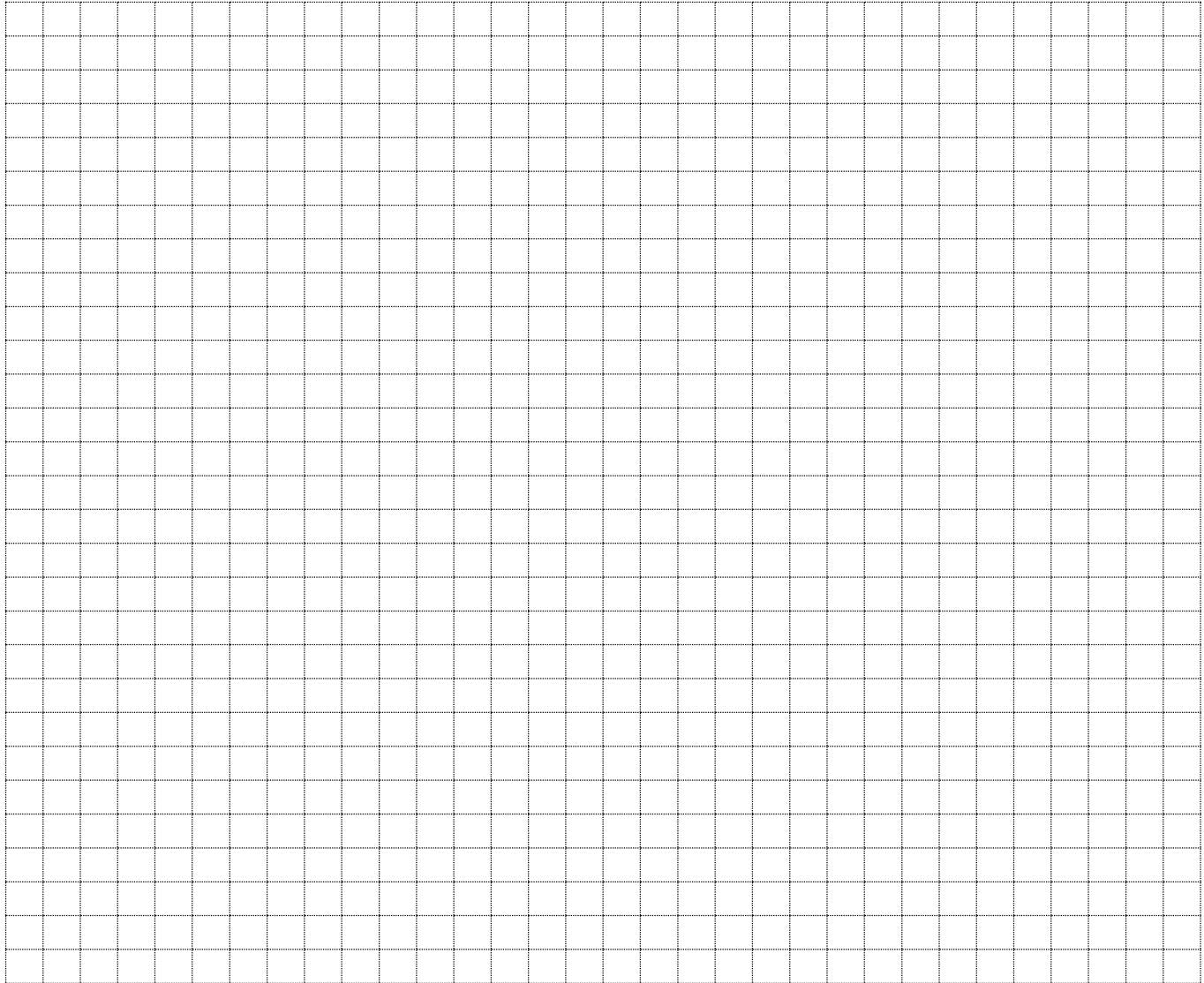
Facility Name: City of Maryville Operations Center	
Date: _____	Inspector: _____
Key Practice/Function	Existing Practices (mark all that apply-identify others)
<p><i>Vehicle Equipment Service</i></p> <p><input type="checkbox"/> Present</p> <p><input type="checkbox"/> N/A</p>	<p><input type="checkbox"/> Drip pans <input type="checkbox"/> tarps <input type="checkbox"/> covered outdoor storage areas <input type="checkbox"/> secondary containment</p> <p><input type="checkbox"/> wash water to sanitary sewer system <input type="checkbox"/> proper disposal of used fluids</p> <p><input type="checkbox"/> separate SW drains <input type="checkbox"/> automatic shutoff nozzles <input type="checkbox"/> signs <input type="checkbox"/> spill response plans, <input type="checkbox"/> spill clean-up materials, <input type="checkbox"/> dry clean-up methods, <input type="checkbox"/> employee training</p> <p><input type="checkbox"/> Signs <input type="checkbox"/> SW quality retrofits. <input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____ <input type="checkbox"/> _____</p>
<p><i>Material Handling</i></p> <p><input type="checkbox"/> Present</p> <p><input type="checkbox"/> N/A</p>	<p><input type="checkbox"/> Covered loading/unloading areas, <input type="checkbox"/> covered storage, <input type="checkbox"/> secondary containment, <input type="checkbox"/> storm drain disconnection or treatment, <input type="checkbox"/> inventory control, <input type="checkbox"/> spill response plans, <input type="checkbox"/> spill clean-up materials, <input type="checkbox"/> dry clean-up methods, <input type="checkbox"/> employee training, <input type="checkbox"/> SW quality retrofits <input type="checkbox"/> _____ <input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____ <input type="checkbox"/> _____</p>
<p><i>Dumpster Waste Management</i></p> <p><input type="checkbox"/> Present</p> <p><input type="checkbox"/> N/A</p>	<p><input type="checkbox"/> Dumpster/waste management, <input type="checkbox"/> secondary containment, <input type="checkbox"/> storm drain disconnection or treatment, <input type="checkbox"/> liquid separation/containment, <input type="checkbox"/> employee training</p> <p><input type="checkbox"/> _____ <input type="checkbox"/> _____</p>
<p><i>Building/Parking Lot Maintenance</i></p> <p><input type="checkbox"/> Present</p> <p><input type="checkbox"/> N/A</p>	<p><input type="checkbox"/> Temporary covers/tarps, <input type="checkbox"/> employee training, <input type="checkbox"/> contractor training, <input type="checkbox"/> proper cleanup and disposal procedures, <input type="checkbox"/> disconnected storm drains, <input type="checkbox"/> dry cleaning methods, <input type="checkbox"/> SW quality retrofits, <input type="checkbox"/> sweeping <input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____ <input type="checkbox"/> _____</p>
<p><i>Turf/Landscape Management</i></p> <p><input type="checkbox"/> Present</p> <p><input type="checkbox"/> N/A</p>	<p><input type="checkbox"/> Integrated pest management, <input type="checkbox"/> targeted irrigation, <input type="checkbox"/> careful applications, <input type="checkbox"/> proper disposal of landscaping waste, <input type="checkbox"/> avoid blowing and hosing to storm drain, <input type="checkbox"/> employee training, <input type="checkbox"/> SW quality retrofits <input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____ <input type="checkbox"/> _____</p>
<p><i>Stormwater Management</i></p> <p><input type="checkbox"/> Present</p> <p><input type="checkbox"/> N/A</p>	<p><input type="checkbox"/> Non-SW to SS system, <input type="checkbox"/> allowable water to pervious areas, <input type="checkbox"/> employee training</p> <p><input type="checkbox"/> Containment <input type="checkbox"/> Spill Containment/Control <input type="checkbox"/> LID Measures</p> <p><input type="checkbox"/> _____ <input type="checkbox"/> _____</p>

