TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER POLLUTION CONTROL
401 CHURCH STREET
L & C ANNEX 6TH FLOOR
NASHVILLE TN 37243

JAN 1 1 2012

Mr. Michael Hunt, NPDES Program Mgr
Metro Water Services - Stormwater Div.
1607 County Hospital Road
Nashville, TN 37218

Subject: **NPDES Permit No. TNS068047**
Nashville/Davidson County MS4
Nashville, Davidson County, Tennessee

Dear Mr. Hunt:

In accordance with the provisions of the Tennessee Water Quality Control Act, Tennessee Code Annotated (T.C.A.), Sections 69-3-101 through 69-3-120, the Division of Water Pollution Control hereby issues the enclosed NPDES Permit. The continuance and/or reissuance of this NPDES Permit is contingent upon your meeting the conditions and requirements as stated therein.

Please be advised that a petition for permit appeal may be filed, pursuant to T.C.A. Section 69-3-105, subsection (i), by the permit applicant or by any aggrieved person who participated in the public comment period or gave testimony at a formal public hearing whose appeal is based upon any of the issues that were provided to the commissioner in writing during the public comment period or in testimony at a formal public hearing on the permit application. Additionally, for those permits for which the department gives public notice of a draft permit, any permit applicant or aggrieved person may base a permit appeal on any material change to conditions in the final permit from those in the draft, unless the material change has been subject to additional opportunity for public comment. Any petition for permit appeal under this subsection (i) shall be filed with the board within thirty (30) days after public notice of the commissioner's decision to issue or deny the permit.

If you have questions, please contact the Nashville Environmental Field Office at 1-888-891-TDEC; or, at this office, please contact Mr. Wade Murphy at (615) 532-0666 or by E-mail at *Wade.Murphy@tn.gov*.

Sincerely,

Vojin Janjić
Manager, Permit Section
Division of Water Pollution Control

cc: Permit Seetion File
Nashville Environmental Field Office (ann.morbitt@tn.gov)
Mr. Scott A. Potter, P.E., Director, Metro Water Services, scott.potter@nashville.gov
Ms. Connie A. Kagey, NPDES Permit Section, EPA Region IV, Kagey.Connie@epamail.epa.gov
Mr. Steve Winesett, Metro Water Services, Steve.Winesett@nashville.gov
Mr. Thomas K. Palko, Metro Water Services Stormwater Division, tom.palko@nashville.gov
Mr. Nick Price, Research Analyst, World Resources Institute, nick.price@wri.org
Mr. Josh Hayes, Environmental Compliance Officer II, Metro Water Services - Stormwater Div., josh.hayes@nashville.gov
Ms. Rebecca Dohn, Environmental Compliance Officer, Metro Nashville, rebecca.dohn@nashville.gov

STATE OF TENNESSEE

NPDES PERMIT

No. TNS068047

Authorization to discharge under the

National Pollutant Discharge Elimination System (NPDES)

Issued By

Tennessee Department of Environment and Conservation
Division of Water Pollution Control
401 Church Street
6th Floor, L & C Annex
Nashville, Tennessee 37243-1534

Under authority of the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.) and the delegation of authority from the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251, et seq.)

Discharger: **NASHVILLE/DAVIDSON COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM**

is authorized to discharge stormwater runoff, in accordance with the following stormwater quality management program(s), effluent limitations, monitoring requirements and other provisions as set forth in Parts I through IX herein, from all portions of the MS4, owned or operated by Metropolitan Government of Nashville to Waters of the State of Tennessee.

This permit shall become effective on: February 1, 2012

This permit shall expire on: January 31, 2017

Issuance date: January 1, 2012

BJarrett FOR

Paul E. Davis, Director
Division of Water Pollution Control

CN-0759

RDAs 2352 and 2366

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NPDES PERMIT FOR DISCHARGES FROM
NASHVILLE/DAVIDSON COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM
MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4)

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1. COVERAGE UNDER THIS PERMIT

1.1. Permit Area

This permit covers all areas located within the corporate boundary of the Nashville/Davidson County Municipal Separate Storm Sewer System, located in Davidson County, Tennessee. The permit area excludes portions of Davidson County that are within boundaries of the combined sewer system, satellite cities, and/or other NPDES regulated municipal separate storm sewer system facilities (e.g. TDOT, universities).

1.2. Authorization to discharge

Except for discharges prohibited under subpart 1.6 below, this permit authorizes existing or new stormwater point source discharges to waters of the State of Tennessee from those portions of the Municipal Separate Storm Sewer System (MS4) owned or operated by the Nashville/Davidson County Municipal Separate Storm Sewer System.

1.3. Permittee

The following party is the permittee subject to the limits and conditions of this permit:

The Metropolitan Government of Nashville/Davidson County, Municipal Separate Storm Sewer System.

1.4. Responsibilities of Permittee

The permittee is responsible for the following:

a. compliance with permit conditions relating to discharges from portions of the MS4 where they are the owner or operator;

b. implementing the Stormwater Management Program (SWMP) through development of a Stormwater Management Plan (Plan) on portions of the MS4 where they are the owner or operator;

c. where permit conditions are established for specific portions of the MS4, the permittee need only comply with the permit conditions relating to those portions of the MS4 for which they are the owner or operator;

d. a plan of action to assume responsibility for implementation of stormwater management and monitoring programs on their portions of the MS4 should inter-jurisdictional agreements allocating responsibility between multiple permittees (if any) be dissolved or in default.

e. submission of annual reporting requirements as specified in part 4;

f. collection of monitoring data as required by subpart 3.3 below, and according to such agreements as may be established between multiple permittees (if any); and,

g. ensuring implementation of system-wide management program elements, including any system-wide public education efforts.

Specific permittees are jointly responsible for compliance with the permit on portions of the MS4 where operational authority or authority to implement SWMPs over portions of the MS4 have been transferred from one permittee to another in accordance with legally binding interagency or inter-jurisdictional agreements. Both the owner and operator are jointly responsible for permit compliance on those portions of the MS4 referenced in such agreements unless specific responsibility provisions have been otherwise outlined in the agreements.

1.5. Types of authorized discharges

1.5.1. Stormwater discharges

This permit authorizes the Metropolitan Government of Nashville/Davidson County to discharge stormwater to waters of the state from the Nashville/Davidson County Municipal Separate Storm Sewer System, except as excluded in subpart 1.6.

1.5.2. Non-stormwater discharges

The permittee is authorized to discharge the following non-stormwater sources provided that the division has not determined these sources to be substantial contributors of pollutants to the MS4[1]:

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration (infiltration is defined as water other than wastewater that enters a sewer system, including sewer service connections and foundation drains, from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.)
- Uncontaminated pumped ground water
- Discharges from potable water sources
- Air conditioning condensate
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual residential car washing
- Flows from riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Street wash water
- Discharges or flows from fire fighting activities

[1] see 40 C.F.R. § 122.26(d)(2)(iv)(B)(1)

1.6. Limitations on Coverage

This permit does not authorize:

a. Discharges that are mixed with sources of non-stormwater unless such non-stormwater discharges are:
   - In compliance with an NPDES permit; and
   - Determined not to be a substantial contributor of pollutants to waters of the state.

b. Stormwater discharges associated with industrial activity, excluding construction activities, as defined in 40 CFR §122.26(b)(14)

c. Stormwater discharges currently covered under another permit.

d. Discharge or conduct discharge-related activities that are likely to jeopardize the continued existence of state or federally listed species or result in the adverse modification or destruction of habitat that is designated as critical under the Endangered Species Act (ESA) or other applicable state law or rule. See sub-part 2.4 for instructions related to evaluating and certifying your status with respect to state or federally listed species.

e. Discharge or conduct discharge related activities that will cause a prohibited take of federally listed species (as defined under Section 3 of the ESA and 50 CFR §17.3), unless such take is authorized under Sections 7 or 10 of the ESA.

f. Discharge or conduct discharge-related activities that will cause a prohibited take of state listed species (as defined in the Tennessee Wildlife Resources Commission Proclamation, Endangered or Threatened Species, and in the Tennessee Wildlife Resources Commission Proclamation, Wildlife in Need of Management), unless such take is authorized under the provisions of Tennessee Code Annotated §70-8-106(e)

g. Discharges that would cause or contribute to an in-stream exceedance of water quality standards. The stormwater management plan must include a description of the best management practices (BMPs) that the MS4 will be using to ensure that this will not occur. The division may require a corrective action plan if discharges from the MS4 are determined to cause or contribute to an in-stream exceedance of water quality standards.

h. Discharges of any pollutant into any water for which a Total Maximum Daily Load (TMDL) has been approved by EPA, where the TMDL establishes a specific wasteload allocation and recommends it be incorporated into an individual NPDES permit.

i. Discharges of materials resulting from a spill, except emergency discharges required to prevent imminent threat to human health or to prevent severe property damage, provided reasonable and prudent measures have been taken to minimize the impact of the discharges.

j. Discharges that do not comply with the division's anti-degradation policy for water quality standards, pursuant to the Rules of the Tennessee Department of Environment and Conservation (TDEC), Chapter 1200-4-3-.06, titled "Tennessee Antidegradation Statement."

2. SPECIAL CONDITIONS

2.1. Discharges to Water Quality Impaired Waters

Using the most current EPA-approved 303(d) list published on the division's web site along with the division's GIS mapping tool available on the division's web site (http://tnmap.tn.gov/wpc/), the permittee must determine whether stormwater discharges from the MS4 contribute pollutants of concern to an impaired waterbody. Additionally, the permittee must determine whether or not a TMDL has been established or approved by EPA for waters receiving MS4 discharges. A list of EPA-Approved TMDLs can be found on the division's web site (http://www.tn.gov/environment/wpc/tmdl/approved.shtml).

Alternatively, the permittee may obtain an electronic copy of the division's GIS files covering the permittee's corporate boundaries for use with the permittee's GIS mapping software to make the required determination.

2.2. Discharges into Waterbodies with EPA-Approved or Established TMDLs

The permittee must implement stormwater pollutant reductions consistent with the assumptions and requirements of any applicable wasteload allocation(s) in TMDLs established or approved by EPA. If an MS4 discharges into a water body with an approved or established TMDL, then the Stormwater Management Program (SWMP) must include BMPs specifically targeted to achieve the wasteload allocations (WLAs) prescribed by the TMDL and a monitoring and/or evaluation component to assess the effectiveness of the BMPs in achieving the wasteload allocations.

The BMPs must be consistent with the Implementation Plan of the TMDL. Unless contradictory to the TMDL implementation plan, the permittee is responsible for identifying and interpreting the appropriateness of specific BMPs for achieving the objective of the implementation plan considering the wasteload calculations in the TMDL, the effluent characterization of the MS4 discharge, and the pollutant removal of the BMP as demonstrated via monitoring. Selected BMPs shall be implemented within 12 months of the effective date of this permit. BMPs that require engineering design and construction shall be implemented within 24 months of the effective date of this permit.

Monitoring can entail a number of activities including but not limited to: outfall monitoring, in-stream monitoring or modeling. Monitoring requirements are further described in part 4 of this permit. The Stormwater Management Plan (Plan) developed by the permittee shall specifically identify the BMPs that target wasteload allocations (WLAs) prescribed by the TMDL.

Where TMDLs specify wasteload allocations in terms of percent reduction goals over a defined watershed area, the permittee shall detail in its Plan the field screening and monitoring activities, including dates, that were used to identify, characterize or quantify loading of the pollutant of concern from the MS4 and the follow-up taken by the permittee.

If additional TMDLs are adopted during the term of the permit, the SWMP shall be revised within 6 months of TMDL adoption to include specific BMPs that target the adopted (WLAs). Specific selected BMPs shall be implemented within 12 months of the TMDL established or approved by EPA. BMPs that require engineering design and construction shall be implemented within 24 months of the TMDL established or approved by EPA. If the source of the impairment has been determined, management measures specific for reducing pollutant of concern from that specified source shall be included. The permittee may be added to a TDEC public notice

mailing list for proposed TMDL actions at its discretion but in so doing the permittee shall assume the responsibility for ensuring that its contact information on the list is maintained up to date.

2.3. Discharges to Impaired Waterbodies without EPA-Approved TMDLs

For the discharge of a pollutant of concern into a receiving water which has been identified on the current EPA-approved Section 303(d) list of impaired waters, the permittee must document in its stormwater management plan (Plan) how the BMPs will address the discharge of the pollutants of concern, and must demonstrate (through outfall monitoring, in-stream monitoring and/or modeling) that the discharge will not contribute to the impairment by the pollutant of concern. A monitoring component to assess the effectiveness of the BMPs in controlling the discharge of pollutants of concern must also be included in the plan. Monitoring can entail a number of activities including but not limited to: outfall monitoring, in-stream monitoring or modeling. Monitoring requirements are further described in part 4 of this permit.

2.4. Protection of State or Federally Listed Species

The permittee must evaluate annually whether or not stormwater discharges, allowable non-stormwater discharges and discharge-related activities are likely to jeopardize the continued existence of any state or federal, legally protected listed or proposed threatened or endangered aquatic fauna or flora (or species proposed for such protection) in the receiving stream(s) or result in the adverse modification or destruction of habitat that has been designated as critical for these species under the ESA (critical habitat) since the date of the permittee's most previous evaluation. To obtain lists by county and watershed for state and federally listed species reference the Department of Environment and Conservation, Resource Management Division (RMD) website at http://state.tn.us/environment/na/data.shtml. Also reference the Fish and Wildlife Service lists. The permittee shall keep documentation of the evaluations and decisions reached through the evaluation. The permittee must include this determination in an annual report.

2.4.1. Evaluation Procedure

The permittee must use the most recent Rare Species County and Watershed Lists (hyperlink to http://state.tn.us/environment/na/data.shtml) available from TDEC's Resource Management Division and then follow the process described below to determine whether or not your discharges and/or discharge-related activities are likely to jeopardize the continued existence of any state or federal, legally protected listed or proposed threatened or endangered aquatic fauna or flora (or species proposed for such protection) in the receiving stream(s) or result in the adverse modification or destruction of habitat that is designated as critical for these species under the ESA. The permittee must meet one or more of the criteria A through C listed below for the entire term of coverage under the permit.

Criterion A: No state or federally listed species or critical habitat are in proximity to your MS4 or the point where authorized discharges reach the receiving water; or

Criterion B: The permittee has evaluated the effects of its stormwater discharges, allowable non-stormwater discharges and discharge-related activities on state and federally listed species and critical habitat and do not have reason to believe the discharge and/or discharge-related activities will jeopardize the continued existence of any state or federal, legally protected listed or proposed threatened or endangered aquatic fauna or flora (or species proposed for such protection) in the

receiving stream(s) or result in the adverse modification or destruction of habitat that has been designated as critical for these species under the ESA.

Such evaluation of the effects of your stormwater discharges on federally listed species may include authorizations and determinations made through consultation with US Fish and Wildlife Service under Sections 7 and 10 of the ESA; however, the permittee must still evaluate effects as well.

Criterion C: Stormwater discharges, allowable non-stormwater discharges and/or discharge-related activities from the MS4 were already addressed in another operator's certification of eligibility include with the MS4's activities. By certifying eligibility, the permittee agrees to comply with any measures or controls upon which the operator's certification was based.

The division may require any permittee or applicant to provide documentation of the their determination of eligibility for this permit where TDEC, Tennessee Wildlife Resources Agency, US Environmental Protection Agency or the US Fish and Wildlife Service, or other regulatory agency otherwise determines that there is a potential impact on a state or federally listed species or a critical habitat.

2.5. Co-permittees and Coordinated Programs

2.5.1. Co-permittees

The permittee may be covered under this Permit No. TNS068047 as a co-permittee with one or more other, neighboring MS4s which are located in the State of Tennessee. Co-permittees may submit a permit application at anytime during the term of this permit.

In order to be permitted as co-permittees, the Nashville/Davidson County Municipal Separate Storm Sewer System and the other applicants must submit a permit application with a set of BMPs for all co-permittees. Responsible officials of each participating MS4 must sign the application. The application shall certify that the co-permittees have established a written, legally-binding, agreement for sharing and/or termination of responsibilities associated with their MS4 programs. If measurable goals and implementation milestones vary, each co-permittee must submit its own appendix to the application, "BMP Measurable Goals and Implementation Milestones." The individual stormwater management plans must clearly describe which permittees are responsible for implementing each of the control measures.

Each co-permittee is individually liable for:

- Permit compliance for discharges within its legal jurisdiction.
- Ensuring that the control measures are implemented for portions of the MS4 where it is the operator and in areas within its legal jurisdiction.
- If any permit conditions are established for specific portions of the MS4, co-permittees need only comply with the permit conditions relating to those portions of the MS4 for which they are the operator.
- Each co-permittee is jointly liable for compliance with annual reporting requirements in part 4, except that a co-permittee is individually liable for any parts of the annual report that relate exclusively to portions of the MS4 where it is the operator.

Specific co-permittees are jointly liable for permit compliance on portions of the MS4 as follows:

- Where operational or SWMP implementation authority over portions of the MS4 has been transferred from one co-permittee to another in accordance with legally binding interagency agreements, both the owner and operator may be jointly liable for permit compliance on those portions of the MS4; and

- Where one or more co-permittees jointly own or operate a portion of the MS4, each owner/operator is jointly liable for compliance with permit conditions on the shared portion of the MS4.

2.5.2. Coordinated Programs

Implementation of one or more of the SWMP elements in subpart 3.2 below may be shared with another entity, or the entity may fully take over the measure. The permittee may rely on another entity only if:

- The particular control measure, or component of that measure, is at least as stringent as the corresponding permit requirement.

- The other entity agrees to implement the SWMP element on the permittee's behalf. Written acceptance of this obligation is expected. This obligation must be included in the plan. If the other entity agrees to report on the control element, the permittee must supply the other entity with the reporting requirements contained in part 4 of this permit. If the other entity fails to implement the control element, then the permittee remains liable for any permit violations related to that failure to implement.

3. STORMWATER MANAGEMENT PROGRAM (SWMP)

3.1. Program Requirements

The permittee must develop, implement, and enforce a SWMP[2] which is designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP) to protect water quality, and to satisfy the appropriate water quality requirements of the CWA. The SWMP shall include engineering methods, system design, control techniques and management practices appropriate for the control of pollutants of concern. All the elements of the SWMP must be documented by the permittee in a stormwater management plan (Plan). The SWMP must be submitted to the division Environmental Field Office-Nashville and Nashville Central Office within 18 months of the permit effective date.

The SWMP must include the following information for each of the program elements described in subpart 3.2 below of this permit:

- BMPs and/or processes that the permittee or another entity will implement for each of the SWMP elements;

[2] See 40 C.F.R. § 122.26(d)(2)(iv)

- The measurable goals for each of the BMPs including, as appropriate, the months and years in which the permittee will undertake required actions, including interim milestones and the frequency of the action; and

- The person or persons responsible for implementing or coordinating the SWMP elements in the SWMP.

- The program element specific information detailed in Section 3.2.