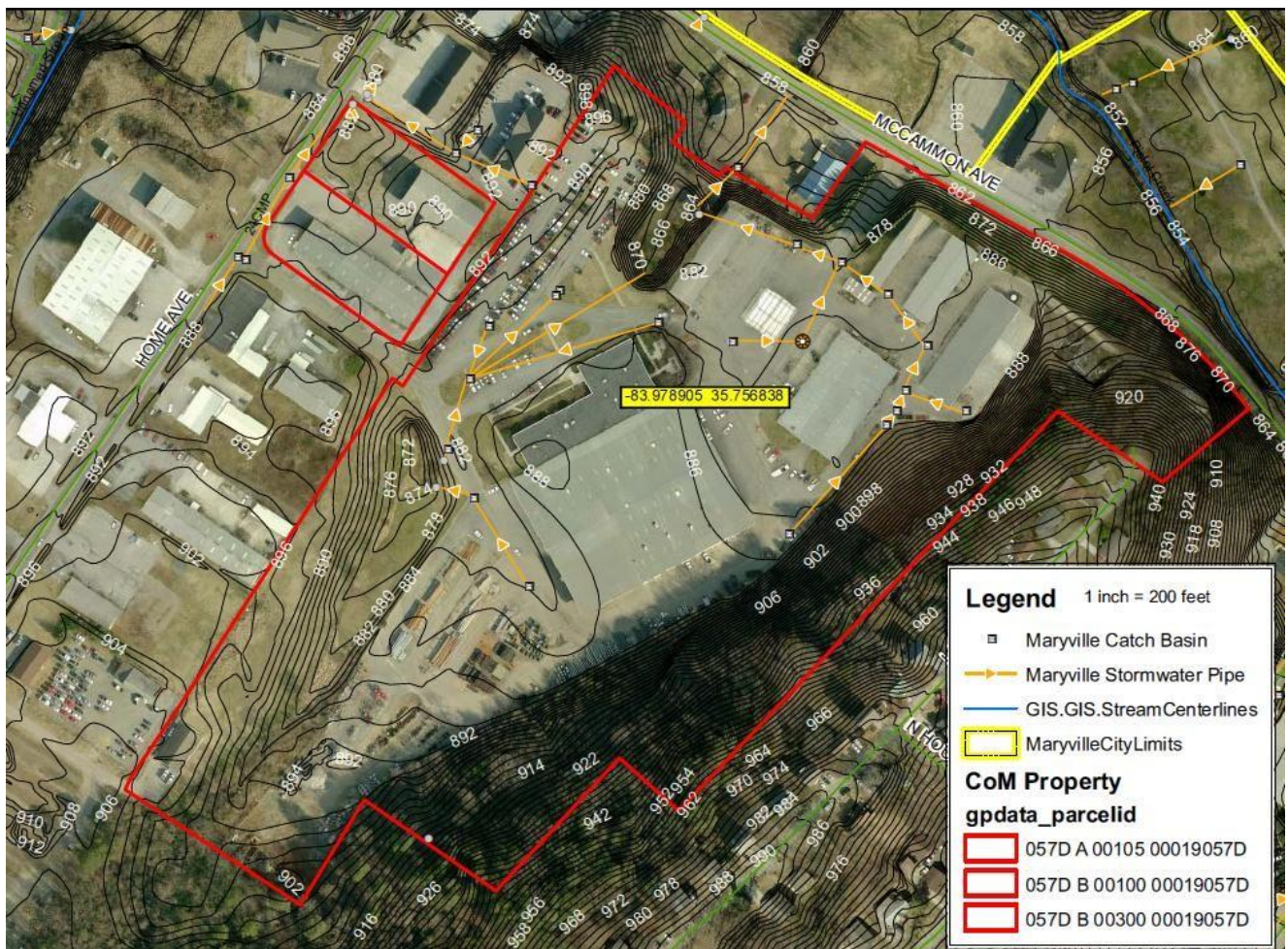
Notes-Sketches- Calculations

Facility Name: City of Maryville Operations Center

Notes:

All City of Maryville fleet vehicle maintenance is performed at this site.
2 UST's: One 10,000 gallon diesel and one 10,000 gallon gasoline.
4 Waste oil tanks: two 2,500 gallon, two 500 gallon. Waste oil is burned in waste oil furnace to heat vehicle repair shop.
Battery and oil recycling is provided on site for Maryville residents and employees.





City of Maryville

Assessment of BMP Practices at Municipal Facilities

Purpose: Identify pollution prevention and good housekeeping practices at each municipal sited¹ facility

Key practices: Outdoor Materials Handling, Physical Plant Maintenance, Stormwater Management, Turf/Landscape Management, Vehicle Operations, Waste Management

Supporting Documents: Aerial Map Topographic Map Photographs, Site Plans Drainage Plan

Basic Facility Information	
Date: _____	By: _____
Facility Name	Municipal Center
Facility Type	Office
Street Address	400 West Broadway
Facility Manager	
Facility Contact Information	
Watershed/Receiving Stream	06010201_0107 / Pistol Creek
Watershed Pollutants of Concern	Siltation and E. Coli
Potential Pollutants (Facility)	Fuels, sediment, debris, trash, hydrocarbons, and trace metals from parking lots.
Co-ordinates (latitude, longitude)	(-83.974206, 35.751858)
Property Size (Acres) 7.4	Impervious Area (Sq. Ft.) 195,148
Outfalls/Type/No./Description	Drains to pond with water quality device.
SW Control Type/Control Volume	Detention pond is fitted with outlet device that functions as first flush outlet control although pond volume does not appear to be adequate.

¹ Streets and roads, drainage system, utility systems and other municipal properties and related operational activities are not directly covered by this assessment.