3.1.1. Requirement to Ensure Adequate Resources to Comply with MS4 Permit

3.1.1.1 Secure Resources

The permittee must secure the resources necessary to meet all requirements of this permit.

3.1.1.2 Annual Fiscal Analysis

The permittee shall conduct an annual fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the program tasks in Part 3 that coincides with permittee's fiscal year (i.e. July 1 – June 30)[3]. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds. A summary of the fiscal analysis will be included in the next annual report following the end of the permittee's fiscal cycle (e.g., If the annual report is due in March 2012, the fiscal analysis will cover FY 2011 ending on June 30, 2011).

3.2. Program Elements

The permittee shall implement the control measures contained in this subpart.

3.2.1. Public Education and Outreach

The permittee shall continue to implement its public education and outreach program. The focus of the program shall continue to be on impacts of stormwater discharges to water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

The Plan for this program element must outline how the public education and outreach will inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste and specifically target illicit discharges; pesticides, herbicides, and fertilizer applicators; and construction site operators (e.g., brochures, signage, and community events, etc.).[4] The Plan must also document how the program targets specific pollutants and sources that may cause or contribute to impairment. For example, in certain areas known as *hot areas*, the permittee must focus education and outreach on those particular pollutants of concern. Some educational programs can lend themselves to water quality improvements. The permittee is encouraged to pursue those programs and document related or expected water quality improvements.

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[3] See 40 C.F.R. § 122.26(d)(2)(vi)

[4] See 40 C.F.R. § 122.26(d)(2)(iv)(A)(6), 40 C.F.R. § 122.26(d)(2)(iv)(B)(5, 6), and 40 C.F.R. § 122.26(d)(2)(iv)(D)(4)

The permittee shall implement its public education and outreach program at a minimum of 6 large public events per calendar year. Targeted issues should include, at a minimum, residential stormwater quality education, industrial/commercial site pollution issues and municipal facilities pollution issues. The permittee shall track and maintain records of public education and outreach activities. The permittee may develop a process to assess the change in public awareness and behavior resulting from the implementation of the education and outreach program (i.e., through surveys, tracking the number of attendees, etc.). A summary of this information shall be included in the annual report.

3.2.2. Public Involvement/Participation

The permittee shall continue to implement its public participation program (e.g., stream clean-up events, etc.).

The Plan for this program element shall detail the processes used to identify, prioritize and select opportunities for public involvement. The Plan shall detail how the permittee public notices program participation opportunities including participation in local stormwater management workgroups, volunteer recruiting, riparian plantings or stream clean-up events, and in illicit discharge identification and elimination. The Plan should detail the public notice requirements for each type of public participation activity, which may vary under the specific circumstances (e.g. publication in a newspaper, web site notification, etc.).[5]

The permittee may develop a website that includes information that will inform stakeholders of actions that will result in behavioral changes that will improve water quality, provide press releases or advertisements of activities to local cable networks, radio stations and/or newspapers, or other alternate methods that provide an effective equivalent.

The permittee shall track and maintain records of public involvement and participation activities. A summary of this information shall be included in the annual report.

3.2.3. Illicit Discharge Detection and Elimination

The permittee shall continue to implement the existing illicit discharge detection and elimination program. Documented illicit discharges shall be eliminated as soon as possible (within 24 hours, or as soon as feasible if the source cannot be eliminated within 24 hours), following the timeframes and procedures outlined in the Plan and/or Enforcement Response Plan (ERP). The program will address the following categories of non-stormwater discharges or flows as illicit discharges only if the permittee identifies them as significant contributors of pollutants to theMS4:

> water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from fire fighting activities are excluded from the effective prohibition against non-stormwater and need only be addressed where they are identified as significant sources of pollutants to waters of the state).

This program element shall include investigation and analysis of the types and causes of spills and the development of spill prevention procedures/guidance responsive to the types and causes identified.

[5] See 40 C.F.R. § 122.26(d)(2)(iv)

The program shall require the equivalent of spill, prevention, control and countermeasure (SPCC) and/or storm water pollution prevention plans (SWPPP) for industries previously identified as having spills or fugitive releases - that currently have no such plans.

Additionally, this program element shall identify opportunities for interagency coordination of hazardous waste or material spills response and cleanup. The program shall enable the permittee to coordinate with the TEMA (Tennessee Emergency Management Agency), local county emergency management agency, local fire departments and other agencies that respond to accidents and spill incidents with potential stream impacts. The permittee shall coordinate with these agencies to develop a program that minimizes the potential for their response to spills of chemicals or hazardous materials to cause pollutants to enter waters of the state via the MS4. This program element shall provide for sharing of stormwater system and receiving water mapping to Emergency Preparedness officials for the identification of downstream risk areas.

Additionally this program element shall enable the permittee to effectively prohibit, through ordinance, or other regulatory mechanism, non-stormwater discharges into the storm sewer system and implement an appropriate Enforcement Response Plan (ERP). The program must be able, by ordinance or other regulatory mechanism, to prohibit contamination of stormwater runoff from all areas, including hot areas. The ordinance must allow for penalties as specified in TCA 68-221-1106. The ERP shall specify the timeframe for complaint investigation. The ERP must be updated to incorporate revisions identified by the permittee within 18 months of the permit effective date.

The Plan for this element shall enable the permittee to operate a mechanism for the public to report (e.g., via hotline or website), suspected illicit discharges. The Plan for this element shall encompass mapping, training, field screening and sanitary sewer seepage as detailed in the subsections below. The Plan should include timeframes under which the permittee must respond to public inquiries or reports. A summary of illicit discharge education and training, updates to the illicit discharge identification and elimination procedures, updates to the MS4 mapping and field screening plans, and identification of sanitary sewer overflows into the MS4 shall be included in the annual report.

3.2.3.1 MS4 Mapping

The permittee shall maintain the existing MS4 GIS-based database of the storm water drainage infrastructure.

The Plan for this program element shall consist of a MS4 database encompassing areas of Davidson County within the permit coverage area owned or operated by the Metropolitan Government of Nashville and Davidson County. The Plan shall ensure that maintenance requires ongoing updates that capture any changes or upgrades that occur to the draining infrastructure as a result of new development, significant redevelopment, Metro construction/maintenance projects, and newly created MS4 areas per Metro Water Services Records on Combined Sewer System (CSS) separation projects. The permittee will be considered "up-to-date" if the GIS database is updated within 9 months of MS4 drainage structure changes/additions are complete and turned over to the GIS technician. The map must show the following, at a minimum:

- The location of all known MS4 outfalls and drainage areas contributing to those outfalls that are operated by the permittee, and that discharge within the permittee's jurisdiction to a receiving water;
- The location (and name, where known to the permittee) of all waters receiving discharges from outfall pipes. Each mapped outfall must be given an individual alphanumeric identifier, which must be noted on the map. When possible, the outfalls

must be located using a geographic position system (GPS) and photographs should be taken to provide baseline information and track operation & maintenance needs over time.

- Inputs into the storm sewer system, such as the inlets, catch basins, drop structures or other defined contributing points to the storm sewer system serving that outfall.
- The location and condition of major structural controls (retention basins, detention, basins, major infiltration devices, etc.)
- General direction of stormwater flow. Monitoring locations identified under subparts 4.1 below and 4.2 below.
- The map shall also identify the following: priority areas with older infrastructure that are more likely to have illicit connections; industrial/commercial, or mixed use areas; areas with past illicit discharges; areas with onsite sewage disposal systems; and areas upstream of sensitive waterbodies.

3.2.3.2 Illicit Discharge Education & Training

The Plan must detail a training and education program for municipal field staff that, as part of their normal job responsibilities, administer the illicit discharge and illicit connection detection program, and shall also detail the components of its program in the plan. The Plan must provide for follow-up training as needed to address changes in procedures, techniques, or staffing.

By no later than 6 months following the effective date of this permit, the permittee must complete training of all staff (including new staff within 1 year from date of hiring) identified in the paragraph above on the identification of an illicit discharge or connection, and on the proper procedures for reporting and responding to the illicit discharge or connection. The permittee must document and maintain records of the training provided and the staff trained.

Contact information, including the procedure for reporting an illicit discharge, must be included in the permittee's fleet vehicles that are used by field staff that, as part of their normal job responsibilities, administer the illicit discharge and illicit connection detection program. Training program documents must be available for review by the permitting authority.

3.2.3.3 Field screening program

The permittee shall continue to implement and make necessary improvements to its ongoing program to determine whether non-stormwater entries, including any sanitary sewer discharges, are present in the storm drainage system, and to identify locations and sources of non-stormwater. Specifically, the Plan for this program element sub-element shall encompass:

- Updating its GIS field screen database to reflect changes of land use activities in the industrial/commercial areas.
- Prioritization of areas for inspection and monitoring based on watershed or land uses or on previous field screening results, spills, complaints, illicit discharges, etc.
- Updating illicit discharge identification procedures if necessary
- Identification of potential discharges to MS4 or "Waters of the State"
- Identification of means to screen for sanitary sewerage seepage into the MS4.

3.2.3.4 Limitation of Sanitary Sewer Seepage

The permittee shall continue reconnaissance measures to identify potential sanitary sewer leaks, line breaks, overflows, or septic tank failures that discharge into the MS4. The Plan for this sub-element shall detail how identified seepages are timely reported to appropriate authorities for correction.

3.2.4. Construction Site Stormwater Runoff Control

The permittee shall continue to implement and enforce its existing construction site stormwater runoff control program. This program must address pollutants in stormwater runoff from construction activities that result in a land disturbance of or equal to or greater than one acre. Reduction of pollutants discharged from construction activity disturbing less than one acre must be included if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. The following elements must be included in the development and implementation of the program:

Ordinance: The permittee shall maintain an ordinance or other regulatory mechanism to require erosion prevention and sediment controls, as well as sanctions to ensure compliance: The ordinance must allow for penalties as specified in TCA 68-221-1106. Modifications to ordinances or other regulatory mechanisms for the construction site runoff control program are to be consistent with requirements of the current NPDES Tennessee Construction General Permit for construction stormwater runoff must be implemented within 24 months of the effective date of this permit.

Requirements for construction site operators to implement appropriate erosion prevention and sediment control best management practices: The MS4's EPSC requirements shall be consistent with those described in the TDEC EPSC Handbook.

Anti-degradation of state waters requirements: The MS4's requirements for design storm and special conditions for impaired waters or exceptional Tennessee waters must be consistent with those of the current effective Tennessee Construction General Permit (TNR100000).

Site Inventory Requirements: The permittee must maintain an inventory of all active public and private construction sites that result in a total land disturbance as defined in this section. The inventory must contain relevant contact information for each project (e.g., tracking number, name, address, phone, etc.), the size of the project and area of disturbance, whether the project has submitted for permit coverage under the Tennessee Construction General Permit (TNR100000) and the date the permittee approved the site plan. The permittee must make this inventory available to TDEC upon request.

Educational materials requirements: The permittee must develop and distribute educational materials to construction site operators. The permittee must adopt and implement procedures for receipt and consideration of water quality information submitted by the public regarding construction projects. This includes, but is not limited to, the public reporting mechanisms described in 3.2.2 above. The permittee must provide public notice for all public projects (owned by the permittee) that have planned disturbance greater than or equal to an acre. It is recommended that the permittee hold public meetings for all public projects (owned by the permittee) that have generated significant public interest. The program for this sub-element shall include at a minimum:

a. The permittee must either provide information on existing training opportunities or co-sponsor with other agencies training for construction operators on control measure selection, installation, implementation, and maintenance as well as overall program compliance.

b. The permittee must develop or utilize existing outreach tools (i.e. brochures, posters, website, plan notes, manuals etc.) aimed at educating construction operators on appropriate selection, installation, implementation, and maintenance of stormwater controls, as well as overall program compliance.
c. The permittee must make available appropriate outreach materials to construction operators who will be disturbing land within the MS4 boundary. The permittees' contact information and website must be included in these materials.
d. The permittee must include information on appropriate selection, installation, implementation, and maintenance of controls, as well as overall program compliance, on the permittee's existing website.

Requirements for construction site operators to control waste materials: The permittee must require that operators control wastes such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site to avoid adverse impacts to water quality.

Specific procedures for site plan (including erosion prevention and sediment controls) review and approval: The permittee procedures must include an evaluation and approval of plan completeness and overall BMP effectiveness. At a minimum, the Plan for this sub-element shall incorporate, or be consistent with, the following:

- Identification of *Priority construction activity* ;
- Pre-construction meetings with construction-site operators for Priority construction activity ; and
- Inspections by the permittee of priority construction sites at least once per month.
- Inspections of non-priority construction sites on a quarterly basis

Procedures for managing public input on projects: The permittee must have mechanisms for public access to information on projects and receiving and considering water quality comments from the public on those projects. It is recommended that the permittee use the world wide web for facilitating public involvement.

Procedures for site inspection and enforcement: The permittee must have procedures in place for its inspectors to evaluate construction site compliance during all phases of construction (i.e., prior to land disturbance to ensure all BMPs are in place, during active construction and following active construction) as deemed necessary. The ERP must include specific enforcement steps to ensure construction sites are in compliance with the MS4's program (i.e., determine if controls measures have been selected, installed, implemented, and maintained according to the SWPPP or specified design standards/plans, etc.)

MS4 staff training: Inspectors must maintain certification under the Tennessee Fundamentals of Erosion Prevention and Sediment Control, Level 1. Site plan reviewers must receive a certificate of completion from the Tennessee Erosion Prevention and Sediment Control Design Course, Level 2. It is recommended that MS4 staff receive training under both courses.

The Plan for this element shall detail the following elements in the plan[6]: 1) A description of requirements for structural and non-structural BMPs, 2) procedures for identifying priorities for

[6] See 40 C.F.R. § 122.26(d)(2)(iv)(D)

inspecting construction sites and enforcing control measures which consider, for example, the nature of construction activity and the characteristics of soils and receiving water quality; and 3) educational and training measures for construction site operators. Additionally, the Plan shall document that this program element incorporates all the requirements of this part. The Plan must be revised to reflect modifications to ordinances or other regulatory mechanisms for the construction site runoff control program to be made consistent with requirements of the current NPDES Tennessee Construction General Permit for construction stormwater runoff must be implemented within 24 months of the effective date of this permit.

3.2.5. **Permanent Stormwater Management in New Development and Redevelopment**

3.2.5.1 Permit requirements

The permittee shall develop, implement, and enforce a program to address permanent (post-construction) stormwater runoff management from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4. This program element must ensure that controls are in place that would prevent or minimize water quality impacts.

The program for this element shall develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for the community.

The program for this element shall develop and implement a set of requirements to establish, protect and maintain water quality buffer along all streams at new development and redevelopment projects.

The program for this element must use an ordinance or other regulatory mechanism to address permanent runoff from new development and redevelopment projects that would reflect an MEP-level of control and is consistent with and to the extent allowable by state and local law. Revisions to ordinances or other regulatory mechanisms to accommodate permanent stormwater management must be implemented within 48 months of the effective date of this permit.

The program for this element shall encompass or consider the following sub-elements as differentiated below:

3.2.5.2 Performance Standards

This element of the MS4 program must enable the permittee to implement and enforce permanent stormwater controls that are comprised of runoff reduction and pollutant removal. Runoff reduction is the preferred control practice as it can achieve both volume control and pollutant removal. If runoff reduction and/or pollutant removal cannot be fully accomplished on-site per 3.2.5.2.1 and 3.2.5.2.2, then this element of the program may allow for off-site mitigation and/or payment into a fund for public stormwater project.

This element of the MS4 program must enable the permittee to develop and apply criteria for determining the circumstances under which these alternatives will be available. A determination that standards cannot be met on site may not be based solely on the difficulty or cost of implementing measures, but must include multiple criteria that would rule out an adequate combination of infiltration, evapotranspiration and reuse such as: lack of available area to create the necessary infiltrative capacity; a site use that is inconsistent with capture and reuse of stormwater; physical conditions that preclude use of these practices.

The permittee shall include in the plan a description of planning procedures including a comprehensive master program to develop, implement, and enforce controls to reduce the discharge of pollutants from the MS4 which receive discharges from areas of new development and significant redevelopment[7].

3.2.5.2.1 Runoff Reduction (infiltration or green infrastructure)

This element of the MS4 program must enable the permittee to develop site design standards for all new development and significant redevelopment. These standards shall require, in combination or alone, management measures that are designed, built and maintained to infiltrate, evapotranspire, harvest and/or use, at a minimum, the stormwater runoff generated at a site by the first inch of every rainfall event preceded by 72 hours of no measurable precipitation. This site runoff from the first inch of rainfall must be 100% managed with no discharge to surface waters. For all new and significant redevelopment on private property, the permittee may opt to have controls installed on that private property, in the public right-of-way, or a combination of both.

Limitations to the application of runoff reduction requirements include, but are not limited to:

- Where a potential for introducing pollutants into the groundwater exists, unless pretreatment is provided;
- Where pre-existing soil contamination is present in areas subject to contact with infiltrated runoff;
- Presence of sinkholes or other karst features.
- Where pre-development infiltrative capacity of soils limit selection of runoff reduction management measures.

When engineering analyses conclude that there are limitations to the application of runoff reduction requirements, this element of the program shall incorporate traditional stormwater treatment practices at a minimum.

This element of the MS4 program may enable the permittee to develop incentive standards for certain types of development and/or for the use of certain green infrastructure BMPs — as described in the SWMP. The program may provide up to a 30% reduction in the volume of rainfall to be managed for any respective category as determined appropriate by the permittee. The total maximum credit reduction shall not exceed 50%.

3.2.5.2.2 Pollutant Removal

The program for this element must stipulate that for projects that cannot meet 100% of the runoff reduction requirement unless subject to the incentive standards, the remainder of the stipulated amount of rainfall must be treated prior to discharge with a best management practice documented to remove 80% total suspended solids (TSS) or the development project shall pursue off-site mitigation, or payment into the fund for public stormwater projects (if the permittee implements such a fund). The treatment technology must be designed, installed and maintained to continue to meet this performance standard.

[7] See 40 C.F.R. § 122.26(d)(2)(iv)(A)(2)

3.2.5.2.3 Off-site mitigation

This element of the MS4 program may enable the permittee to allow runoff reduction measures to be implemented at another location within the same USGS 12-digit hydrologic unit code (HUC) as the original project. Off-site mitigation must be for 1.5 times the amount of water not managed on site. The off-site mitigation location (or alternative location outside the 12-digit HUC) and runoff reduction measures must be approved by the MS4 pursuant to its program. The program shall identify priority areas within the watershed in which mitigation projects can be completed. The program must create an inventory of appropriate mitigation projects, and develop appropriate institutional standards and management systems to value, evaluate and track transactions. Mitigation can be used for retrofit or redevelopment projects, but program should avoid their use in areas of new development.

3.2.5.2.4 Payment into Public Stormwater Project Fund

For projects that cannot meet 100% of the runoff reduction and pollutant removal standards, and cannot provide for off-site mitigation, this element of the MS4 program may enable the permittee to allow the owner to make payment in a public stormwater project fund established by the MS4. Payment into a public stormwater fund must be at a minimum 1.5 times the estimated cost of on-site runoff reduction controls. All such stormwater project funds shall be used to implement projects that generally benefit runoff quality (e.g. by reducing the volume of stormwater runoff.)