Facility Name: Municipal Center	
Date: _____	Inspector: _____
Key Practice/Function	Existing Practices (mark all that apply-identify others)
<i>Vehicle Equipment Service</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Drip pans <input type="checkbox"/> tarps <input type="checkbox"/> covered outdoor storage areas <input type="checkbox"/> secondary containment <input type="checkbox"/> wash water to sanitary sewer system <input type="checkbox"/> proper disposal of used fluids <input type="checkbox"/> separate SW drains <input type="checkbox"/> automatic shutoff nozzles <input type="checkbox"/> signs <input type="checkbox"/> spill response plans, <input type="checkbox"/> spill clean-up materials, <input type="checkbox"/> dry clean-up methods, <input type="checkbox"/> employee training <input type="checkbox"/> Signs <input type="checkbox"/> SW quality retrofits. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Material Handling</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Covered loading/unloading areas, <input type="checkbox"/> covered storage, <input type="checkbox"/> secondary containment, <input type="checkbox"/> storm drain disconnection or treatment, <input type="checkbox"/> inventory control, <input type="checkbox"/> spill response plans, <input type="checkbox"/> spill clean-up materials, <input type="checkbox"/> dry clean-up methods, <input type="checkbox"/> employee training, <input type="checkbox"/> SW quality retrofits <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Dumpster Waste Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Dumpster/waste management, <input type="checkbox"/> secondary containment, <input type="checkbox"/> storm drain disconnection or treatment, <input type="checkbox"/> liquid separation/containment, <input type="checkbox"/> employee training <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Building/Parking Lot Maintenance</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Temporary covers/tarps, <input type="checkbox"/> employee training, <input type="checkbox"/> contractor training, <input type="checkbox"/> proper cleanup and disposal procedures, <input type="checkbox"/> disconnected storm drains, <input type="checkbox"/> dry cleaning methods, <input type="checkbox"/> SW quality retrofits, <input type="checkbox"/> sweeping <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Turf/Landscape Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Integrated pest management, <input type="checkbox"/> targeted irrigation, <input type="checkbox"/> careful applications, <input type="checkbox"/> proper disposal of landscaping waste, <input type="checkbox"/> avoid blowing and hosing to storm drain, <input type="checkbox"/> employee training, <input type="checkbox"/> SW quality retrofits <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Stormwater Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Non-SW to SS system, <input type="checkbox"/> allowable water to pervious areas, <input type="checkbox"/> employee training <input type="checkbox"/> Containment <input type="checkbox"/> Spill Containment/Control <input type="checkbox"/> LID Measures <input type="checkbox"/> _____ <input type="checkbox"/> _____

NOTES:

There is a central police and fire station located at this facility. All fleet vehicle maintenance including fire and police vehicles are serviced at the Operations Center. There is one UST that holds 1000 gallons of diesel fuel for the backup generator and there is also a 60 gallon above ground day tank.



Notes-Sketches- Calculations

Facility Name:

A large grid of graph paper, consisting of 20 columns and 30 rows of small squares, intended for taking notes, sketches, or calculations.

City of Maryville

Assessment of BMP Practices at Municipal Facilities

Purpose: Identify pollution prevention and good housekeeping practices at each municipal sited¹ facility

Key practices: Outdoor Materials Handling, Physical Plant Maintenance, Stormwater Management, Turf/Landscape Management, Vehicle Operations, Waste Management

Supporting Documents: Aerial Map Topographic Map Photographs Site Plans Drainage Plan

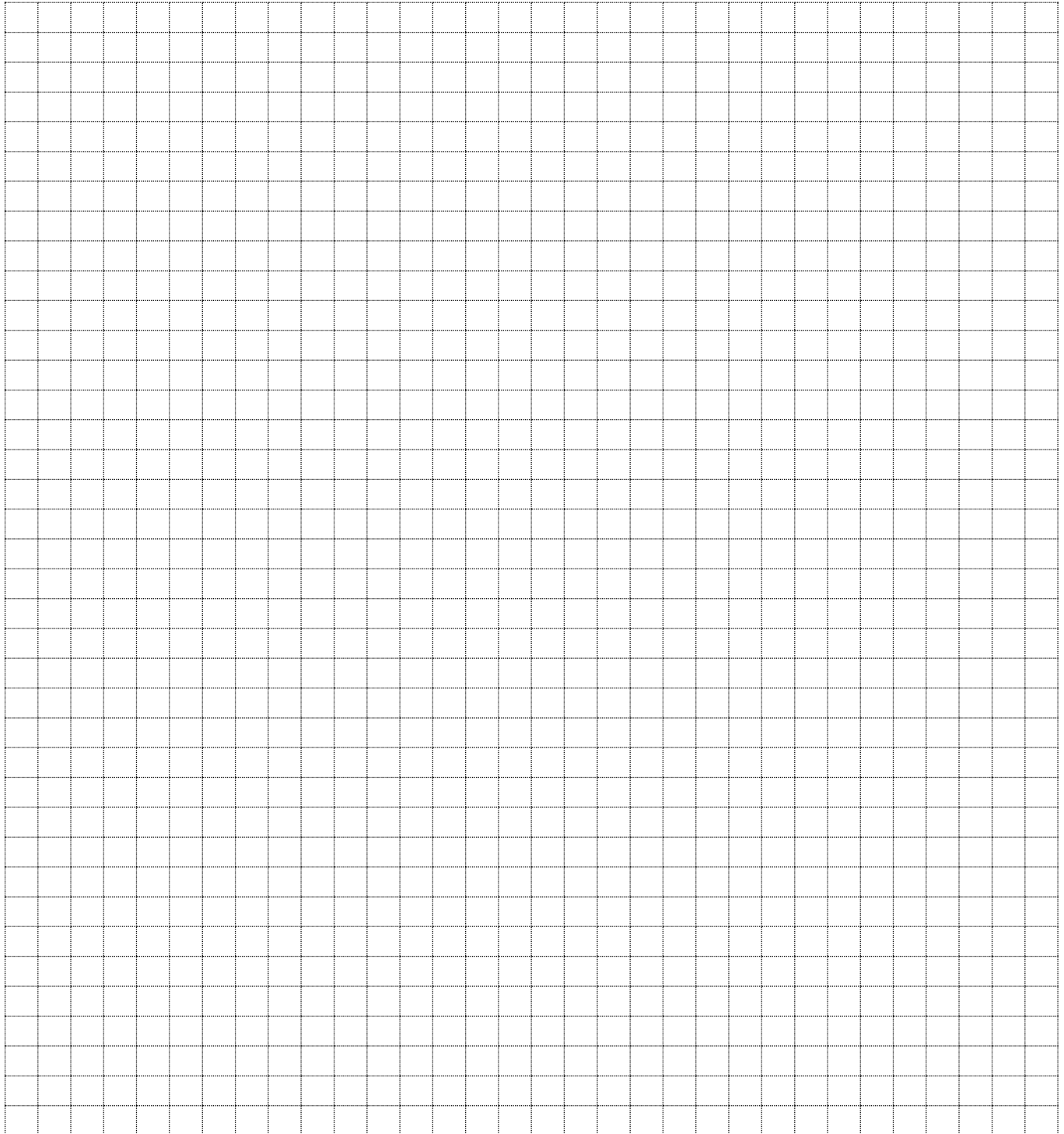
Basic Facility Information	
Date: _____	By: _____
Facility Name	Downtown Parking (East)
Facility Type	Parking
Street Address	East Broadway, East Church
Facility Manager	
Facility Contact Information	
Watershed/Receiving Stream	06010201_0107/ Pistol Creek
Watershed Pollutants of Concern	Siltation and E. Coli
Potential Pollutants (Facility)	
Co-ordinates (latitude, longitude)	(-83.969506, 35.757122), (-83.967932, 35.757571)
Property Size (Acres) 2.4	Impervious Area (Sq. Ft.) 90,170
Outfalls/Type/No./Description	
SW Control Type/Control Volume	