3.2.5.3 Codes and Ordinances Review and Update

Within one year of obtaining permit coverage, the permittee shall review local codes and ordinances using the EPA Water Quality Scorecard (the scorecard).

Newly designated and currently permitted MS4s shall update codes and ordinances if necessary, within 4 years of coverage under this permit. Currently permitted MS4s shall continue to implement existing permanent Stormwater Management Program until the codes and ordinances review and update is completed.

The permittee should consider making revisions to policies, codes and ordinances that will achieve "the greatest improved protection of receiving waters." The permittee shall review and change, where necessary, building codes or other local regulations, such as covenants, codes, ordinances, and restrictions. For example, green roofs; infiltration approaches such as rain gardens, curb extensions, planter gardens, permeable and porous pavements; water harvesting devices such as rain barrels and cisterns; and downspout disconnection, are critical infiltration, evapotranspiration and capture and use measures. The permittee shall ensure that a reasonable suite of these types of practices is implemented, and encourage use of new options. If the permittee decides to significantly limit the number of options, they must justify this limitation by demonstrating that the performance standard can be met with the limited set of management measures allowed.

A completed copy of the scorecard shall be submitted with the subsequent annual report.

3.2.5.4 Plan Review, Approval and Enforcement

The permittee shall develop project review, approval and enforcement procedures. The review, approval and enforcement procedures shall apply at a minimum to all projects requiring a

construction general permit. The procedures shall be detailed in the Enforcement Response Plan (see subpart 3.6) developed by the permittee, and shall include:

- An option for developers and/or their engineers to submit a pre-application concept plan that describes, or to schedule a pre-application meeting with the appropriate MS4 staff to describe, how the performance standards of paragraph 3.2.5.2 will be met;

- procedures for site plan review and approval that include inter-departmental consultations, and a re-submittal process when an owner requests changes to an approved stormwater management plan;

- a verification process to ensure that permanent stormwater BMPs have been installed per design specifications, that includes enforceable procedures for bringing noncompliant projects into compliance.

3.2.5.5 BMP maintenance

This program element must ensure that all stormwater BMPs, including BMPs used at mitigation projects, are installed and implemented to meet the performance standards of sub-section 3.2.5.2 and that the BMPs must be maintained in perpetuity. This program element must ensure the long-term maintenance of these stormwater BMPs through a local ordinance or other enforceable policy.

This program element must require the owner or operator of any site subject to the performance standards in paragraph 3.2.5.2 to develop and implement a maintenance agreement (or an equivalent document ensuring compliance with this sub-section) addressing maintenance requirements for any BMPs, including off-site mitigation. The agreement must allow the permittee, or its designee, to conduct inspections of the stormwater BMPs and also account for transfer of responsibility in leases and/or deeds. When inadequacies are discovered, the permittee shall promptly notify the BMP owner or operator of any deficiencies. Notification to the BMP owner shall comply with the enforcement timeframes prescribed in the permittee's Enforcement Response Plan.

The program must allow the permittee to conduct subsequent inspections (or obtain sufficient written and photographic evidence) to ensure proper BMP operation.

The program for this element shall include the following schedule: By the end of Permit Year 1, the permittee shall have upgraded its GIS-based databases for all public or privately installed post-construction Stormwater treatment devices (BMPs). Within 6 months of permit reissuance, the permittee shall submit a plan to the division Environmental Field Office -Nashville that details the activities the permittee will perform to verify BMPs are being properly maintained. If written comments are not received within 30 days from TDEC receipt of the proposed plan, the permittee shall proceed as proposed, throughout the remainder of the permit cycle. The plan shall incorporate an MS4-conducted inspection component as well as a maintenance records review component. Metro shall initiate the BMP inspection and maintenance verification program to ensure that all program goals are met by the end of Permit Year 5 for the following areas: Inspection frequency and prioritization, database and inspection documentation, non-compliance enforcement procedures, public education activities, and any suggested monitoring activities. After receiving approval, expressed or implied, of the BMP oversight program from the division Environmental Field Office-Nashville, the permittee will be expected to complete the program by the end of Permit Year 5.

Where BMPs are the responsibility of Metro Nashville to maintain, the program must include provisions for documenting, e.g., with photos, maintenance logs, contractor invoices, and in the tracking system, that appropriate maintenance and/or repairs have been completed.

3.2.5.5.1 Verification of maintenance responsibilities

The program for this element must contain provisions that require that property owners or operators of any sites subject to the performance standards in sub-section 3.2.5.2 to provide verification of maintenance for the approved stormwater BMPs used to comply with the performance standards. Verification must include one or more of the following as applicable:

- The owner/operator's signed statement accepting responsibility for maintenance with a provision for transferring maintenance responsibility if the property is legally transferred to another party; and/or
- Written conditions in the sales or lease agreement that require the recipient to assume responsibility for maintenance; and/or
- Written project conditions, covenants and restrictions for residential properties assigning maintenance responsibilities to a home owner's association, or other appropriate group, for maintenance of runoff reduction and pollutant reduction stormwater BMPs; and/or
- Any other legally enforceable agreement that assigns permanent responsibility for maintenance of runoff reduction and pollutant reduction stormwater BMPs.

3.2.5.6 Inventory and Tracking of Management Practices

The program for this element shall include a system, or modify an existing system as necessary, within one year of the effective date of this permit, designed to track BMPs deployed at new development and redevelopment projects (this includes municipal operations/facilities). Tracking of BMPs installed in accordance with/per this permit iteration, shall begin during the plan review and approval process with an electronic database or geographic information system (GIS). The database or tracking system shall include information on both public and private projects that are within the jurisdiction of the MS4. In addition to the standard information collected for all projects (such as project name, owner, location, start/end date, etc.), the tracking system shall also include:

- Short description of each stormwater BMPs (type, number, design or performance specifications);
- Latitude and longitude coordinates of controls;
- Maintenance requirements (frequency of required maintenance and inspections) and
- Inspection information (date, findings, follow up activities, prioritization of follow-up activities, compliance status).

3.2.5.7 Owner/Operator Inspections

In order to ensure that all stormwater BMPs are operating correctly and are properly maintained, the program for this element shall, at a minimum, require the following:

The owner/operator subject to new development and significant redevelopment requirements per this part are to perform, or otherwise allow per program specifications, routine inspections to ensure that the BMPs are properly functioning. These inspections shall be conducted on an annual basis, at a minimum, and shall entail visual observations of the BMP performance. These inspections shall be conducted by a person familiar with control measures implemented at a site. The program shall require owners or operators to maintain documentation of these inspections. The program may require submittal of this documentation to the permittee.

The program shall require an owner/operator subject to this part to have, or otherwise allow for, comprehensive inspections conducted of all stormwater management facilities and practices. These inspections shall be conducted once every five years, at a minimum. The program shall require that such inspections be conducted by either a qualified professional specified by the MS4 program or a professional engineer or a landscape architect. Complete inspection reports for these five year inspections shall include:

- Facility type,
- Inspection date,
- Latitude and longitude and nearest street address,
- BMP owner information (e.g., name, address, phone number, fax, and email),
- A description of BMP condition including: vegetation and soils; inlet and outlet channels and structures; embankments, slopes, and safety benches; spillways, weirs, and other control structures; and any sediment and debris accumulation,
- Photographic documentation of BMPs, and
- Specific maintenance items or violations that need to be corrected by the BMP owner along with deadlines and re-inspection dates.

The program shall require owners or operators to maintain documentation of these inspections. The permittee may require submittal of this documentation.

3.2.5.8 Watershed Protection

When the permittee revises any of its urban development or community plan(s), effective water quality and watershed protection elements that require implementation of consistent water quality protection measures for new development and redeveloped sites must be considered and included. Examples of water quality and watershed protection elements to be considered include the following:

- Minimize the amount of impervious surfaces (roads, parking lots, roofs, etc.) within each watershed, by minimizing the creation, extension and widening of parking lots, roads and associated development whereas block connectivity and/or right of way acquisition needs are not sacrificed.
- Preserve, protect, create and restore ecologically sensitive areas that provide water quality benefits and serve critical watershed functions. These areas may include, but are not limited to; riparian corridors, headwaters, floodplains and wetlands.

- Implement management practices that prevent or reduce thermal impacts to streams, including requiring vegetated buffers along waterways, and disconnecting discharges to surface waters from impervious surfaces such as parking lots.
- Prevent disturbances of natural waterbodies and natural drainage systems caused by development, including roads, highways, and bridges.
- Avoid development in areas that are particularly susceptible to erosion and sediment loss.
- Implement standards to protect trees, and other vegetation with important evapotranspirative qualities.
- Implement policies to protect native soils, prevent topsoil stripping, and prevent compaction of soils.
- Implement water conservation policies that will reduce both stormwater and non-stormwater discharges via storm sewer systems.
- Implement policies that encourage stormwater practices close to the source of the runoff rather than downstream and lower in the watershed but should not discourage or prevent the potential use of large regional stormwater treatment Best Management Practices in certain applications.

3.2.6. Pollution Prevention/Good Housekeeping for Municipal Operations

This program element must enable the permittee to develop and implement an operation and maintenance program that has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

The program must include annual employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.

The program must have the permittee inspect at least yearly, and maintain if necessary, all municipally-owned or maintained structural stormwater controls. For non-structural, municipally-owned or maintained permanent stormwater management practices, the permittee must also maintain all crucial practice components through regularly scheduled maintenance activities.

The permittee must consider at least the following in developing the program: maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural stormwater controls to reduce floatable and other pollutants discharged from the MS4's separate storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by the MS4, landfills and solid waste facilities and waste transfer stations; procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatable, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance must be an integral component of all Stormwater Management Programs. The program shall incorporate the following sub-elements at a minimum:

3.2.6.1 Separate Storm Sewer System Maintenance Activities

This program element shall ensure the permittee continues to perform maintenance on the mapped MS4 system on an ongoing basis with the ultimate goal of preventing or reducing pollutant runoff from municipal operations. The program will enable the permittee to be responsible for performing maintenance on the publicly owned or operated drainage system as determined by Metro Water Services (MWS). The program shall require that maintenance of the stormwater drainage system be performed based on complaints received from the general public and any other routine inspections performed by MWS or other Metro agencies. The program shall require that maintenance be performed in an effort to minimize current and future impacts to water quality. The program shall continue to include routine catch basin cleaning on an ongoing basis. The program shall maintain records of the locations serviced, date of service, and amount of material removed so they can be tracked in subsequent annual reports. This information should be used to prioritize schedule for catch basin cleanings. The program shall also consider, as part of the annual report submittal, analyzing the amount of maintenance work orders generated by public complaints or comments.

The program for this sub-element shall include a procedure to dewater and dispose of materials extracted from catch basins. This procedure must ensure that water removed during the catch basin cleaning process and waste material will not reenter the MS4. Documentation of approximate number of catch basin cleaned, approximate amount of waste material removed and location of a disposal site shall be maintained in the Stormwater Management Plan.

The program for this element shall include inspection and necessary maintenance on the Dry Creek detention facility and any other Metro-operated regional detention/treatment facilities. Inspections shall, at a minimum, be performed once per quarter of each permit year. Maintenance shall be performed as determined necessary to ensure the detention facility is operating as originally designed.

The plan for this program sub-element must provide for utilizing information compiled from citizen complaints/reports in determining the appropriate priority level. The prioritization shall be included in the plan and will consider criteria such as the amount of trash/debris, type of trash/debris, frequency of backups, and potential danger to public health and safety. Inspection and maintenance frequency for drainage structures shall be included in the Stormwater Management Plan, and should include scheduling inspections after significant rain events. The frequency of inspections and maintenance shall be adjusted as necessary. Documentation of such adjustments and accompanying rationale shall be maintained in the Stormwater Management Plan.

3.2.6.2 Municipal activities and operations

Within one year of the permit effective date, this program must conduct a comprehensive metropolitan government O&M activity assessment (e.g., roadway maintenance, park and golf course maintenance, general property maintenance). The assessment shall include an inventory of all municipally-operated facilities, inspection procedures, an inspection checklist, SWPPP development, and good housekeeping procedures for those facilities without an NPDES permit. The program must identify all probable materials that could be discharged from each of the O&M activities identified in the assessment as potentially contributing pollutants to the MS4. Typical pollutants associated with these activities include metals, chlorides, hydrocarbons (e.g., benzene, toluene, ethylbenzene, xylene), *E.coli* (pathogen indicator), sediment, and trash. The program shall detail the actions implemented by the permittee to reduce the discharge of these pollutants in stormwater.

The permittee shall visually inspect municipal facilities that have the potential to cause a substantial loading of pollutants to the MS4 (landfills, hazardous waste disposal facilities, salt storage facilities,

solid waste handling and transfer facilities) quarterly to ensure they are working properly and to maintain a log of these inspections that are made available for review by the permitting authority upon request.

The Plan for this sub-element shall document the pollution prevention measures that, when applied during municipal O&M activities are designed to reduce the discharge of pollutants in stormwater.

The results of the assessments and pollution prevention measures, including any remedial actions mandated by the MS4 and schedules for implementation, must be documented and submitted with the subsequent annual report.

3.2.6.3 Street Sweeping and Cleaning

The program for this sub-element must result in the permittee operating a program on an ongoing basis to effectively sweep streets within the Urban Services District (USD) of its service area or other areas with the goal of removing as much material as possible from entering the roadway stormwater drains. The program must assign priorities within the USD and in other areas based on lists derived from field experience. Inspection and evaluation of the USD shall be performed, at a minimum, once every calendar year. Street sweeping and cleaning maintenance frequency shall be determined and the Plan adjusted according to the annual inspection findings.

The Plan for this program element shall outline the sweeping schedule and frequency and identify how the debris will be disposed to reduce contamination of stormwater.

3.2.6.4 Flood Management

Within one year of the permit effective date, the permittee shall develop a process and schedule to assess the water quality impacts in the design of the permittee's new flood management projects that discharge to the MS4. The program must include consideration of controls that can be used to minimize the impacts to site water quality and hydrology while still meeting the project objectives.

The Plan will detail the process and schedule and include a list of flood control projects subject to this subpart.

A summary of control projects evaluated or updates to the evaluation process and/or schedule shall be included in the annual report.

3.2.6.5 Pesticide, Herbicide, and Fertilizer Application and Management

Within one year of the permit effective date, the permittee shall develop Storm Water Pollution Prevention Plans (SWPPP) or equivalent plans or to otherwise provide pollution prevention measures in operational manuals, etc. for all municipal-operated facilities that store, impound, or maintain oils or toxic materials including materials with fertilizer value or that store or impound vehicles or other riding equipment.

In development and implementation of the SWPPP, the program must evaluate the materials used and activities performed on municipally owned public spaces such as parks, golf courses, easements, public rights of way, and other open spaces for pollution prevention opportunities. The SWPPP development must also consider maintenance activities for the turf landscaped areas, which could

include, as applicable: mowing, fertilization, pesticide application, and irrigation. Typical pollutants include sediment, nutrients, hydrocarbons, pesticides, herbicides and organic debris.

The permittee must include in the plan the following appropriate practices to minimize landscaping-related pollutant generation:

1. Educational activities, permits, certifications, and other measures for municipal applicators.

2. Integrated pest management measures that rely on non-chemical solutions, including:

- Use of native plants
- Keeping clippings and leaves away from waterways and out of the street using mulching, composting
- Limiting application of pesticides and fertilizers if precipitation is forecasted within 24 hours or as specified in label instructions
- Limiting or replacing pesticide use (e.g., manual weed and insect removal)
- Limiting or eliminating the use of fertilizers, or, if necessary, prohibiting application within 5 feet of pavement, 25 feet of a storm drain inlet, or 50 feet of a waterbody
- Reducing mowing of grass to allow for greater pollutant removal, but not jeopardizing motorist safety

3. Schedules for chemical application that minimize the discharge of such constituents due to irrigation and expected precipitation.

4. The collection and proper disposal of unused pesticides, herbicides, and fertilizers.

3.2.6.6 Contractor Requirements and Oversight

Requirements for Contractors:

The program for this sub-element imposes requirements for the oversight of contractors hired to perform municipal maintenance activities on all new procurements.

The plan for this program sub-element must include requirements for contractors to comply with all of the stormwater control measures, good housekeeping practices, and facility-specific stormwater management standard operating procedures.

3.2.6.7 Monitor and Control Industrial, Commercial and High Risk Runoff

The permittee shall develop and implement a program to monitor and control, to the MEP, pollutants in runoff from the following industrial, commercial and high risk runoff facilities and activities:

- municipal landfills;
- hazardous waste treatment, storage and disposal facilities;
- industries subject to reporting requirements pursuant to SARA Title III section 313; and
- industrial and commercial facilities that the permittee determines are contributing a substantial loading of pollutants to the municipal separate storm sewer system.

The permittee shall maintain a list or database of the above, bulleted, industrial and commercial facilities. The database should include the facility's name, address, a description (such as SIC code)

which best reflects the principal products or services provided by each facility, pollutants potentially generated by the site/source, and information on the receiving storm drain and waterbody. The program shall update this database at least yearly and provide a listing in each Annual Report of any additionally identified industrial facilities which discharge stormwater into the MS4. A list of types of industrial and commercial facilities that could be contributing a substantial loading of pollutants to the MS4 (bullet number 4 above) should be included in each Annual Report.

The permittee shall inspect all of the above, bulleted, industrial and commercial and high risk runoff facilities subject to this part at least once every three years. The permittee shall ensure that industrial facilities implement BMPs, minimize exposure, follow good housekeeping practices, and manage stormwater runoff. The permittee shall establish and follow procedures for these routine inspections. The program must conduct and document inspector training annually. The designated industrial inspector(s) shall be adequately trained on industrial stormwater inspection. The program may allow training to include performing joint inspections with TDEC staff.

3.3. Stormwater Monitoring Program

3.3.1. Wet Weather Monitoring

The permittee shall perform wet weather monitoring to evaluate program compliance and the effectiveness of BMPs in performing improvements to impaired waters. One of the primary goals of wet weather sampling will be to derive Event Mean Concentrations (EMCs) for specified pollutant parameters for each land use category. The EMC numbers can be used to estimate pollutant loading from the entire MS4. Wet weather sampling sites will be chosen to represent homogeneous land uses and will represent a drainage area that discharges to Waters of the State that is large enough to sustain flow during a qualifying rain event (Table 1). The sampling points may be located within the same watersheds as long as representative homogeneous land use data is obtained that can be extrapolated to calculate pollutant loadings across watersheds within the county. The following locations have been identified as preliminary land use sampling points. Any adjustments of wet weather monitoring locations shall be coordinated with the local Environmental Field Office.