¹ Streets and roads, drainage system, utility systems and other municipal properties and related operational activities are not directly covered by this assessment.

Facility Name: Downtown Parking (East)	
Date: _____	Inspector: _____
Key Practice/Function	Existing Practices (mark all that apply-identify others)
<i>Vehicle Equipment Service</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Drip pans <input type="checkbox"/> tarps <input type="checkbox"/> covered outdoor storage areas <input type="checkbox"/> secondary containment <input type="checkbox"/> wash water to sanitary sewer system <input type="checkbox"/> proper disposal of used fluids <input type="checkbox"/> separate SW drains <input type="checkbox"/> automatic shutoff nozzles <input type="checkbox"/> signs <input type="checkbox"/> spill response plans, <input type="checkbox"/> spill clean-up materials, <input type="checkbox"/> dry clean-up methods, <input type="checkbox"/> employee training <input type="checkbox"/> Signs <input type="checkbox"/> SW quality retrofits. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Material Handling</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Covered loading/unloading areas, <input type="checkbox"/> covered storage, <input type="checkbox"/> secondary containment, <input type="checkbox"/> storm drain disconnection or treatment, <input type="checkbox"/> inventory control, <input type="checkbox"/> spill response plans, <input type="checkbox"/> spill clean-up materials, <input type="checkbox"/> dry clean-up methods, <input type="checkbox"/> employee training, <input type="checkbox"/> SW quality retrofits <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Dumpster Waste Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Dumpster/waste management, <input type="checkbox"/> secondary containment, <input type="checkbox"/> storm drain disconnection or treatment, <input type="checkbox"/> liquid separation/containment, <input type="checkbox"/> employee training <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Building/Parking Lot Maintenance</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Temporary covers/tarps, <input type="checkbox"/> employee training, <input type="checkbox"/> contractor training, <input type="checkbox"/> proper cleanup and disposal procedures, <input type="checkbox"/> disconnected storm drains, <input type="checkbox"/> dry cleaning methods, <input type="checkbox"/> SW quality retrofits, <input type="checkbox"/> sweeping <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Turf/Landscape Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Integrated pest management, <input type="checkbox"/> targeted irrigation, <input type="checkbox"/> careful applications, <input type="checkbox"/> proper disposal of landscaping waste, <input type="checkbox"/> avoid blowing and hosing to storm drain, <input type="checkbox"/> employee training, <input type="checkbox"/> SW quality retrofits <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Stormwater Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Non-SW to SS system, <input type="checkbox"/> allowable water to pervious areas, <input type="checkbox"/> employee training <input type="checkbox"/> Containment <input type="checkbox"/> Spill Containment/Control <input type="checkbox"/> LID Measures <input type="checkbox"/> _____ <input type="checkbox"/> _____

Notes-Sketches- Calculations

Facility Name: _____



¹ Streets and roads, drainage system, utility systems and other municipal properties and related operational activities are not directly covered by this assessment.