Table 1. The following five sites shall be used for wet weather monitoring:

Type	Location	Coordinates	Waterbody	Frequency
Residential	Downstream of a culverted crossdrain under Drakes Branch Road	36.2099152 -86.8546258	Whites Creek	3 storm events occurring at different seasons during each permit year
Commercial	Behind the Kroger Shopping Plaza at 3930 Clarksville Pike	36.209004 -86.837055	Whites Creek	3 storm events occurring at different seasons during each permit year
Industrial	Behind business at 6737 Centennial Boulevard	36.17311533 -86.876051	Richland Creek	3 storm events occurring at different seasons during

				each permit year
Transportation	In the Southwest Quadrant of the Briley Parkway/Ashland City Highway Interchange	36.2077137 -86.871399	Cumberland River	3 storm events occurring at different seasons during each permit year
Open/Undeveloped	Downstream of a crossdrain under Sulphur Creek Road near the intersection of Taz Hyde Road	36.2423647 -86.8877345	Whites Creek	3 storm events occurring at different seasons during each permit year

A narrative description shall be provided of the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event. The sampling methodology shall, at a minimum, obtain a first flush sample and a 1 hour post-first flush grab. First flush sample should be obtained within 30 minutes of commencement of discharge, or as soon as practicable thereafter.

3.3.2. Monitoring Parameters

Table 2. At a minimum the wet weather monitoring shall include the following parameters:

TABLE 1	
PARAMETERS FOR WET WEATHER MONITORING	
E. Coli	biochemical oxygen demand (BOD_5)
total suspended solids (TSS)	chemical oxygen demand (COD)
total dissolved solids (TDS)	dissolved phosphorus
total ammonia nitrogen (as N)	total phosphorus
nitrite/nitrate	total Kjeldahl nitrogen
oil and grease	total recoverable chromium
total recoverable copper	total recoverable lead
total recoverable nickel	total recoverable zinc

The permittee should provide the seasonal pollutant load (SPL) and the event mean concentration (EMC) for all parameters listed in Table 2, except pH, for each wet weather site. The permittee should document the method used to calculate SPL and EMC. The SPL and EMC should be included in the Annual Report for the fifth year of the permit.

3.3.3. In-Stream Ambient Monitoring

3.3.3.1 Development of Ambient Monitoring Program

The permittee shall maintain the following ambient monitoring program (according to the plan). Any proposed revisions to the program must be submitted to the division for review and approval. The purpose of the ambient monitoring program will be to characterize the water quality of various targeted waterbodies during dry weather conditions.

3.3.3.2 Monitoring locations and frequencies

Monitoring locations and frequencies will be focused on specific targeted watersheds and will rotate each year of the permit so that quality data can be collected on numerous watersheds within the county (Table 3). The ambient samples will be taken from main stems of waterbodies when there has been a preceding period of at least 72 hours of dry weather. The samples will consist of flow-weighted grabs. The following stream sampling schedule has been chosen in the preliminary ambient monitoring plan development. Any changes to the monitoring plan will be coordinated with the division.

Table 3. Watersheds and respective sampling years.

Year	Waterbody	Location	Frequency
1	Mill Creek	At least one sampling point within the main stem of the Creek.	4 dry weather sampling events per year
2	Browns Creek Richland Creek	At least one sampling point within the main stem of each Creek.	4 dry weather sampling events per year
3	Whites Creek Mansker's Creek	At least one sampling point within the main stem of the Creek.	4 dry weather sampling events per year
4	Stones River	At least one sampling point within the main stem of each river.	4 dry weather sampling events per year
5	Pages Branch Cooper Creek Dry Creek Harpeth River Gibson Neeley's Davidson	At least one sampling point within the main stem of each Creek.	4 dry weather sampling events per year

3.3.3.3 Monitoring Parameters

Parameters are the same as the parameters for wet weather monitoring.

3.3.4. Biological Monitoring

The permittee shall continue a program of biological assessments of identified urban streams. The permittee shall obtain approval from the division of the streams selected. Ideally, the biological

assessments shall work in conjunction with the ambient yearly rotating monitoring program with both chemical and biological assessments occurring on the same streams each year.

Macroinvertebrate sampling will occur during the second (October 1 through December 31st) and fourth (April 1st through June 30th) quarter of each permit year. The protocol for sampling shall be that found in TDEC's Division of Water Pollution Control's Quality System Standard Operation Procedure for Macroinvertebrate Stream Surveys. The level of protocol for each sampling must be approved by the Environmental Field Office Manager of the division. Results of biological monitoring shall be submitted with each Annual Report. Exceptions to the bioassessment requirement will be in the Mill Creek watershed during the second quarter of the permit year due to species facing extinction permit restrictions.

3.3.5. Watershed Characterization

The permittee will continue the ongoing watershed management program that characterizes specific watersheds. Specifically, *E.coli* and total suspended solids (TSS) shall be a component of the watershed characterization monitoring. Results of watershed characterization shall be submitted with each Annual Report. By year five of the permit cycle, the permittee shall develop a watershed management plan that focuses on one critical watershed. The watershed management plan shall incorporate components of analytical monitoring, assessment of the monitoring data, design and implementation of BMPs to address specific pollutants of concern, master planning of critical impervious areas, and assessments of targeted BMP effectiveness. The Watershed Management Plan shall be drafted in a format that can be extrapolated to other watersheds within the county.

3.3.6. Field Sampling and Screening

The permittee must inspect all cells identified in the grid system that contain a segment of the storm sewer system during the life of the permit. Any illicit discharges observed during inspection shall be sampled, as necessary, for the purpose of source tracking. The frequency of the field screening of land use categories will be as follows (Table 4).

Table 4. Field screening land uses to be sampled and frequency.

Land Use Categories	**System**	**Frequency**
Industrial	.25 mile grid	At least once per permit term
Commercial	.25 mile grid	At least once per permit term

The list of sampling parameters used to identify sanitary, commercial, and/or industrial sources during the field sampling screening should be included in the Plan. Corresponding benchmark concentrations developed during the screening process should be included in the Plan as well. List of parameters, results of sampling and benchmark concentrations used shall be summarized in an Annual Report corresponding to the monitoring period.

The permittee shall develop a field screening database that can be utilized within the GIS infrastructure database. In conducting the field screening, the permittee shall attempt to identify at least one strategically-located outfall that discharges stormwater from the MS4 to Waters of the State. Each outfall inspected shall be field inspected in dry weather conditions, with at least 72 hours of

preceding dry weather conditions. Each identified outfall shall be inspected to determine dry-weather flow is present. If dry-weather flow is present at the outfall, the permittee shall use appropriate field equipment to determine if the quality of the water is within the normal water quality benchmark range. If testing of the discharge is within the typical benchmark levels, the discharge can be considered to be groundwater and a second analysis would not be required. If the pollutants are detected using the field screening equipment, the flow shall be tracked to the source.

3.3.7. Industrial Monitoring Program

The permittee shall sample stormwater runoff, at a minimum, once per permit year from a facility permitted through the Tennessee Multi Sector Permit (TMSP) for industrial stormwater runoff or sites permitted through the Concrete Ready Mix General Permit. The permittee shall sample at least one outfall at the designated facility for the minimum parameters specified in the facility's permit.

3.3.8. Post Construction BMP Monitoring

The permittee shall design and implement a post-construction BMP monitoring program for purposes of assessing the pollution reduction effects of post-construction BMPs and will include and least one bioretention, dry detention, proprietary water quality unit, green roof, wet pond, and pervious pavement site. At a minimum, analytical data should be collected on each type of post-construction BMP at least 5 times prior to the end of Year 5 of the permit term. Minimum parameters to collect shall include TSS, nutrients, and oil and grease collected at the inlet and outfall. It is understood that green roofs and pervious pavement pose a more difficult BMP to sample so flow reduction may be calculated in lieu of standard chemical analysis. As a component of the BMP monitoring plan, all post-construction BMPs shall be mapped to their respective watersheds.

3.3.9. TMDL Monitoring

At a minimum, for pathogen TMDLs, the permittee must sample all streams listed in the approved TMDL that currently are on the 303(d) list for pathogens. Sampling shall include the collection of five samples and corresponding flow measurements, in a thirty-day period and be preformed within the months of June to September and completed once in a five year period. For streams with a nutrient or sediment habitat alteration TMDL, the permittee must sample using TDEC SQSH methods. At least one sample per stream segment on the 303(d) list also listed in the TMDL must be collected in a five year period. Visual stream surveys should be performed throughout the entire HUC 12 subwatersheds of a stream segment listed in the TMDL. At a minimum, a survey must be preformed immediately upstream and downstream of each MS4 outfall that discharges into a TMDL listed stream segment. All TMDL stream segments must be surveyed in a five-year period.

3.4. Qualifying Tribe, State or Local Program (QLP)

A ***qualifying local program (qlp)*** is an MS4 Stormwater Management Program that has been formally approved by the division as having met QLP minimum program requirements related to stormwater discharges associated with construction activity. If a construction activity is within the jurisdiction of and has obtained a notice of coverage from a QLP, the operator of the construction activity is authorized to discharge stormwater associated with construction activity under General NPDES Permit for Discharges of Stormwater Associated with Construction Activities Permit without submittal of an NOI to the division. Additional information, including QLP minimum requirements and application procedures, can be obtained from the local Tennessee Department of Environment and Conservation Environmental Field Office or the division stormwater program website.

3.5. Reviewing and Updating Stormwater Management Programs

3.5.1. Stormwater Management Program Review

The permittee must perform a review of the Stormwater Management Program in preparation of the annual report required under subpart 4.5.

3.5.2. Stormwater Management Program Update

The permittee may change the Stormwater Management Program during the life of the permit in accordance with the following procedures:

Changes adding (but not subtracting or replacing) components, controls, or requirements to the Stormwater Management Program may be made at any time. Reporting of such changes must be made in accordance with subpart 5.17.

Changes replacing an ineffective or unfeasible BMP specifically identified in the Stormwater Management Program with an alternate BMP may be adopted at any time, provided the permittee can justify the change by:

- Analyzing why the BMP is ineffective or infeasible (including cost prohibitive),
- Analyzing why the replacement BMP is expected to achieve the goals of the BMP to be replaced, or has achieved those goals.

Modifications to adjust the schedule for maintenance activities or the frequency of inspections or monitoring identified in the Stormwater Management Program may be made by the permittee on an annual basis. The permittee must include in the subsequent annual report a description of the adjustment to schedule along with the following information:

- An analysis of why the former schedule was ineffective or infeasible;
- Expectations on the effectiveness of the replacement schedule; and
- An analysis, if applicable, of why the replacement schedule will ensure the optimization of equipment use.

Modifications to Stormwater Management Program components, controls, or requirements may not be made by the permittee unless the permittee can document in the plan that the change will not cause or contribute to violations of State water quality standards in the receiving stream. In the case where this type of modification is appropriate, the permittee may make the required modification and shall include in the subsequent annual report a description of the component which has been eliminated along with the following information:

- An analysis of why the component was ineffective or infeasible; and
- A detailed explanation of why, with the elimination of this component, the plan will continue to achieve a reduction in pollutants to the MEP and shall not cause or contribute to violations of State water quality standards in the receiving stream.

Modifications included in the annual report shall be signed in accordance with subpart 5.7.

3.5.3. Stormwater Management Program Updates Required by the division

The division may require changes to the Stormwater Management Program as needed to:

- Address impacts on receiving water quality caused, or contributed to, by discharges from the MS4;
- Include more stringent requirements necessary to comply with new federal statutory or regulatory requirements; or
- Include such other conditions deemed necessary by the division to comply with the goals and requirements of the Clean Water Act.

Changes requested by the division must be made in writing to the MS4, set forth the time schedule for the permittee to develop the changes, and offer the opportunity to propose alternative program changes to meet the objective of the requested modification. All changes required by the division will be made in accordance with 40 CFR §124.5, 40 CFR §122.62, or as appropriate 40 CFR §122.63.

3.5.4. Transfer of Ownership, Operational Authority, or Responsibility

The permittee must implement the Stormwater Management Program in all new areas added to the MS4 as expeditiously as practicable, but not later than one year from addition of the new areas. Implementation may be accomplished in a phased manner to allow additional time for controls that cannot be implemented immediately.

Within 90 days of a transfer of ownership, operational authority, or responsibility for Stormwater Management Program implementation, the permittee must have a plan for implementing the Stormwater Management Program in all newly added areas. The plan may include schedules for implementation. Information on all new annexed areas and any resulting updates required to the Stormwater Management Program must be included in the annual report.

3.6. Enforcement Response Plan

3.6.1. Development of Enforcement Response Plan

Within 18 months of permit effective date, the permittee must develop and implement an enforcement response plan (ERP). The plan must set out the MS4's potential responses to violations and address repeat violations through progressive enforcement as needed to achieve compliance. The permittee must have the legal ability to employ any combination of the enforcement actions below (or their functional equivalent), and to escalate enforcement responses where necessary to address persistent non-compliance, repeat or escalating violations, or incidents of major environmental harm. The ERP must describe how the permittee will use each of the following types of enforcement responses:

Verbal Warnings –At a minimum, verbal warnings must specify the nature of the violation and required corrective action.

Written Notices – Written notices must stipulate the nature of the violation and the required corrective action, with deadlines for taking such action.

Citations with Administrative Penalties – The ERP must indicate when the permittee will assess monetary administrative penalties, which may include civil and administrative penalties.

Stop Work Orders – The permittee must have the authority to issue stop work orders that require construction activities to be halted, except for those activities directed at cleaning up, abating discharge, and installing appropriate control measures. The program must enable stop work orders to be a type of citation.

Withholding of Plan Approvals or Other Authorizations – Where a facility is in non-compliance, the ERP must address how the MS4's own approval process affecting the facility's ability to discharge to the MS4 can be used to abate the violation.

Additional Measures – The permittee may also use other escalated measures provided under local legal authorities. The permittee may perform work necessary to improve erosion control measures and collect the funds from the responsible party in an appropriate manner, such as collecting against the project's bond or directly billing the responsible party to pay for work and materials.

3.6.2. NPDES Permit Referrals

The permittee shall notify the Environmental Field Office – Nashville – Division of Water Pollution Control within 30 days of discovery of unpermitted activities that may cause discharge of pollutants directly to waters of the state. Notification may be by phone to (615) 687-7000, via email, or in writing to 711 R.S. Gass Boulevard, 37243, at the permittee's discretion.

For those construction projects or industrial facilities subject to the TNR100000 (the NPDES general permit for stormwater discharges from construction activity) or TNR050000 (the NPDES general permit for stormwater discharges from industrial activity) that discharge to the MS4, the permittee must:

Refer facilities that cannot demonstrate that they obtained NPDES permit coverage to the division within 15 days of making that determination. In making such referrals, the permittee must include, at a minimum, the following documentation:

- Construction project or industrial facility location,
- Name of owner or operator.
- Estimated construction project size or type of industrial activity (including SIC code if known),
- Records of communication with the owner or operator regarding filing requirements.

Refer NPDES violations to the division provided that the permittee has documented progressive enforcement to achieve compliance with its own ordinances. At a minimum, the MS4's progressive enforcement must include two follow-up inspections and two warning letters or notices of violation. In making such referrals, the permittee must provide, at a minimum, the following:

- Construction project or industrial facility location
- Name of owner or operator
- Estimated construction project size or type of industrial activity (including SIC code if known)

- Records of communication with the owner or operator regarding the violation, including at least two follow-up inspections, two warning letters or notices of violation, and any response from the owner or operator.

3.6.3. Enforcement Tracking

The permittee must track instances of non-compliance either in paper files or electronically. The enforcement case documentation must include, at a minimum, the following:

- Name of owner/operator
- Location of construction project or industrial facility
- Description of violation
- Required schedule for returning to compliance
- Description of enforcement response used, including escalated responses if repeat violations occur or violations are not resolved in a timely manner
- Accompanying documentation of enforcement response (e.g., notices of noncompliance, notices of violations, etc.)
- Any referrals to different departments or agencies
- Date violation was resolved.

3.6.4. Recidivism Reduction

The permittee must identify chronic violators of any SWMP component and take actions to reduce the rate of noncompliance recidivism. The permittee must track the violations, apply incentives and/or disincentives, and increase the inspection frequency at the operator's sites. If corrective actions are not taken, the permittee shall pursue progressive enforcement and, if need be, perform the necessary work and assess against the owner the costs incurred for repairs. Where BMPs are on public property or within public rights-of way the permittee must document, e.g., with photos, maintenance logs, contractor invoices, and in the tracking system, that appropriate maintenance and/or repairs have been completed.

4. MONITORING, RECORDKEEPING, ASSESSMENT AND REPORTING

4.1. Analytical monitoring

In addition to the monitoring as a part of its Stormwater Management Program as described in subpart 3.3, the permittee shall perform monitoring in streams with EPA-approved or established TMDLs and impaired streams as described below:

For stream segments identified as being impaired for siltation and/or habitat alteration, biological stream sampling must be performed utilizing the Semi-Quantitative Single Habitat (SQSH) Method as identified in the division's Quality System Standard Operating Procedure for Macroinvertebrate Stream Survey, revised October 2006. At least one sample per stream segment must be collected, with all segments in the MS4 jurisdiction sampled in a five-year period.

For stream segments identified as being impaired for pathogens, bacteriological stream sampling must be performed utilizing methods identified in the division's Quality System Standard Operating Procedure for Chemical and Bacteriological Sampling of Surface Water, revised December 2009. Sampling shall include the collection of five samples and corresponding flow measurements, within a thirty-day period (to establish a geometric mean), and be performed during summer (June through

September). Bacteriological sampling must be performed such that all pathogen-impaired segments in the MS4 jurisdiction are sampled within a five-year period.

For stream segments subject to TMDLs for parameters other than siltation, habitat alteration or pathogens, the permittee shall perform analytical monitoring as prescribed in the TMDL.

When the permittee conducts monitoring of stormwater discharges, or of receiving waters, the permittee must comply with the following:

Representative monitoring. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

Test Procedures. Monitoring results must be conducted according to test procedures approved under 40 CFR §136.

Records of monitoring information shall include:

- The date, exact place indicated by latitude and longitude, and time of sampling or measurements;
- The names(s) of the individual(s) who performed the sampling or measurements;
- The date(s) analyses were performed;
- The names of the individuals who performed the analyses;
- The analytical techniques or methods used; and
- The results of such analyses.

4.2. Non-analytical monitoring

Visual Stream Surveys and Impairment Inventories must be performed on streams impaired for siltation, habitat alteration and pathogens in order to identify and prioritize MS4 stream impairment sources. It is strongly recommended that visual stream surveys be performed throughout the entire HUC-12 sub watershed of a stream segment identified as being impaired. At a minimum, a visual stream survey must be performed immediately upstream and downstream of each MS4 outfall that discharges into an impaired stream segment. The permittee shall refer to existing survey protocols such as the ones available through the Environmental Protection Agency, Natural Resources Conservation Service and the State of Maryland Department of Natural Resources or using the Stream Corridor Assessment Program (SCORE). The permittee have the flexibility to select or modify a protocol to complement the existing MS4 program. All impaired stream segments in the MS4 jurisdiction must be surveyed in a five-year period. The results of non-analytical monitoring will be reported in the annual report.