City of Maryville

Assessment of BMP Practices at Municipal Facilities

Purpose: Identify pollution prevention and good housekeeping practices at each municipal sited¹ facility

Key practices: Outdoor Materials Handling, Physical Plant Maintenance, Stormwater Management, Turf/Landscape Management, Vehicle Operations, Waste Management

Supporting Documents: Aerial Map Topographic Map Photographs, Site Plans Drainage Plan

Basic Facility Information	
Date: _____	By: _____
Facility Name	Parking Downtown Maryville (West)
Facility Type	Parking Lot (4 Lots)
Street Address	Downtown Maryville W Harper and West Church (see Map)
Facility Manager	
Facility Contact Information	
Watershed/Receiving Stream	06010201_0107 / Pistol Creek
Watershed Pollutants of Concern	Siltation and E. Coli
Potential Pollutants (Facility)	Fuels, sediment, debris, trash, hydrocarbons, and trace metals from parking lots.
Co-ordinates (latitude, longitude)	(-83.972911, 35.755760), (-83.972534, 35.755237), (-83.9719125, 35.754749), (-83.971166, 35.755555)
Property Size (Acres) 3.56	Impervious Area (Sq. Ft.) 123,912
Outfalls/Type/No./Description	Surface drains into catch basins into closed street system.
SW Control Type/Control Volume	None.

¹ Streets and roads, drainage system, utility systems and other municipal properties and related operational activities are not directly covered by this assessment.

Facility Name: Parking Lots in West Downtown Maryville	
Date: _____	Inspector: _____
Key Practice/Function	Existing Practices (mark all that apply-identify others)
<i>Vehicle Equipment Service</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Drip pans <input type="checkbox"/> tarps <input type="checkbox"/> covered outdoor storage areas <input type="checkbox"/> secondary containment <input type="checkbox"/> wash water to sanitary sewer system <input type="checkbox"/> proper disposal of used fluids <input type="checkbox"/> separate SW drains <input type="checkbox"/> automatic shutoff nozzles <input type="checkbox"/> signs <input type="checkbox"/> spill response plans, <input type="checkbox"/> spill clean-up materials, <input type="checkbox"/> dry clean-up methods, <input type="checkbox"/> employee training <input type="checkbox"/> Signs <input type="checkbox"/> SW quality retrofits. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Material Handling</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Covered loading/unloading areas, <input type="checkbox"/> covered storage, <input type="checkbox"/> secondary containment, <input type="checkbox"/> storm drain disconnection or treatment, <input type="checkbox"/> inventory control, <input type="checkbox"/> spill response plans, <input type="checkbox"/> spill clean-up materials, <input type="checkbox"/> dry clean-up methods, <input type="checkbox"/> employee training, <input type="checkbox"/> SW quality retrofits <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Dumpster Waste Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Dumpster/waste management, <input type="checkbox"/> secondary containment, <input type="checkbox"/> storm drain disconnection or treatment, <input type="checkbox"/> liquid separation/containment, <input type="checkbox"/> employee training <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Building/Parking Lot Maintenance</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Temporary covers/tarps, <input type="checkbox"/> employee training, <input type="checkbox"/> contractor training, <input type="checkbox"/> proper cleanup and disposal procedures, <input type="checkbox"/> disconnected storm drains, <input type="checkbox"/> dry cleaning methods, <input type="checkbox"/> SW quality retrofits, <input type="checkbox"/> sweeping <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Turf/Landscape Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Integrated pest management, <input type="checkbox"/> targeted irrigation, <input type="checkbox"/> careful applications, <input type="checkbox"/> proper disposal of landscaping waste, <input type="checkbox"/> avoid blowing and hosing to storm drain, <input type="checkbox"/> employee training, <input type="checkbox"/> SW quality retrofits <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Stormwater Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Non-SW to SS system, <input type="checkbox"/> allowable water to pervious areas, <input type="checkbox"/> employee training <input type="checkbox"/> Containment <input type="checkbox"/> Spill Containment/Control <input type="checkbox"/> LID Measures <input type="checkbox"/> _____ <input type="checkbox"/> _____

NOTES:

The parking garage has four levels, three of which are covered. The top level is rarely used and the potential for pollution is very low. The garage drains into a closed system.



Notes-Sketches- Calculations

Facility Name:

A large grid of graph paper, consisting of 20 columns and 30 rows of small squares, intended for taking notes, making sketches, or performing calculations.