Records of non-analytical monitoring of stormwater discharges shall include:

- The date, exact place, and time of observation/monitoring;
- The names(s) of the individual(s) who performed the observation/monitoring;

- The date(s) of the observation/monitoring;
- The names of the individuals who performed the observation/monitoring;
- A description of the protocol employed;
- Documentation of findings, including a prioritized written description, photographs and corrective action plan and timeline.

4.3. Recordkeeping

The permittee must retain records of all monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, a copy of the NPDES permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. The division may extend this period with good cause.

The permittee must submit records to the division only when specifically asked to do so or as required under subpart 4.5. The permittee must retain a copy of the stormwater management plan. A copy of the permit must be included as part of the plan. The plan shall be kept in a location accessible to the division. The permittee must make its records, including the application and the stormwater management plan, available to the public upon written request.

4.4. Annual Effectiveness Assessment

The annual effectiveness assessment must:

a) Use the monitoring and assessment data described in subpart 3.3 above to specifically assess the effectiveness of each of the following:
   - Each significant activity/control measure or type of activity/control measure implemented;
   - Implementation of each major component of the SWMP
   - Implementation of the SWMP as a whole.

b) Identify and use measurable goals, assessment indicators, and assessment methods for each of the items listed under paragraph a) (above).

c) Document the permittee's compliance with permit conditions.

Based on the results of effectiveness assessment, the permittee must annually review its activities or control measures to identify modifications and improvements needed to maximize SWMP effectiveness as necessary to achieve compliance with this permit. The permittee must develop and implement a plan and schedule to address the identified modifications and improvements. Municipal activities/control measures that are ineffective or less effective than other comparable municipal activities/control measures must be replaced or improved upon by implementation of more effective activities/control measures.

As part of its annual reports, the permittee must report on its SWMP effectiveness assessment as implemented under this subpart of the permit.

4.5. Reporting

The permittee must submit an annual report to Tennessee Department of Environment and Conservation Nashville Environmental Field Office by 6 months following the city's fiscal year[8]. The permittee may fulfill this requirement by submitting the report via e-mail. Prior to submitting the annual report to the division, the permittee must present the annual report at a public hearing or at another public meeting advertized to relevant stakeholders. The annual report form is found in Appendix A. The permittee may, in lieu of this form, develop an alternative Annual Report form so long as it contains a similar format and all of the required information. The permittee must obtain approval from the division prior to using an alternative Annual Report Form. The permittee may also submit narrative attachments as supplement material to the Annual Report Form.

5. STANDARD PERMIT CONDITIONS

5.1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and/or the Tennessee Water Quality Control Act (TWQCA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

5.1.1. Penalties for Violations of Permit Conditions

Pursuant to T.C.A. § 69-3-115 of The Tennessee Water Quality Control Act of 1977, as amended:

Any person who violates an effluent standard or limitation or a water quality standard established under this part (T.C.A. § 69-3-101, et. seq.); violates the terms or conditions of this permit; fails to complete a filing requirement; fails to allow or perform an entry, inspection, monitoring or reporting requirement; violates a final determination or order of the board, panel or commissioner; or violates any other provision of this part or any rule or regulation promulgated by the board, is subject to a civil penalty of up to ten thousand dollars ($10,000) per day for each day during which the act or omission continues or occurs;

Any person unlawfully polluting the waters of the state or violating or failing, neglecting, or refusing to comply with any of the provisions of this part (T.C.A. § 69-3-101, et. seq.) commits a Class C misdemeanor. Each day upon which such violation occurs constitutes a separate offense;

Any person who willfully and knowingly falsifies any records, information, plans, specifications, or other data required by the board or the commissioner, or who willfully and knowingly pollutes the waters of the state, or willfully fails, neglects or refuses to comply with any of the provisions of this part (T.C.A. § 69-3-101, et. seq.) commits a Class E felony and shall be punished by a fine of not more than twenty-five thousand dollars ($25,000) or incarceration, or both.

[8] In the past two permit cycles, the permit year has coincided with the fiscal year (July 1 - June 30). Therefore, all reporting/recordkeeping for the MS4 program has been set up to coincide with the fiscal year. It is the intent of this permit for annual reporting periods to continue to coincide with fiscal years so there is no confusion relating to compliance considerations associated with "permit years." For instance, if this permit is issued in Nov-2011, the permit year 1 would end on June 30, 2012. All subsequent permit years would then run from July 1st through the following June 30th - except permit year 5, which would end on the actual permit expiration date.

Nothing in this permit shall be construed to relieve the discharger from civil or criminal penalties for noncompliance. Notwithstanding this permit, the discharger shall remain liable for any damages sustained by the State of Tennessee, including but not limited to fish kills and losses of aquatic life and/or wildlife, as a result of the discharge of treated wastewater to any surface or subsurface waters. Additionally, notwithstanding this permit, it shall be the responsibility of the discharger to conduct its wastewater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created. Furthermore, nothing in this permit shall be construed to preclude the State of Tennessee from any legal action or to relieve the discharger from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or the Federal Water Pollution Control Act.

5.2. Duty to Reapply

Permittee is not authorized to discharge after the expiration date of this permit. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information and forms as are required to the Director of Water Pollution Control (the "Director") no later than 180 days prior to the expiration date. Such applications must be properly signed and certified.

5.3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for you in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5.4. Duty to Mitigate

You must take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

5.5. Duty to Provide Information

You must furnish to the division, within a time specified by the division, any information that the division may request to determine compliance with this permit, including any and all records required by the permit.

5.6. Other Information

If the permittee becomes aware that it has failed to submit any relevant facts in the application or submitted incorrect information in the application or in any other report to the division, the permittee must promptly submit such facts or information.

5.7. Signatory Requirements

The application, reports, certifications, or information submitted to the division, or that this permit requires be maintained by you shall be signed, dated and certified as follows:

For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(1) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or

(2) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

NOTE: The division does not require specific assignments or delegations of authority to responsible corporate officers. The division will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.
For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or

For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

5.7.1. Reports and other information

All reports required by the permit and other information requested by the division or authorized representative of the division shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

5.7.1.1 Signed authorization

Person described in subpart 5.7 submitted written authorization for a specific position or individual to the division.

5.7.1.2 Authorization with specified responsibility

The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility for environmental matter for the regulated entity.

5.7.1.3 Changes to authorization

If an authorization is no longer accurate because a different operator has the responsibility for the overall operation of the MS4, a new authorization satisfying the requirement of 5.7.1.2 must be submitted to the division prior to or together with any reports, information, or applications to be signed by an authorized representative.

5.7.2. Certification

Any person signing documents under subpart 5.7 shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

5.8. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

5.9. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related equipment) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

5.10. Inspection and Entry

The permittee must allow the division or an authorized representative (including an authorized contractor acting as a representative of the division) upon the presentation of credentials and other documents as may be required by law, to do any of the following:

- Enter your premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
- Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;
- Inspect at reasonable times any facilities or equipment (including monitoring and control equipment) practices, or operations regulated or required under this permit; and

- Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

5.11. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. Filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

5.12. Permit Transfers

This permit is not transferable to any person except after written notice to the division and written authorization/concurrence by the division. The division may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

5.13. Anticipated Noncompliance

The permittee must give advance notice to the division of any planned changes in the permitted MS4 or activity, which may result in noncompliance with this permit.

5.14. State Environmental Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable Tennessee law or regulation under authority preserved by the Section 510 of the Clean Water Act. No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

5.15. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

5.16. Procedures for Modification or Revocation

Permit modification or revocation will be conducted according to 40 CFR §122.62, §122.63, §122.64 and §124.5.

Only those portions of the Stormwater Management Program specifically required as permit conditions shall be subject to the modification requirements of 40 CFR §124.5. Addition of components, controls, or requirements by the permittee(s) and replacement of an ineffective or infeasible BMP implementing a required component of the Stormwater Management Program with an alternate BMP expected to achieve the goals of the original BMP shall be considered minor changes to the Stormwater Management Program and not modifications to the permit.

5.17. Planned Changes

The permittee shall give notice to the director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

- The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

- The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

6. DEFINITIONS

All definitions contained in Section 502 of the Act and 40 CFR §122 shall apply to this permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided, but in the event of a conflict, the definition found in the Statute or Regulation takes precedence.

Analytical monitoring refers to monitoring of water bodies (streams, ponds, lakes, etc.) or of stormwater, according to 40 CFR 136 "Guidelines Establishing Test Procedures for the Analysis of Pollutants," or to state- or federally established protocols for biomonitoring or stream bioassessments.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Brownfield means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Co-permittees are operators who by mutual consent request joint and severed responsibility for coverage under this general permit.

Construction Site Operator for the purpose of this permit and in the context of stormwater associated with construction activity, means any person associated with a construction project that meets either of the following two criteria:

a) This person has operational or design control over construction plans and specifications, including the ability to make modifications to those plans and specifications. This person is typically the owner or developer of the project or a portion of the project, and is considered the primary permittee; or

b) This person has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a SWPPP for the site or other permit conditions. This person is typically a contractor or a commercial builder who is hired by the primary permittee, and is considered a secondary permittee.

It is anticipated that at different phases of a construction project, different types of parties may satisfy the definition of the "construction site operator."

Control Measure as used in this permit, refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the state.

CWA or The Act means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L.92-500,as amended Pub.L.95-217, Pub.L.95-576, Pub.L.96-483 and Pub.L.97-117, 33 U.S.C.1251 et seq.

Director means the director of the Tennessee Division of Water Pollution Control, or an authorized representative.

Discharge, when used without a qualifier, refers to "discharge of a pollutant" as defined at 40 CFR §122.2.

Discharge-related activities include: activities which cause, contribute to, or result in stormwater point source pollutant discharges; and measures to control stormwater discharges, including the site, construction and operation of best management practices (BMPs) to control, reduce or prevent stormwater pollution.

Division means the Tennessee Department of Environment and Conservation, Division of Water Pollution Control.

Enforcement Response Plan (ERP) is a matrix of enforcement actions to be taken for noncompliance incidents. Permittees are required to include in their ordinance, or other regulatory mechanism, penalty provisions to ensure compliance with construction requirements, to require the removal of illicit discharges, and to address noncompliance with post-construction requirements. In complying with these requirements, EPA recommends the use of enforcement responses that vary with the type of permit violation, and escalate if violations are repeated or not corrected. The MS4 must develop and implement an enforcement response plan (ERP), which clearly describes the action to be taken for common violations associated with the construction program, or other Stormwater Management Program elements. A well-written ERP provides guidance to inspectors on the different enforcement responses available, actions to address general permit non-filers, when and how to refer violators to the state, and how to track enforcement actions.

Exceptional Tennessee Waters are surface waters of the State of Tennessee that satisfy the characteristics as listed in Rule 1200-4-3-.06 of the official compilation - rules and regulations of the State of Tennessee. Characteristics include waters within state or national parks, wildlife refuges, wilderness or natural areas; State or Federal Scenic Rivers; Federally-designated critical habitat; waters within an areas designated as Lands Unsuitable for Mining; waters with naturally reproducing trout; waters with exceptional biological diversity or; other waters with outstanding ecological or recreational value as determined by the department.

Hot area means an area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater. Examples might include operations producing concrete or asphalt, auto repair shops, auto supply shops, large commercial parking areas and restaurants.

Illicit Connection means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

Illicit Discharge is defined at 40 CFR §122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not entirely composed of stormwater, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities.

Impaired Waters means any segment of surface waters that has been identified by the division as failing to support classified uses. The division periodically compiles a list of such waters known as the 303(d) List.

Load Allocation (LA): The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background (40 CFR §130.2(g)).

Margin of Safety (MOS): The "MOS" accounts for uncertainty in the loading calculation. The MOS may not be the same for different water bodies due to differences in the availability and strength of data used in the calculations.

Maximum Extent Practicable (MEP) is the technology-based discharge standard for Municipal Separate Storm Sewer Systems to reduce pollutants in stormwater discharges that was established by CWA §402(p). MS4 operators shall develop and implement their Stormwater Management Programs to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of pollutants.

Monitoring refers to tracking or measuring activities, progress, results, etc.; and can refer to non-analytical monitoring for pollutants by means other than 40 CFR 136 (and other than state- or federally established protocols in the case of biological monitoring and assessments), such as visually or by qualitative tools that provide comparative values or rough estimates.

Municipal Separate Storm Sewer (MS4) is defined at 40 CFR §122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the state;
- Designed or used for collecting or conveying stormwater;
- Which is not a combined sewer; and
- Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

NOI is an acronym for "Notice of Intent" to be covered by this permit and is the mechanism used to "register" for coverage under a general permit.

Nonpoint Source is essentially any source of pollutant(s) that is not a point source. Examples are sheet flow from pastures and runoff from paved areas.

Owner or operator means the owner or operator of any ``facility or activity" subject to regulation under the NPDES program.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Priority construction activity shall be defined by the MS4, but shall include, at a minimum, those construction activities, as permitted through a local program, discharging directly into, or immediately upstream of, waters the state recognizes as impaired (for siltation or habitat alteration) or Exceptional Tennessee Waters.

Qualifying Local Program (QLP) is an MS4 Stormwater Management Program for discharges associated with construction activity that has been formally approved by the division as having met specific minimum program requirements, including those identified in 40 CFR 122.44(s). The intent of the QLP is to establish a streamlined and efficient process for managing discharges of stormwater associated with construction activities by eliminating duplication of the effort between the MS4 and the division.

Redevelopment means the alteration of developed land that disturbs one acre or more, or less than an acre if part of a larger common plan of development, and increases the site or building impervious footprint, or offers a new opportunity for stormwater controls. The term is not intended to include such activities as exterior remodeling, which would not be expected to cause adverse stormwater quality impacts.

Significant Contributor is defined as a source of pollutants where the volume, concentration, or mass of a pollutant in a stormwater discharge can cause or threaten to cause pollution, contamination, or nuisance that adversely impact human health or the environment and cause or contribute to a violation of any applicable water quality standards for receiving water.

Stormwater is defined at 40 CFR §122.26(b)(13) and means stormwater runoff, snowmelt runoff, and surface runoff and drainage.

A ***Stormwater Management Plan (Plan)*** is a written compilation of the elements of the Stormwater Management Program. It is considered a single document, even though it actually consists of separate stand- alone components. There is no requirement for the Plan, or its portions, to be submitted to the division, unless requested by the division in writing.

Stormwater Management Program (SWMP) refers to a comprehensive program to manage the quality of stormwater discharged from the municipal separate storm sewer system.

A ***Stormwater Pollution Prevention Plan (SWPPP)*** is a written plan that includes site map(s), an identification of construction/contractor activities that could cause pollutants in the stormwater, and a description of measures or practices to control these pollutants. It must be prepared and approved before construction begins. In order to effectively reduce erosion and sedimentation impacts, Best Management Practices (BMPs) must be designed, installed, and maintained during land disturbing activities. The SWPPP shall be prepared in accordance with the Tennessee Erosion and Sediment Control Handbook or local BMP Manual, whichever is more stringent and protective of waters of the

state. The handbook is designed to provide information to planners, developers, engineers, and contractors on the proper selection, installation, and maintenance of BMPs. The handbook is intended for use during the design and construction of projects that require erosion and sediment controls to protect waters of the state. It also aids in the development of SWPPPs and other reports, plans, or specifications required when participating in Tennessee's water quality regulations.

Stream means a surface water that is not a wet weather conveyance.

TMDL (Total Maximum Daily Load) in this permit generally refers to a study that quantifies the amount of a pollutant that can be assimilated in a water body, identifies the sources of the pollutant, and recommends regulatory or other actions to be taken to achieve compliance with applicable water quality standards based on the relationship between pollution sources and in-stream water quality conditions. A TMDL can be expressed as the sum of all point source loads (Waste Load Allocations), non-point source loads (Load Allocations), and an appropriate margin of safety (MOS), which takes into account any uncertainty concerning the relationship between effluent limitations and water quality:

$TMDL = \Sigma WLAs + \Sigma LAs + MOS$

The objective of a TMDL is to allocate loads among all of the known pollutant sources throughout a watershed so that appropriate control measures can be implemented and water quality standards achieved. 40 CFR §130.2 (i) states that TMDLs can be expressed in terms of mass per time, toxicity, or other appropriate measure.

- ***Waste load Allocation*** **(WLA):** The portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute the type of water quality-based effluent limitation. (40 CFR §130.2(h)).

Water quality buffer means a setback from the top of water body's bank of undisturbed vegetation, including trees, shrubs and herbaceous vegetation; enhanced or restored vegetation; or the re-establishment of native vegetation bordering streams, ponds, wetlands, springs, reservoirs or lakes, which exists or is established to protect those water bodies. The goal of the water quality buffer is to preserve undisturbed vegetation that is native to the streamside habitat in the area of the project. Vegetated, preferably native, water quality buffers protect water bodies by providing structural integrity and canopy cover, as well as stormwater infiltration, filtration and evapotranspiration. Buffer width depends on the size of a drainage area.

Buffers shall comply with the no disturb buffer requirements in Metro Stormwater Management Manual Volume 1. Only in instances when the metro requirements are void or do not otherwise apply, the buffer requirements shall meet the following criteria: Streams or other waters with drainage areas less than 1 square mile will require buffer widths of 30 feet minimum. Streams or other waters with drainage areas greater than 1 square mile will require buffer widths of 60 feet minimum. The 60-feet criterion for the width of the buffer zone can be established on an average width basis at a project, as long as the minimum width of the buffer zone is more than 30 feet at any measured location. The MS4 would develop and apply criteria for determining the circumstances under which these averages will be available. A determination that standards cannot be met may not be based solely on the difficulty or cost associated with implementation.

Every attempt should be made for development and redevelopment activities not to take place within the buffer zone.

Waters of the State or simply ***Waters*** is defined in the Tennessee Water Quality Control Act and means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through or border upon Tennessee or any portion thereof except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine to effect a junction with natural surface or underground waters.

Wet weather conveyance means, notwithstanding any other law or rule to the contrary, man-made or natural watercourses, including natural watercourses that have been modified by channelization:

(A) That flow only in direct response to precipitation runoff in their immediate locality;
(B) Whose channels are at all times above the groundwater table;
(C) That are not suitable for drinking water supplies; and
(D) In which hydrological and biological analyses indicate that, under normal weather conditions, due to naturally occurring ephemeral or low flow there is not sufficient water to support fish, or multiple populations of obligate lotic aquatic organisms whose life cycle includes an aquatic phase of at least two (2) months.

You and ***Your*** as used in this permit is intended to refer to the permittee, the operator, or the discharger as the context indicates and that party's responsibilities (e.g., the city, the county, the flood control district, the U.S. Air Force, etc.).

7. APPENDIX A – MS4 ANNUAL REPORT

Tennessee Department of Environment and Conservation
Division of Water Pollution Control
Enforcement and Compliance Section
L&C Annex, 6th Floor, 401 Church Street
Nashville, TN 37243

Municipal Separate Storm Sewer System (MS4) Annual Report

1. MS4 Information

Name of MS4

Name of Contact Person

Telephone (including area code)

Mailing Address

City State ZIP code

What is the current population of your MS4?

What is the reporting period for this annual report? From to

2. Protection of State or Federally Listed Species

A. Do any of the MS4 discharges or discharge-related activities likely jeopardize state or federally listed species (subpart 2.4)? ☐ Yes ☐ No

B. Please attach the determination of the effect of the MS4 discharges on state or federally listed species per subpart 2.4.

3. Water Quality Priorities

A. Does your MS4 discharge to waters listed as impaired on your state 303(d) list? ☐ Yes ☐ No

B. If yes, identify each impaired water, the impairment(s), whether a TMDL has been approved by EPA for each, and whether the TMDL identifies your MS4 as a source of the impairment.

Impaired Water.	Impairment	Approved TMDL		MS4 Assigned to WLA	
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No
		☐ Yes	☐ No	☐ Yes	☐ No

C. What specific sources of these pollutants of concern are you targeting?

D. Do you have discharges to any Exceptional TN Waters (ETWs) or Outstanding National Resource Waters (ONRWs)? ☐ Yes ☐ No

E. Are you implementing additional specific provisions to ensure the continued integrity of ETWs or ONRWS located within your jurisdiction? ☐ Yes ☐ No

4. Public Education and Public Participation

A. Is your public education program targeting specific pollutants and sources of those pollutants? ☐ Yes ☐ No

B. If yes, what are the specific causes, sources and/or pollutants addressed by your public education program?

C. Note specific successful outcome(s) (NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

D. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your stormwater program? ☐ Yes ☐ No

E. Provide a summary of all public meetings required by the permit. _____

5. Codes and Ordinances Review and Update

A. Is a completed copy of the EPA Water Quality Scorecard submitted with this report? ☐ Yes ☐ No

B. Include status of implementation of code, ordinance and/or policy revisions associated with permanent stormwater management.

6. Construction

A. Do you have an ordinance or adopted policies stipulating:

Erosion and sediment control requirements?	☐ Yes	☐ No
Other construction waste control requirements?	☐ Yes	☐ No
Requirement to submit construction plans for review?	☐ Yes	☐ No
MS4 enforcement authority?	☐ Yes	☐ No
Have you developed written procedures for site plan review and approval?	☐ Yes	☐ No
Do the written procedures for site plan review and approval include an evaluation of plan completeness and overall BMP effectiveness?	☐ Yes	☐ No
Have you developed written procedures for managing public input on projects?	☐ Yes	☐ No
Have you developed written procedures for site inspection and enforcement?	☐ Yes	☐ No
Have all MS4 Inspectors maintained certification under the Tennessee Fundamentals of Erosion Prevention and Sediment Control, Level 1?	☐ Yes	☐ No
Have all MS4 site plan reviewers maintained certification under the Tennessee Fundamentals of Erosion Prevention and Sediment Control, Level 2?	☐ Yes	☐ No

B. How many active construction sites disturbing at least one acre were there in your jurisdiction this reporting period?

C. How many of these active sites did you inspect this reporting period? _____

D. On average, how many times each, or with what frequency, were these sites inspected (e.g., weekly, monthly, etc.)?

E. Do you prioritize certain construction sites for more frequent inspections? ☐Yes ☐ No

If Yes, based on what criteria? _____

7. Illicit Discharge Elimination

A. Have you completed a map of all known outfalls and receiving waters of your storm sewer system? ☐ Yes ☐ No

B. Have you completed a map of all known storm drain pipes of storm sewer system? ☐Yes ☐ No

C. How many outfalls have you identified in your system? _____

D. How many of these outfalls have been screened for dry weather discharges? _____

E. How many of these have been screened more than once? _____

F. What is your frequency for screening outfalls for illicit discharges? _____

G. Do you have an ordinance that effectively prohibits illicit discharges? ☐ Yes ☐ No

H. During this reporting period, how many illicit discharges/illegal connections have you discovered (or been reported to you)? _____

I. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? _____

J. Do you have the authority to recover cost for addressing illicit discharges? ☐ Yes ☐ No

8. Stormwater Management for Municipal Operations

A. Have stormwater pollution prevention plans (or an equivalent plan) been developed for:

All municipal parks, ball fields and other recreational facilities ☐ Yes ☐ No

All municipal turf grass/landscape management activities ☐ Yes ☐ No

All municipal vehicle fueling, operation and maintenance activities ☐ Yes ☐ No

All municipal maintenance yards ☐ Yes ☐ No

All municipal waste handling and disposal areas ☐ Yes ☐ No

B. Are stormwater inspections conducted at these facilities? ☐ Yes ☐ No

If Yes, at what frequency are inspections conducted? _____

C. Have standard operating procedures or BMPs been developed for all MS4 field activities? (e.g., road repairs, catch basin cleaning, landscape management, etc.) ☐ Yes ☐ No

D. Do you have a prioritization system for storm sewer system and permanent BMP inspections? ☐ Yes ☐ No

E. On average, how frequently are catch basins and other inline treatment systems inspected? _____

F. On average, how frequently are catch basins and other inline treatment systems cleaned out/maintained? _____

G. Have all applicable municipal employees received training, as identified in each of the following permit sections:

3.2.3 - Illicit discharge detection and elimination ☐ Yes ☐ No

If *Yes*, identify the number of municipal employees trained _____,

3.2.4 - Construction site stormwater runoff control ☐ Yes ☐ No

If *Yes*, identify the number of municipal employees trained _____,

3.2.5 - Permanent stormwater management in new development and redevelopment ☐ Yes ☐ No

If *Yes*, identify the number of municipal employees trained _____,

3.2.6 - Pollution prevention/good housekeeping for municipal operations ☐ Yes ☐ No

If *Yes*, identify the number of municipal employees trained _____

9. Permanent Stormwater Controls

A. Do you have an ordinance or other mechanism to require:

Site plan reviews of all new and re-development projects? ☐ Yes ☐ No

Maintenance of stormwater management controls? ☐ Yes ☐ No

Retrofitting of existing BMPs with green infrastructure BMPs? ☐ Yes ☐ No

B What is the threshold for new/redevelopment stormwater plan review? (e.g., all projects, projects disturbing greater than one acre, etc.)

C. Have you implemented and enforced performance standards for permanent stormwater controls? ☐ Yes ☐ No

D. Do these performance standards go beyond the requirements found in paragraph 3.2.5.2 Performance Standards and require that pre-development hydrology be met for:

Flow volumes ☐ Yes ☐ No

Peak discharge rates ☐ Yes ☐ No

Discharge frequency ☐ Yes ☐ No

Flow duration ☐ Yes ☐ No

E. Please provide the URL/reference where all permanent stormwater management standards can be found.

F. How many development and redevelopment project plans were reviewed for this reporting period? _____

G. How many development and redevelopment project plans were approved? _____

H. How many permanent stormwater management practices/facilities were inspected? _____

I. How many were found to have inadequate maintenance? _____

J. Of those, how many were notified and remedied within 30 days? (If window is different than 30 days, please specify) _____

K. How many enforcement actions were taken that address inadequate maintenance?_____

L. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? ☐ Yes ☐ No

M. Do all municipal departments and/or staff (as relevant) have access to this tracking system? ☐ Yes ☐ No

N. Has the MS4 developed a program to allow for incentive standards for redeveloped sites? ☐ Yes ☐ No

O. How many maintenance agreements has the MS4 approved during the reporting period?

10. Industrial and High Risk Runoff

A. Has the MS4 developed and implemented a program to monitor and control pollutants in runoff from the following types of industrial and high risk facilities and activities:

Municipal landfills ☐ Yes ☐ No

Hazardous waste treatment, storage and disposal facilities	☐ Yes	☐ No
Industries subject to reporting requirements pursuant to SARA Title III section 313	☐ Yes	☐ No
Industrial facilities that the MS4 determines are contributing a substantial loading of pollutants to the municipal separate storm sewer system	☐ Yes	☐ No

B. Has the MS4 maintained a database of industrial and high risk facilities and activities in the City which includes the following types of industries:

Those listed in 10 (A) above	☐ Yes	☐ No
Facilities covered by individual NPDES permits	☐ Yes	☐ No
Facilities covered under the TMSP	☐ Yes	☐ No
Facilities regulated by the pretreatment program; and	☐ Yes	☐ No
Facilities defined as industries by the EPA stormwater application rule of November 16, 1990		

C. Has the MS4 updated the database of industrial and high risk facilities and activities at least yearly? ☐ Yes ☐ No

If yes, provide a listing of any additionally identified industrial and high risk facilities and activities which discharge stormwater into the MS4:

Facility/Activity

_____

_____

_____

D. Has the MS4 developed and implemented procedures, including an inspector manual and checklist, for routine inspections of industrial and high risk facilities and activities? ☐ Yes ☐ No

E. Is the MS4 performing these inspections at such a rate that all required industries will be inspected at least once every three years? ☐ Yes ☐ No

F. Provide a listing of inspections perform during this reporting year:

Facility/Activity

_____

_____

_____

11. Enforcement

A. Identify which of the following types of enforcement actions you used during the reporting period, indicate the number of actions, the minimum measure (e.g., construction, illicit discharge, permanent stormwater control) or note those for which you do not have authority:

Action	Construction	Permanent Stormwater Controls	Illicit Discharge	Authority?
Notice of violation	#____	#____	#____	☐ Yes ☐ No

Administrative Penalties	#____	#____	#____	☐ Yes ☐ No
Stop Work Orders	#____	#____	#____	☐ Yes ☐ No
Civil penalties	#____	#____	#____	☐ Yes ☐ No
Criminal actions	#____	#____	#____	☐ Yes ☐ No
Administrative orders	#____	#____	#____	☐ Yes ☐ No
Other	#____	#____	#____	

B. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results, and enforcement actions in your jurisdiction? ☐ Yes ☐ No

C. What are the 3 most common types of violations documented during this reporting period?

12. Program Resources

A. What was your annual expenditure to implement the requirements of your MS4 NPDES permit and SWMP this past fiscal year? ____

B. What is next fiscal year budget for implementing the requirements of your MS4 NPDES permit and SWMP?

C. Do you have an independent financing mechanism for your stormwater program? ☐ Yes ☐ No

D. If so, what is it/are they (e.g., stormwater fees), and what is the annual revenue derived from this mechanism?

Source: Estimated Amount $

Source: Estimated Amount $

E. How many full time employees does your municipality devote to the stormwater program (specifically for implementing the stormwater program vs. municipal employees with other primary responsibilities that dovetail with stormwater issues)? _____

F. Do you share program implementation responsibilities with any other entities? ☐ Yes ☐ No

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism

13. Evaluating/Measuring Progress

A. What indicators do you use to evaluate the overall effectiveness of your Stormwater Management Program, how long have you been tracking them, and at what frequency? Note that these are not measurable goals for individual BMPs or tasks, but large-scale or long-term metrics for the overall program, such as in-stream macroinvertebrate community indices, measures of effective impervious cover in the watershed, indicators of in-stream hydrologic stability, etc?

Indicator	**Began Tracking (year)**	**Frequency**	**Number of Locations**
Example: E. coli	2003	Weekly April–September	20

B. Provide a summary of data (e.g., water quality information, performance data, modeling) collected in order to evaluate the performance of permanent stormwater controls installed throughout the system. This evaluation may include a comparison of current and past permanent stormwater control practices. _____

C. What environmental quality trends have you documented over the duration of your stormwater program? (If you have reports or summaries, you can either attach them electronically, or provide the URL to where they may be found on the Web.)

14. Stormwater Management Program Update

A. Describe any changes to the MS4 program, per Section 3.5 of the permit, during the reporting period including but not limited to:

Changes adding (but not subtracting or replacing) components, controls or other requirements. _____

Changes to replace an ineffective or unfeasible BMP. _____

Information (e.g., additional acreage, outfalls, BMPs) on program area expansion based on annexation or newly urbanized areas. _____

Changes to the program as required by the division. _____

15. Certification

This report must be signed by a ranking elected official or by a duly authorized representative of that person. See signatory requirements in subpart 5.7 of the permit.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

_____	_____	_____
Printed Name and Title	Signature	Date

8. ADDENDUM TO RATIONALE (FACT SHEET) AT PERMIT ISSUE

January 04, 2012

The division received comment on the draft permit from the EPA the Environmental Field Office – Nashville and the permittee during the comment period. The division issues this final permit in consideration of these comments as detailed below.

EPA

The EPA submitted numerous comments under cover dated September 26, 2011. That comment letter is included in its entirety below as Attachment 1 to the Addendum at Permit Issue. The division agreed that many of the comments were useful in clarifying permit terms and conditions. Division staff met with representatives of the permittee and jointly developed permit revisions that addresses comments identified through #12 on Page 5. The division proposes at permit issue revisions to the remaining concerns as follows:

Revisions or qualifications are made to the sections of the permit cited in EPA's comments numbered 13 through 27 except for 18, 19, 20, 21, 23, and 24. The division believes that comments 18 and 19 are adequately addressed in other sections of the permit. The division considered and concludes revisions in response to the other four comments are not warranted. Regarding comment #20, the dynamics associated with flooding and measuring the effectiveness of flood controls makes it impractical to evaluate a specific number of flood control activities in a specified time-frame. Regarding comment #21, maintaining an inventory of pesticides, herbicides and fertilizers and their storage spaces at permittee facilities is not a stormwater best management practice and is not a means of demonstrating compliance with a SWPPP. Regarding comment #23, the Enforcement Response Plan (ERP) or equivalent plan is targeted toward illicit discharges which by definition contain wastewater other than stormwater. It is not appropriate to regulate runoff from industrial and commercial sites in the same manner as illicit discharges. Regarding comment #24, three samples per year is selected because the permittee's previous sampling results reflect that Middle Tennessee has only three distinct seasons per year in terms of broad climatic variables.

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

The permittee commented on the draft permit under cover dated August 26, 2011. The comment letter is included in its entirety below as Attachment 2 to the Addendum at Permit Issue. The division concurred and made the requested revisions to the final permit in response to all comments in the letter except for comments numbered 1, 8-10, 12 and 13. Rationale for not accommodating these requests is as follows:

In comment #1, the permittee requested that Section 2.4 allow the permittee to submit a copy of its stormwater management plan to the United States Fish and Wildlife Service and the Tennessee Wildlife Resources Agency within 18 months of the permit issuance instead of conducting an annual evaluation to determine if discharges or discharge-related activities are impacting state or federally listed species or critical habitat for such species. They allege that the requirement to evaluate potential jeopardy to all species and critical habitat is over-reaching and should be limited to species in aquatic habitats. The division narrows the scope of the requirement after additional consideration of this issue. The permit condition is revised in Parts 1.6.d, 2.4, 2.4.1 (two places) and Annual Report form 2A, at permit issue so that it applies to only to discharges or activities likely "to jeopardize the continued existence of any state or federal, legally protected listed or proposed threatened or endangered aquatic fauna or flora (or species proposed for such protection) in the receiving stream(s) or result in the adverse modification or destruction of habitat that is designated as critical under the ESA for these species." This revised wording is taken from the general permit for stormwater associated with construction activity. In Parts 1.6.d and the annual report form, the qualifier, "any" is removed in conjunction with continued reference back to Section 2.4. However, the annual evaluation remains required with the procedure for documenting the determination left to permittee discretion. Consultation with state and/or federal agencies is useful when those agencies have science or knowledge affecting design targets for pollutants of concern. It is not the expectation of this permit that the permittee conduct research to determine species based, or water-quality based, target levels for pollutants of concern when that science or knowledge is unavailable.

Site management practices and sites affected by discharge related activities may change throughout the permit term so the evaluation frequency will remain annual.

In comments #8-10, the permittee requested that total maximum daily load (TMDL) monitoring, analytical monitoring, and non-analytical monitoring in Sections 3.3.9, 4.1, and 4.2 of the permit respectively, be limited to stream segments both identified on the current 303(d) List and that are associated with an approved TMDL that has a wasteload allocated to the permittee's MS4. Additionally, the permittee believes that monitoring requirements should apply only for streams where the MS4 is identified as a contributing source in the assessment or given a wasteload allocation by the division in the TMDL. In other words, the permittee objects to monitoring on stream segments where impairment assessments or TMDLs are developed for parameters such as habitat alteration that are not a discharge parameter.

With regards to TMDL monitoring, the law requires permits to contain monitoring and reporting conditions necessary to implement the purposes of the Act. In the case of MS4 discharges, pollutant removal methods are technology-based, best management practices installed to achieve the TMDL. Continued implementation of the technology-based controls is expected for the MS4 outfall, so continued monitoring and reporting of the stream in the vicinity of the outfall is therefore authorized regardless of the 303(d) listing status. Regarding habitat alteration, state water quality assessments consider habitat alteration a cause of impairment when the habitat score is 75% or less than the median reference score for the comparable eco-region using a standardized scoring system to rate the habitat of the stream. The standard scoring system considers factors such as sedimentation, riffle embeddedness, and bank stability. Discharges from MS4 outfalls have the potential to contribute to such factors. The monitoring requirements in Parts 3.3.9 and 4.2 respectively allow for visual surveys immediately upstream and downstream of each MS4 outfall that discharges into a segment with a habitat alteration TMDL and habitat alteration impairment.

In comment #12, the permittee requested that the public notification of the annual report be replaced with the requirement that the report be posted on the permittee's webpage citing that changes to the report cannot easily be made based on comments or suggestions by the public. The division disagrees with changing the notification requirements. There is no expectation that the report is to be changed based on public input but rather that the permittee take an active, versus passive, role in advertising that the annual report is available for public review and comment. The permittee will have discretion on how to incorporate any relevant comment into the program.

Regarding comment #13 and an element of comment #10, the permittee requested that priority construction activities and non-analytical monitoring not be required of streams where habitat alteration is identified as a condition of concern. The division disagrees with this request. Habitat alteration is a broad term that encompasses various kinds of stream alterations. Some types of alterations have the potential for being impacted by hydrologic factors in stormwater management such as runoff coefficients and management of buffer areas. Therefore, habitat alteration will continue to be a pollutant of concern in these sections of the permit.

EFO-Nashville

The EFO-N submitted comments electronically on September 12, 2011. The final permit incorporates word revisions, clarifications and typo-graphical errors suggested or identified in several sections of the permit. Content edits are made as follows: The coverage exclusion language in Section 1.1 is revised to include examples, a compliance time for submitting the Storm Water Management Plan is added to Section 3.1, the locations for submitting documentation is added to Sections 3.1 and 3.2.5.5, unclear language retarding maintenance practices is revised in Section 3.2.6, and clarification regarding fiscal year reporting periods is referenced in Section 4.5. A couple of additional comments raised questions regarding what the division's involvement or interpretation is to be regarding off-site mitigation measures, thermal impacts to streams, and adequacy of TMSP industrial site sampling. Interpretations are not formally addressed in the final permit or rationale but are left open for internal discussion and implementation discretion.