City of Maryville

Assessment of BMP Practices at Municipal Facilities

Purpose: Identify pollution prevention and good housekeeping practices at each municipal sited¹ facility

Key practices: Outdoor Materials Handling, Physical Plant Maintenance, Stormwater Management, Turf/Landscape Management, Vehicle Operations, Waste Management

Supporting Documents: Aerial Map Topographic Map Photographs, Site Plans Drainage Plan

Basic Facility Information	
Date: _____	By: _____
Facility Name	City of Maryville Fire Halls
Facility Type	Fire Hall
Street Address	1- Located at the Municipal Center – 402 W Broadway 2- At 515 Sandy Springs Road across from Foothills Elem. 3- At 2019 Sequoyah Ave on same property as John Sevier Elem.
Facility Manager	
Facility Contact Information	
Watershed/Receiving Stream	06010201_0107/ Pistol Creek
Watershed Pollutants of Concern	Siltation and E. Coli
Potential Pollutants (Facility)	Minimal parking lot pollutants
Co-ordinates (latitude, longitude)	(-83.940349, 35.769138) (-83.974206, 35.751858) (-83.986802, 35.726746)
Property Size (Acres) _____	Impervious Area (Sq. Ft.) _____
Outfalls/Type/No./Description	Surface drain into closed systems.
SW Control Type/Control Volume	There is water quality pond for the municipal center, otherwise none.

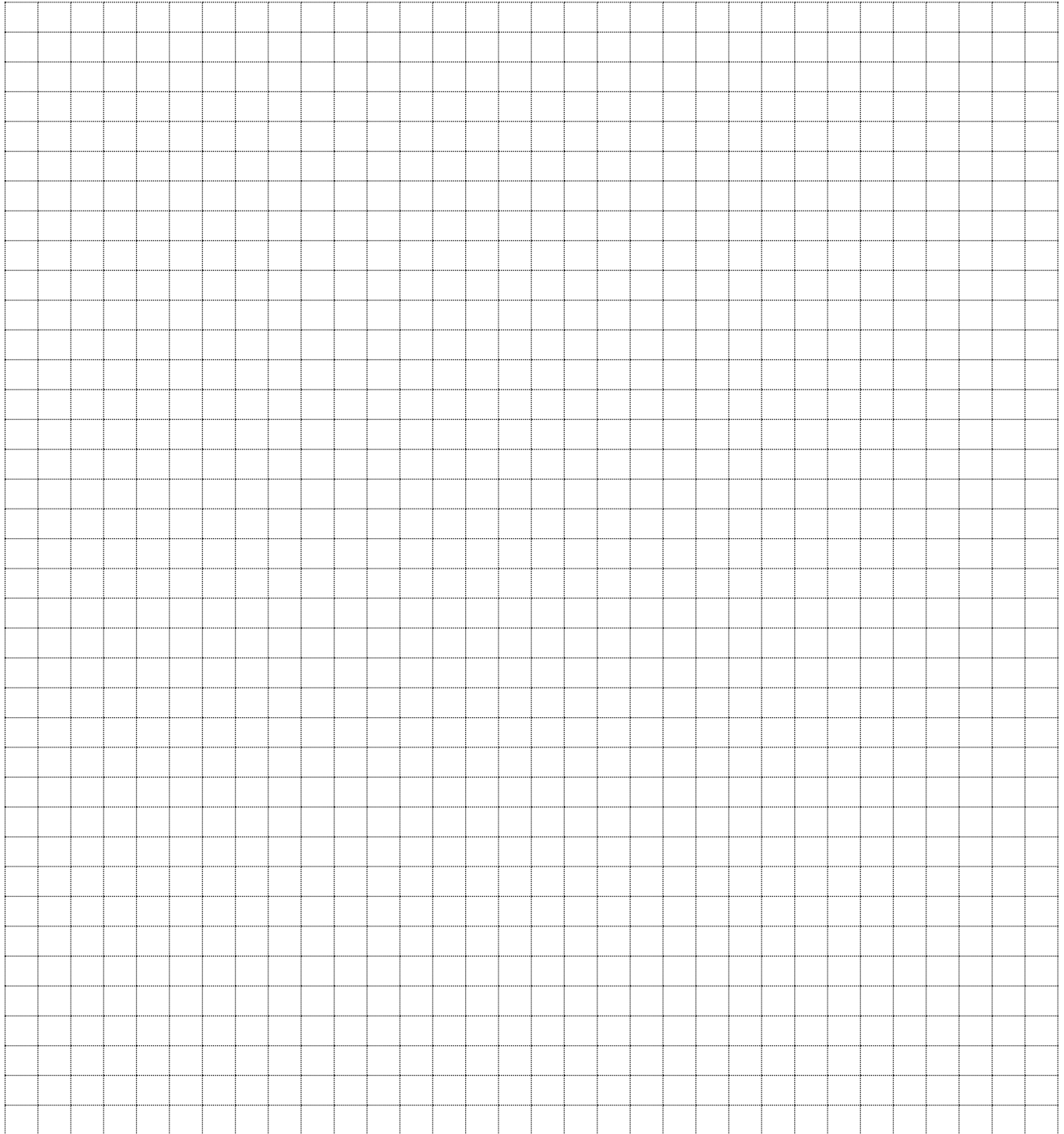
Note: All vehicle maintenance and fueling is performed at the Operations Center. The only real concern for pollution is from parking and that would be minimal at all sites.