ATTACHMENT 1 - EPA COMMENT ON DRAFT PERMIT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

SEP 2 6 2011

Mr. Paul E. Davis
Director, Division of Water Pollution Control
Tennessee Department of Environment
and Conservation
6th Floor, L&C Annex
401 Church Street
Nashville, Tennessee 37243-1534

Subject: Review of Draft Permit for Nashville Davidson County Municipal Separate Storm Sewer System (MS4), Permit No. TNS068047

Dear Mr. Davis:

Thank you for the opportunity to review Tennessee's draft National Pollutant Discharge Elimination System (NPDES) permit for Nashville/Davidson County MS4. The U.S. Environmental Protection Agency Region 4 has completed its review of the draft permit, received by our office via email from the Tennessee Department of Environment and Conservation on July 29, 2011. Based on our review of the draft permit, we are providing comments per the NPDES Memorandum of Agreement between Tennessee and the EPA.

If you have any questions, please call me at (404) 562-9459, or have your staff contact Ms. Mary Kuo at (404) 562-9847.

Sincerely,

Christopher B. Thomas, Chief
Pollution Control and Implementation Branch
Water Protection Division

Enclosure

EPA COMMENTS ON THE PHASE I MS4 PERMIT FOR NASHVILLE/DAVIDSON COUNTY

2.2. Discharges into Waterbodies with EPA-Approved or Established TMDLs

- **Addition of Discrete Timeframes.** Please include explicit timeframes for when the permittee must meet the various requirements under this section, including when the BMPs are to be identified and implemented and when the monitoring and/or evaluation activities must occur.

3.2.1 Public Education and Outreach

- **Addition of Specifics.** Please include more specific and measurable details to the requirements under this section. For example, the permit should include more description on the specific steps that the public education program should inform the public on to reduce pollutants in stormwater runoff, as well as the minimum number of educational and outreach activities required each year. The permit could identify specific targeted issues for the residential and industrial/commercial communities and specify the percentage (or other appropriate numeric threshold) of the target audiences that are to be reached each year.

3.2.3. Illicit Discharge Detection and Elimination

- **Addition of Discrete Timeframes.** In the first paragraph of this section, the permit requires that "documented illicit discharges shall be eliminated as soon as possible." TDEC should clarify this requirement with a discrete, specified timeframe (*e.g.*, 24 hours, or as soon as feasible if the source cannot be eliminated within 24 hours).

- **Broaden Scope of Where Stormwater Contamination is Prohibited.** The last paragraph on Page 9 requires the permittee to prohibit contamination of stormwater runoff from hot areas. Although EPA's MS4 Permit Improvement Guide does recommend that the MS4 identify priority areas that include "hotspots" for more frequent screenings and investigations, the prohibition of stormwater contamination should apply to all areas of the MS4 and not just the hot areas or priority areas, as should the entire IDDE and spill control programs. The permit should be revised accordingly.

- **Public Response Requirements.** Although the permittee is required to operate a mechanism for the public to report suspected illicit discharges, the permit does not require a plan for proper staff to respond to citizen reports. Please add this requirement in the permit. Such a plan could include timeframes under which the MS4 must respond to public inquiries or reports.

- **Procedures to Track and Eliminate IDDE.** In addition to requiring procedures for identifying illicit discharges required under Section 3.2.3.3, please include explicit language that requires the permittee to develop procedures to track and eliminate illicit

discharges identified through investigation within a specified timeframe. Such procedures are to be used following an inspection for investigating portions of the system that have the potential of containing illicit or other non-stormwater discharges, and they may include sampling for various constituents, dye testing, or storm sewer inspection.

- **Training for New Employees.** The last sentence on Page 10 (Section 3.3.3.2) states that follow-up training be required as needed to address changes in staffing. The permit should be clarified so that new employees must complete training similar to the initial field staff training required in the following paragraph. The permit should specify that such training be conducted within a specified time after being hired (e.g., 2 months).

3.2.4. Construction Site Stormwater Runoff Control

- **Clarify Intent of Permit Language.** Please delete or clarify the last sentence of the first paragraph under this section: "Elements of the existing program authorized via the prior issued permit shall be deemed equivalent to the following elements that must be included in the development and implementation of the program." This sentence could be misinterpreted to mean that meeting the requirements under the previous permit would satisfy the conditions under this new permit and that no progress or improvements in the MS4's construction program need to be made.

- **Site Plan Approval.** The site plan review section should be revised to explicitly incorporate a required approval from the MS4 prior to construction activity. The permit could be revised to add the following phrase: *...the permittee procedures must include an evaluation **and approval** of plan...* Or, the following sentence could be added: *The permittee must make it clear to operators of construction activity that they are prohibited from commencing construction activity until they receive written approval of the site plan.*

- **Inspections During All Construction Phases.** The permit should require that the MS4 conduct inspections during all phases of construction (*i.e.*, prior to land disturbance to ensure all BMPs are in place, during active construction and following active construction). For sites found in noncompliance, the MS4 should be required to conduct follow-up activities (*i.e.*, re-inspection or enforcement) to ensure compliance.

- **Procedures for Site Inspections.** The permit should add more specifics in terms of what is required in the procedures for inspectors to evaluate construction site compliance (*i.e.*, determine if controls measures have been selected, installed, implemented, and maintained according to the SWPPP or specified design standards, etc.) and what should be in the ERP. Such inspection procedures should include a comparison of control measures in the approved plan to measures installed in the field.

3.2.5. Permanent Stormwater Management in New Development and Redevelopment

- **To the Extent Allowable by State or Local Law.** Under Section 3.2.5.1, the permit limits the use of "ordinances or other regulatory mechanisms to address permanent runoff

from new development and redevelopment projects consistent with and to the extent allowable by state or local law." This limitation "to the extent allowable by state or local law" does not reflect an MEP-level of control for large MS4s and should be removed.

3.2.6. Pollution Prevention/Good Housekeeping for Municipal Operations

- **Identify Specifics in the Permit Itself.** Under the last paragraph in 3.2.6.1. (MS4 Activities), the permit specifies that the inspection and maintenance frequency for drainage structures be included in the Stormwater Management Plan. Similarly, under Section 3.2.6.3. (Street Sweeping and Cleaning), the permit requires the Stormwater Management Plan to include a sweeping schedule and frequency. As part of EPA's priority towards more clear and measurable permit requirements, we would like for the details regarding the frequency of inspection and maintenance and street sweeping to be identified in the permit itself.

- **Specific O&M Activities.** Under 3.2.6.1, the permit should add clear and specific activities that define what is intended by "O&M activity assessment." For example, the permit could include O&M activities such as road and parking lot, bridge, and right-of-way maintenance. In addition, the permit should specify that the inspector should, at a minimum, ensure adequate implementation of all BMPs, minimized exposure of storage materials/industrial activities, and good housekeeping practices.

- **Addition of Discrete Timeframes.** Please identify within the permit when the permittee must complete the following actions: Second paragraph of 3.2.6., frequency and timeframe to conduct employee training (*e.g.*, annually); under 3.2.6.2. (Municipal Activities and Operations), complete its comprehensive metropolitan government O&M activity assessment; under 3.2.6.4. (Flood Management), develop a process and schedule to assess the water quality impacts in the design of its new flood management projects that discharge to the MS4; under 3.2.6.5 (PHF Application and Management), develop SWPPPs or equivalent plans or otherwise provide pollution prevention measures in operational manuals.

3.2.6.7. Monitor and Control of Industrial, Commercial and High Risk Runoff

- **Specified Control Measures.** The permit needs to include an explicit provision that requires the MS4 to ensure that industrial facilities implement BMPs, minimize exposure, follow good housekeeping practices, and manage runoff. The permit should identify clear and specific minimum control measures and activities that must be implemented by the facilities to minimize stormwater pollution, in addition to a requirement for the facility to develop general good housekeeping and maintenance procedures.

- **Facility Inventory**. As part of the Phase I regulations, the MS4 must maintain an inventory of all potential commercial and industrial sites/sources that have the potential to contribute pollutants to the MS4, and the inventory should include the facility's name, address, a description (such as SIC code) which best reflects the principal products or services provided by each facility, pollutants potentially generated by the site/source, and

information on the receiving storm drain and waterbody. The specific elements required in the "list or database" should be spelled out in the permit.

- **Inspection Prioritization and Procedures**. The permit should require the prioritization of commercial and industrial facilities which would be used to establish an inspection schedule or frequency, unless the State intends to have the MS4 treat each facility with the same level of priority. At this point, the permittee should already have inspection and enforcement procedures, and so the permit should identify the minimum elements of an inspection and documentation requirements.

Additional Comments/Recommendations/Questions

1. *3.1. SWMP Program Requirements.* It is unclear when the permittee must submit its Stormwater Management Plan to TDEC. If the permit does not already identify this timeframe, a discrete date needs to be added.

2. *2.3. Discharges to Impaired Waterbodies without EPA-Approved TMDLs.* For the requirement that the permittee demonstrate that the discharge will not alter the properties of the waterbody by the pollutant of concern, EPA suggests that the term "properties of the waterbody" be clarified to describe the water quality levels of the waterbody; the current wording could be misconstrued to describe the waterbody's physical properties. We suggest using the following phrasing: *the discharge will not contribute to the impairment by the pollutant of concern.*

3. *3.2.1. Public Education and Outreach.* As a means to measure program effectiveness, the permittee could be required by a date certain to develop a process to assess the change in public awareness and behavior resulting from the implementation of the education and outreach program (*i.e.*, through surveys, tracking the number of attendees, etc.). In addition, more specific and measurable details could be added, such as the minimum number of activities that have to take place each year.

4. *3.2.3. IDDE Spill Program.* The second paragraph of this section refers to a spill program. We suggest adding that the spill program should incorporate hazmat, sanitary, and other spills (*i.e.*, car accidents, etc.). The permit could also list benchmark concentrations for spill response and cleanup (based on the industrial permit), as well as clarifying which agency will take the lead in handling spills and cleanup into the MS4. Lastly, the permit could require the MS4 to specify spill and cleanup equipment and to develop a procedure to prevent, contain, and respond to spills.

5. *3.2.3. IDDE.* At the top of Page 10, the permit states that: "the ERP must either be updated to incorporate revisions identified at the coverage date by the permittee within 18 months of coverage under this permit." This sentence does not pose an alternative and should be corrected.

6. *3.3.3.1. IDDE MS4 Mapping.* EPA suggests that the permit require that the map also identify the following: priority areas with older infrastructure that are more likely to have illicit connections; industrial/commercial, or mixed use areas; areas with past illicit discharges; areas with onsite sewage disposal systems; areas with older sewer lines or with a history of sewer overflows or cross-connections; areas with a history of illegal dumping; and areas upstream of sensitive waterbodies.

7. *3.2.4. Construction Ordinance.* Since the permittee is allowed up to 24 months to modify and implement its ordinance to require erosion and sediment controls, EPA suggests adding some interim dates and milestones until the ordinance or regulatory mechanism can be adopted.

8. *3.2.4. Construction Educational Materials.* EPA recommends adding a requirement to provide information on existing training opportunities or develop new training for construction operators within a specified time period or on an annual basis; this could be expanded upon under the construction or public education or involvement sections of the permit. Such training should focus on common deficiencies noted during the plan review process and frequent BMP deficiencies noted during inspections of construction sites.

9. *3.2.4. Construction Site Stormwater Runoff Control.* Please clarify the last sentence of this section.

10. *3.2.6. Pollution Prevention/Good Housekeeping.* In general, this section of the permit could be clarified by separating the structural control maintenance program requirements from those of the municipally-operated facilities.

11. *3.2.6. Pollution Prevention/Good Housekeeping.* In the third paragraph, the permit could require that an inventory be developed and stormwater control structures be prioritized for routine maintenance inspections.

12. *3.2.6. Pollution Prevention/Good Housekeeping.* In the fourth paragraph, we suggest adding that the following: *The permittee must consider at least the following in the developing the program...*

13. *3.2.6.1. Catch Basin Cleanings.* In the first paragraph of this section, EPA suggests adding a requirement that the permittee assign a priority to each of its catch basin inlets that is used to schedule catch basin cleanings and inspections.

14. *3.2.6.1. Dewatering.* The second paragraph could require a reporting measure on the number of catch basins cleaned and how much and where materials were disposed of.

15. *3.2.6.1. MS4 Maintenance Activity Inspections.* EPA suggests adding a requirement to also conduct inspections after significant rain events.

16. 3.2.6.2. *Municipal activities and operations.* Under this section, the permit could require: an inventory of all municipally-operated facilities, detailed inspection procedures, an inspection checklist, SWPPP development, and good housekeeping procedures for those without an NPDES permit.

17. 3.2.6.2. *Municipal Activities and Operations Compliance.* The permit could add more details about what will be done by the permittee if a municipally-operated facility fails to meet these requirements.

18. 3.2.6.3. *Street Sweeping and Cleaning.* EPA suggests adding a requirement to assign a priority for streets, roads, and parking areas (based on land use, trash and stormwater pollutant levels generated) that is used to implement a sweeping schedule and sweeping activities.

19. 3.2.6.3. *Sweeper Waste Material Disposal.* The permit could require the development of a procedure to dewater and dispose of street sweeper waste material to ensure that water and material do not re-enter the MS4.

20. 3.2.6.4 . *Flood Control.* In addition to assessing the water quality impacts in the design of new flood management projects, the MS4 could assess a certain number of existing flood management projects per year to determine whether changes or additions should be made to improve water quality.

21. 3.2.6.5. *Pesticides, Herbicide, and Fertilizer Application and Management.* The permit could require the MS4 to maintain an inventory of chemicals stored and storage spaces, in addition to providing a map of MS4 to all who use PHFs to ensure protection of the MS4.

22. 3.2.6.7. *Industrial and Commercial Facilities.* Under the first paragraph, fourth bullet, the permit could provide a listing or suggestion of what types of industrial and commercial facilities could be contributing a substantial loading of pollutants to the MS4.

23. 3.2.6.7. *Industrial and Commercial Facilities.* EPA suggests adding language to this section of the permit to ensure that all necessary follow-up and enforcement activities be conducted as necessary according to the ERP.

24. 3.3.1. *Wet Weather Monitoring.* Under Table 1, EPA suggests modifying the required frequency of wet weather monitoring from 3 storm events to 4 (1 event per season) to account for seasonal variation and to better allow for the calculation of seasonal pollutant loads. Also, please clarify in the permit what sampling methodology is to be used to obtain a first flush sample (*i.e.*, within the first 3 minutes of discharge?).

25. 3.3.7. *Industrial Monitoring Program.* The permit requires that sampling be conducted from only one outfall at one facility per year, which seems like a small number for an industrial program for a city the size of Nashville's. This type of work should be done in

conjunction with the inspections required under Section 3.2.6.7, and should require follow-up actions if monitoring data exceed the limits specified in the facility's permit.

26. *3.6.2. NPDES Permit Referrals.* The permittee is allowed up to 30 days to make referrals in the draft permit, and EPA suggests shortening this period (*i.e.*, 7 days) to shorten the time that unpermitted activities might take place, unless this time is needed for the MS4 to conduct progressive enforcement to achieve compliance with its own ordinances. In addition, these referral procedures should be included in the permittee's procedures for construction/industrial/and municipally-operated facilities.

27. *3.6.2. NPDES Permit Referrals Clarification.* Lastly, please clarify the first sentence of paragraph four to specify what types of violations are being described: "Refer violations to the division...." As written, the permit could be interpreted to mean that just construction violations are to be referred to the division.

10. ATTACHMENT 2 - PERMITTEE COMMENT ON DRAFT PERMIT

KARL F. DEAN
MAYOR

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

DEPARTMENT OF WATER AND SEWERAGE SERVICES
STORMWATER DIVISION
NPDES OFFICE
1600 COUNTY HOSPITAL ROAD
NASHVILLE, TENNESSEE 37218

August 26, 2011

Tennessee Department of Environment and Conservation
Division of Water Pollution Control
Attention: Wade Murphy
6th Floor, L & C Annex
401 Church Street
Nashville, Tennessee 37243

RE: **NPDES Permit No. TNS068047**
Metro Nashville-Davidson County
Comments on Draft Permit

Dear Mr. Murphy:

We would like to thank you for the opportunity to comment on specific requirements within draft Municipal Separate Storm Sewer System (MS4) NPDES Permit No. TNS068047. As you are aware, Metropolitan Nashville Davidson County has been committed over the past 15 years to improving stormwater quality runoff through its Phase 1 MS4 NPDES permit program.

Metro Nashville feels the draft permit is, for the most part, consistent with the direction Metro Nashville has been pursuing since 1997. We have identified, however, a few specific permit requirements that we would like to make comment on. Please find those specific comments/concerns attached.

Metro Nashville looks forward to working with TDEC regarding the consideration our draft permit comments. Please do not hesitate to contact me if you have questions relating to our comments.

Sincerely,

Michael Hunt
NPDES Program Manager

cc:
Tom Palko – Metro Water Services, Assistant Director of Stormwater
Scott Potter Director of Metro Water Services

NPDES Permit No. TNS068047 Draft Comments

1. Page 5-6, Section 2.4 (Protection of State or Federally Listed Species)

Comment:
Overall, Metro Nashville would submit that this requirement not include "all species". As it relates to MS4 discharge-related considerations, it would seem only those State and Federally listed species that inhabit aquatic environments and/or are impacted by MS4 discharges should be included in this stipulation.

Specifically, Metro Nashville feels the requirement to perform annual evaluations of its Stormwater Management Plan (SWMP) for purposes of determining if discharges or discharge-related activities are impacting (all) State or Federally listed species seems overreaching and will place an additional, unnecessary burden on Metro's SWMP – with most likely no corresponding improvement of water quality. MS4 permits relate to discharges of stormwater into waters of the state. As such and per past MS4 permits, Metro Nashville has already implemented and will continue to implement various BMPs to ensure stormwater pollution from the MS4 is minimized (and prevented) to the Maximum Extent Practical (MEP). Designing and implementing a SWMP resulting in MEP stormwater pollution reductions would seemingly be considered adequate to address/consider the potential impacts to State and Federally listed species.

Recommendation:
Metro Nashville would recommend this section verbiage be revised to state that the permittee shall submit a copy of the Metro Nashville (Stormwater Management) Plan to USFWS and TWRA within 18 months of permit reissuance for consideration/comment.

2. Page 9, Section 3.2.3 (Illicit Discharge Detection and Elimination)

Comment:
Metro Nashville feels three stipulations in this section pertain to considerations beyond the scope of regulating MS4 discharges.

Recommendation:
Metro Nashville would recommend that the related phrase be changed to "*...shall require the spill, prevention, control and countermeasure (SPCC) and/or storm water pollution prevention plans (SWPPP) for industries - previously identified as having spills or fugitive releases - that currently have no such plans.*".

In addition, Metro feels that the following requirement in this section should be removed as it is unrelated to the regulation of MS4 permit discharge considerations - "*The program must identify industries with stores of hazardous chemicals, explosives,*

and water priority chemicals." These considerations seem to relate to public safety matters, which are addressed via other regulatory activities/requirements.

Lastly, Metro Nashville would recommend that the following sentence be modified to read "*The permittee shall coordinate with these agencies to develop a program that minimizes the potential for their response to spills of chemicals or hazardous materials to cause pollutants to enter waters of the state via the MS4.*" - with "...via the MS4" added to the end of this sentence to clarify regulatory responsibility.