¹ Streets and roads, drainage system, utility systems and other municipal properties and related operational activities are not directly covered by this assessment.

Facility Name: City of Maryville Fire Halls	
Date: _____	Inspector: _____
Key Practice/Function	Existing Practices (mark all that apply-identify others)
<i>Vehicle Equipment Service</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Drip pans <input type="checkbox"/> tarps <input type="checkbox"/> covered outdoor storage areas <input type="checkbox"/> secondary containment <input type="checkbox"/> wash water to sanitary sewer system <input type="checkbox"/> proper disposal of used fluids <input type="checkbox"/> separate SW drains <input type="checkbox"/> automatic shutoff nozzles <input type="checkbox"/> signs <input type="checkbox"/> spill response plans, <input type="checkbox"/> spill clean-up materials, <input type="checkbox"/> dry clean-up methods, <input type="checkbox"/> employee training <input type="checkbox"/> Signs <input type="checkbox"/> SW quality retrofits. <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Material Handling</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Covered loading/unloading areas, <input type="checkbox"/> covered storage, <input type="checkbox"/> secondary containment, <input type="checkbox"/> storm drain disconnection or treatment, <input type="checkbox"/> inventory control, <input type="checkbox"/> spill response plans, <input type="checkbox"/> spill clean-up materials, <input type="checkbox"/> dry clean-up methods, <input type="checkbox"/> employee training, <input type="checkbox"/> SW quality retrofits <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Dumpster Waste Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Dumpster/waste management, <input type="checkbox"/> secondary containment, <input type="checkbox"/> storm drain disconnection or treatment, <input type="checkbox"/> liquid separation/containment, <input type="checkbox"/> employee training <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Building/Parking Lot Maintenance</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Temporary covers/tarps, <input type="checkbox"/> employee training, <input type="checkbox"/> contractor training, <input type="checkbox"/> proper cleanup and disposal procedures, <input type="checkbox"/> disconnected storm drains, <input type="checkbox"/> dry cleaning methods, <input type="checkbox"/> SW quality retrofits, <input type="checkbox"/> sweeping <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Turf/Landscape Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Integrated pest management, <input type="checkbox"/> targeted irrigation, <input type="checkbox"/> careful applications, <input type="checkbox"/> proper disposal of landscaping waste, <input type="checkbox"/> avoid blowing and hosing to storm drain, <input type="checkbox"/> employee training, <input type="checkbox"/> SW quality retrofits <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____
<i>Stormwater Management</i> <input type="checkbox"/> Present <input type="checkbox"/> N/A	<input type="checkbox"/> Non-SW to SS system, <input type="checkbox"/> allowable water to pervious areas, <input type="checkbox"/> employee training <input type="checkbox"/> Containment <input type="checkbox"/> Spill Containment/Control <input type="checkbox"/> LID Measures <input type="checkbox"/> _____ <input type="checkbox"/> _____

Notes-Sketches- Calculations

Facility Name: _____



Appendix B – Outfall Inspection Form

Outfall Inspection Form

Location & Conditions Information
--

Date: _____ **Inspector:** _____ **Time:** _____

Outfall ID: _____ **Outfall Location:** _____

Receiving Water body: _____

Photo Taken: Yes No **Photo ID:** _____

Weather: Clear Cloudy **Approximate Temp:** _____ **Wind Present:** Yes No

Precipitation in the past 3 days: No Yes _____ inches

Pipe/Channel Flow: None Trickle Steady 1/4 full flow or more

Color (if flow is present): _____

Inspection Scoring Information	<i>Check all that are applicable</i>				
---------------------------------------	--------------------------------------	--	--	--	--

Obvious Debris/Pollution	✓	Odor	✓	Water Clarity	✓
None		None/Natural		Clear	
Foam		Musty		Cloudy	
Staining		Sewage/septic		Opaque	
Floating Green Scum		Petroleum			
Oil / Film		Other			
Vegetative Mat/or Gray Mat					
Sewage Solids					

Additional Information: _____

Sediment Condition: Free 1/4 Full 1/2 Full 3/4 Full Plugged

Structure Condition: Excellent Good Fair Poor

Trash/litter present: Yes No **Yard waste observed:** Yes No

General Comments: _____

Potential Sources / Actions Taken: _____

Sample collected? Yes No

By whom? _____

Follow up required Yes No

Parameters:	Results:

Appendix C – References

References and Resources

United States Environmental Protection Agency (USEPA).

<https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater>

Center for Watershed Protection

<http://www.cwp.org/>

Tennessee Department of Environment and Conservation

<https://www.tn.gov/content/tn/environment/permit-permits/water-permits1/npdes-permits1/npdes-stormwater-permitting-program/npdes-municipal-separate-storm-sewer-system--ms4--program.html#resources>

The Stormwater Manager's Resource Center (SMRC)