3. Page 13, Section 3.2.5 (Permanent Stormwater Management in New Development and Redevelopment)

Comment:
This section requires changes to performance standards for permanent stormwater management in areas of new development and redevelopment; however, there is no defined timeframe regarding by when the changes/updates to regulations/ordinances shall be completed.

Recommendation:
Metro Nashville would request that a timeframe be specified by which these new regulations and/or ordinance changes shall be implemented.

4. Page 15, Section 3.2.5.2.1 (Runoff Reduction (infiltration or green infrastructure))

Comment:
This section states the following: "*...MS4 program may enable the permittee to develop a program to allow for incentive standards for redeveloped sites. The program may provide a 10% reduction in the volume of rainfall to be managed for any of the following types of development. Such credits are additive such that a maximum reduction of 50% of the standard in the paragraph above is possible for a project that meets all 5 criteria:*

- *Redevelopment;*
- *Brownfield redevelopment;*
- *High density (>7 units per acre);*
- *Vertical Density. (Floor to Area Ratio (FAR) of 2 or >18 units per acre); and*
- *Mixed use and Transit Oriented Development (within ½ mile of transit).*

Metro Nashville would prefer to have the ability to select our own incentive criteria and associated runoff reduction credit program. Flexibility will allow Metro to adjust incentives to meet the changing needs of the development community and will afford Metro Nashville a better ability to control the direction of various water quality programs. It will also allow water quality incentives the flexibility to align and grow

with other "green" Metro Nashville programs. For example, infill redevelopment can cost a developer far more than developing a "green field" site. Metro Nashville envisions the possibility of providing a greater incentive than 10% for such projects as it could increase the number of such redevelopments initiated. As a result, more redevelopment should occur in those highly impervious areas that were constructed prior to water quality requirements thereby reducing the pollutant loads to urban streams. MWS also wants to grant green roofs additional credit as they are a Low Impact Development (LID) BMP that provides many ancillary environmental benefits to the community (e.g., reducing runoff quantity, urban habitat creation, trapping and sequestering air pollution, mitigating the heat island effect, improving energy efficiency, and providing opportunities for environmental education). Green roofs are not listed in the permit draft as an incentive category.

Recommendation:
We would recommend that the language in this section be changed to the following: "*This element of the MS4 program may enable the permittee to develop incentive standards for certain types of development and/or for the use of certain green infrastructure BMPs – as approved by TDEC WPC. The program may provide up to a 30% reduction in the volume of rainfall to be managed for any respective category as determined appropriate by the permittee. The total maximum credit reduction shall not exceed 50%.*"

5. Page 15, Section 3.2.5.2.2. (Pollutant Removal)

Comment:
This verbiage could be construed that referenced "fund" is a requirement of the permit.

Recommendation:
Metro Nashville would request that this verbiage be modified to read that funds can be diverted into a public stormwater project fund **IF** the permittee implements such a fund program.

6. Page 19, Section 3.2.5.8 (Watershed Protection)

Comment:
In this section the permit provides specific direction on including water quality and watershed protection elements within any revisions to urban development or community plan(s). While Metro Nashville believes watershed protection and water quality improvements should be an integral part of any community plan, we are concerned with some of the specific wording of watershed protection language.

A. The first bulleted example under this section calls for the following inclusion into community plans: "*Minimize the amount of impervious*

surfaces (roads, parking lots, roofs, etc.) within each watershed, by minimizing the creation, extension, and widening of parking lots, roads and associated development." Metro Nashville believes this example requirement could lead to unintended consequences such as preventing good block structure and connectivity as well as additional right of way acquisition needed to complete streets.

B. The last bulleted item calls for the following inclusion into the community plans: "*Implement policies that encourage stormwater practices close to the source of the runoff rather than downstream and lower in the watershed.*" Metro Nashville is concerned that this specific wording may prevent or discourage the use of large regional stormwater treatment basins that may be the best option to improve water quality in already-built out communities.

Recommendations:

A. Please add the following qualifying phrase to this item: "*...whereas block connectivity and/or right of way acquisition needs are not sacrificed.*

B. Please add a phase to this bulleted item: .... *but should not discourage or prevent the potential use of large regional stormwater treatment Best Management Practices in certain applications.*

7. Page 24, Section 3.3.1 (Wet Weather Monitoring)

Comment:

In this section, the permit specifically states that Metro ..."*At a minimum, obtain a first flush sample and a 1 and 2 hour post flush grab.*" Metro Nashville believes a "1 hour post flush grab" is sufficient. In our significant sampling experience, it has been our observation that many rain events last fewer than two hours causing several wet weather sampling events to have to be aborted due to runoff duration. In this proposed permit, Metro Nashville has proposed that the number of wet weather sites will increase from three (3) stations to five (5) stations and the sampling frequency at those sites will increase from two (2) times per year to three (3) times per year. Requiring only a "1 hour post flush grab" will be more conducive to Metro Nashville completing our expanded sampling regime – especially given rainfall patterns in the Nashville area. Metro Nashville will continue to make a good faith effort to obtain a "2 hour post flush grab" when/if possible.

Recommendation:

Please adjust the last sentence in this section to remove the requirement of a "2 hour post flush grab".

8. Page 27, Section 3.3.9. (TMDL Monitoring)

Recommendation:
Metro Nashville would request that this section only apply to stream segments that:

a. are "listed" on the current 303(d) list for urban runoff and/or MS4 discharges, and
b. have a TMDL in which Metro Nashville MS4 permitted discharges are designated as part of the waste load allocation.

Metro Nashville may, as is currently the case, monitor additional stream segments as deemed appropriate.

9. Page 31, Section 4.1 (Analytical Monitoring)

Recommendation:
Metro Nashville would request that this section only apply to stream segments that:

a. are "listed" on the current 303(d) list for urban runoff and/or MS4 discharges, and
b. have a TMDL in which Metro Nashville MS4 permitted discharges are designated as part of the waste load allocation.

Metro Nashville may, as is currently the case, monitor additional stream segments as deemed appropriate.

10. Page 32, Section 4.2 (Non-analytical Monitoring)

Comment:
Metro Nashville believes this section (4.2) seemingly is taken directly from TMDL requirements as written by TDEC. It would seem modifying the first sentence to specify "impaired streams listed in the TMDL" serves to clarify the requirements of this section.

Also as it relates to discharges covered by this MS4 permit, this section should seemingly only apply to stream segments that:

a. are "listed" on the current 303(d) list for urban runoff and/or MS4 discharges, and
b. have a TMDL in which Metro Nashville MS4 permitted discharges are designated as part of the waste load allocation.

It is also Metro Nashville's belief that streams listed for "habitat alteration" should not be included in this criteria as the regulation of MS4 discharges does not necessarily relate to stream habitat alterations and their related impacts as such impacts could have occurred decades ago and/or have been created by private entities outside of the MS4 permittee's jurisdiction (and/or prior to its existence).

Recommendation:
First sentence states "*Visual Stream Surveys and Impairment Inventories must be performed on streams impaired for siltation, habitat alteration and pathogens...*" Metro Nashville suggests that sentence be modified to read "*Visual Stream Surveys and Impairment Inventories must be performed on streams listed as impaired by the most current 303(d) list that also have TMDLs issued for them.*".

Further, Metro Nashville would request that this section only apply to stream segments that:

a. are "listed" on the current 303(d) list for urban runoff and/or MS4 discharges, and
b. have a TMDL in which Metro Nashville MS4 permitted discharges are designated as part of the waste load allocation.

Metro Nashville may, as is currently the case, monitor additional stream segments as deemed appropriate.

11. Page 34, Section 4.5 (Reporting)

Comment:
Per this section, the permit's Annual Report shall be submitted within 6 months following the end of Metro Nashville's fiscal year. We agree with this requirement, but we request some additional clarification on what the permit year reporting period will be. In Metro Nashville's past two permit cycles, the permit year has coincided with the fiscal year (July 1 through the following June 30th). Therefore, all Metro Government reporting/recordkeeping for the MS4 program has been set up to coincide with the fiscal year. We feel strongly – for the benefit and consistency of our program - that permit years be allowed to continue to coincide with fiscal years so there is no confusion relating to the various compliance considerations associated with "permit years". For instance, if this permit is issued in October of 2011, we would request that permit year 1 end on June 30, 2012. All subsequent permit years would then run from July 1st through the following June 30th - except permit year 5, which would end on the actual permit expiration date.

Recommendation:
Metro Nashville would request that language be added within this section to allow for permit years to coincide with the permittee's fiscal years. This clarification is significant as permit years relates to important permit compliance deadlines.

12. Page 34, Section 4.5 (Reporting)

Comment:
In this section, it states that the "*permittee must present the annual report for suggestions and comment at a public hearing or at another public meeting advertised to relevant stakeholders.*" The annual report is a document outlining the various

activities/data the permittee has performed/collected over the reporting period – as required per the permit. Metro Nashville's MS4 annual reports have historically been made available to the general public via our website once the report is completed and submitted to TDEC. It is our contention that holding a "public hearing" to receive public comments/suggestions on a report of factual activities/data would have very limited, if any, practical benefit. Regardless of the feedback received during a public meeting, the annual report seemingly could not be changed per the permit language relating to factual reporting (section 5.7.2.) under penalty of law. The annual report, unlike the stormwater management manual (which provides for public comment when/if modified) does not set policy or regulations.

It would seem that the (current) TDEC public notice of the Metro Nashville draft permit is the more appropriate time and means by which to receive and consider public comment on permit requirements and activities. With that said, Metro Nashville has and will continue to consider various inputs relating to our Stormwater Management Plan.

Recommendation:
Metro Nashville would recommend that this requirement be deleted and replaced with a requirement to post each year's annual report on the permittee's website.

13. Page 42, Section 6 (Definitions)

Comment:
As per the definition of a Priority Construction Activity (PCA) in the permit, a PCA site is one that discharges "*...directly into, or immediately upstream of, waters the state recognizes as impaired (for siltation or habitat alteration) or Exceptional Tennessee Waters.)*". "Habitat alteration"-impaired streams are generally caused by historic stream channel (or vicinity) manipulations, such as channelization, encapsulation, etc. as well as land use characteristics proximate to streams. Prioritizing inspections of Nashville's hundreds of ongoing construction (i.e. Grading Permit) sites should be focused on sites that discharge to "siltation"-impaired segments. The primary potential impact to streams from active construction sites is an unnatural loading of sediment. Special consideration/prioritization is given currently via Metro Nashville's Grading Permit process to sites discharging to "habitat alteration"-impaired segments during the Grading Permit site plan review process. A quick assessment of "habitat alteration" and "siltation"-impaired streams reveals that within Metro Nashville, a majority of construction sites (approximately 70-80%) would be "prioritized" for monthly inspections as per Section 3.2.4. - as opposed 30-40% if considering "siltation"-impaired streams.

Recommendation:
Metro Nashville would recommend that the definition of "Priority Construction Activity" be revised to include only those sites that discharge to streams listed by TDEC as being impaired for siltation (and not habitat alteration).

11. RATIONALE (FACT SHEET)

1. Permittee

Metropolitan Government of Nashville/Davidson County
NPDES Permit No. TNS068047
Davidson County, Tennessee

Permit Writers: Wade Murphy and Vojin Janjic

1.1. Purpose and Background

1.1.1. Purpose of this Rationale Sheet

This rationale sheet is intended to explain the basis for conditions of a proposed NPDES permit to authorize discharges of stormwater runoff from the Metropolitan Government of Nashville/Davidson County municipal separate storm sewer. The definition for the Municipal separate storm sewer is consistent with EPA rules found at 40 CFR 122.26(b) and is included in Part 6 of the permit.

1.1.2. EPA Stormwater Rules

Over the past 30 years, EPA and state water quality agencies have realized the great impact that rain water runoff has on surface waters - streams, rivers, lakes, estuary and ocean waters. Rain water falling on industries, urban areas and construction activities can become contaminated with sediments, suspended solids, nutrients phosphorous and nitrogen, metals, pesticides, organic material and floating trash. These pollutants are then carried into the surface waters. Unlike sanitary wastewater and industrial wastewater, historically most stormwater has not been treated prior to entering streams. Pollution from stormwater must be prevented at the source by reducing the volume and intensity of the runoff and/or the reduction of pollutants in the runoff.

Federal, state and local governments have passed laws and regulations to address the problem of polluted runoff. Phase I EPA stormwater regulations initiated a national stormwater permitting program in 1990, that applied to industrial activities, to construction sites of five acres or more and to urban runoff from larger cities. Phase II regulations in 1999 address additional urbanized areas, certain cities with population over 10,000, and construction activities of one to five acres.

The Tennessee Department of Environment and Conservation, Division of Water Pollution Control implements the EPA Phase I and Phase II programs in Tennessee.

1.2. MS4 Description

1.2.1. Discharger

The Metropolitan Government of Nashville/Davidson County
Metro Water Services
1607 County Hospital Road
Nashville, TN 37218

Contact: Mr. Michael Hunt

NPDES Program Manager
615-880-2420

1.2.2. Permit Status

The current permit was issued May 30, 2003, and expired on May 30, 2008.

1.2.3. The Permittee's System

The permittee maintains a website at http://www.nashville.gov/stormwater/index.asp for its MS4 system. This website provides information regarding the scope of MS4 activities as well as user information such as links to ordinances and forms.

1.2.4. Description of Discharges

Stormwater runoff from the MS4 includes runoff from construction sites, roads, municipal operations such as garages, schools, storage facilities, golf courses, etc.; and residential, commercial and industrial properties.

It is important to realize that non-stormwater can be introduced into the storm sewer system. For example, illicit discharges of industrial process-related wastewater; dumping of wash water from business operations; car wash water from homes or special car wash events; parking lot wash water; spills and leaks from equipment, vehicles and storage tanks; potable water from water lines and fire hydrants. These are some common sources of contamination in storm sewers. The proposed permit does not authorize the discharge of non-stormwater by the MS4 into streams except for those that are determined not to be substantial contributors of pollutants. Section 1.5.2 of the permit lists the allowable non-stormwater discharges.

1.2.5. Permit Requirements

The Water Quality Control Act of 1987 (the Clean Water Act, or the "CWA"), 33 U.S.C. §1342, et. seq., which set up the present NPDES permit requirements for discharges of urban runoff, requires that the proposed NPDES permit issued to the Metropolitan Government of Nashville/Davidson County:

- include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and,
- reduce pollutants in discharges from the MS4 to the "Maximum Extent Practicable" (MEP).

As did the previous permit, this reissued permit will fulfill these requirements primarily by requiring the permittee to implement a number of programs and tasks, Best Management Practices (BMPs), to prevent stormwater pollution at the source, through a comprehensive Stormwater Management Program (SWMP).

1.3. Receiving Waters

The receiving streams under consideration in this permit are any waters of the state to which the MS4 discharges. The definition of waters of the state is found in the Tennessee Water Quality Control Act and is included in Part 6 of the permit. As stated above, stormwater runoff in the MS4 drains, either directly or via storm sewers and/or tributaries, to the Cumberland River.

1.3.1. Impaired Waterbodies

Lower Cumberland Watershed (HUC 05130202)

The division's 2010 303(d) list, as well as the latest assessment information, indicates that several surface waters in the Lower Cumberland River Watershed, in Davidson County are impaired or otherwise assessed as needing additional controls on specific pollutants. The complete list of impacted waterbodies and the pollutants of concern may be viewed on the divison's webpage at:
http://www.tn.gov/environment/wpc/publications/pdf/2010draft303dlist.pdf

1.4. Special Conditions

1.4.1. Protection of State or Federally Listed Species

Discharges and discharge-related activities are not allowed to jeopardize existence of state or federally listed species as found in sections 7 and 9 of the Endangered Species Act. In order to evaluate effectiveness of MS4s program in this regard, three criteria for program evaluation were established. Those are:

- Presence/absence of listed species within MS4 jurisdiction;
- Consultations with US Fish and Wildlife Service and TWRA; and
- MS4 activities MS4 were already addressed in another operator's certification of eligibility.

1.4.2. Co-permittees and Coordinated Programs

This permit recognizes that adjacent urban areas may benefit from working cooperatively as co-permittees or by coordinating MS4 activities. The benefits may include, but are not limited to further protection of state waters and reduction of overhead cost of running an effective MS4 program.

1.4.3. Discharges to Water Quality Impaired Waters

Discharge from the MS4 cannot cause or contribute to impairment of state waters (1200-4-3-.06). For discharges into impaired segments, there are two scenarios – where TMDL is developed and TMDL is not developed. Where TMDL is developed, MS4s are required to demonstrate compliance with waste load allocation(s) as defined in the implementation part of the TMDL. Where TMDL is not developed, the MS4s stormwater management plan (SWMP) must include a monitoring component that assesses the effectiveness of BMPs in controlling the pollutants of concern.

The division maintains a list of EPA-approved TMDLs on its webpage at:
http://www.tn.gov/environment/wpc/tmdl/approved.shtml . The Lower Cumberland Watershed is a Group 5 Watershed.

1.5. Stormwater Management Program

The MS4 must develop, implement, and enforce a Stormwater Management Program (SWMP) designed to reduce the discharge of pollutants from the MS4 to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. The six minimum measures, as written by the EPA in the Phase I final rule (December, 1999, 40 CFR 122.3), serve as basis for NPDES permit conditions. These will form the backbone of the proposed permit requirements, as follows:

- Public Education and Outreach
- Public Participation/Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Runoff Control
- Pollution Prevention/Good Housekeeping

1.5.1. Public Education and Outreach

The MS4 may use stormwater educational materials provided by the state, EPA, environmental, public interest or trade organizations, or other MS4s. The public education program should inform individuals and households about the steps they can take to reduce stormwater pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes. The program should inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups. The public education program should be tailored, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community- based projects such as storm drain stenciling, and watershed and beach cleanups. In addition, some of the materials or outreach programs should be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant stormwater impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. The MS4 is encouraged to tailor the outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

1.5.2. Public Participation/Involvement

The public be should included in developing, implementing, and reviewing the stormwater management program and that the public participation process should make efforts to reach out and engage all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local stormwater management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts.

1.5.3. Illicit Discharge Detection and Elimination

The plan to detect and address illicit discharges should include the following four components: procedures for locating priority areas likely to have illicit discharges; procedures for tracing the source of an illicit discharge; procedures for removing the source of the discharge; and procedures for program evaluation and assessment. The MS4 must visually screen all outfalls during dry weather and conducting field tests of selected pollutants as part of the procedures for locating priority areas (see schedule in section 3.3.6 above) . Illicit discharge education actions may include storm drain stenciling, a program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials.

In order to trace the origin of a suspected illicit discharge or connection, the permittee must have an up-to-date map of its storm drain system. This is critical in order to isolate the potential source of the non-stormwater discharges and the areas of potential impact. Ideally, the information would be available as a geographic information system (GIS) layer in a geo-locational database, however, paper maps are sufficient providing they have the necessary reference information.

The permit primarily requires the mapping of outfalls, drainage areas contributing to those outfalls, and receiving waters. The municipal facility inventory created to comply with the pollution prevention/good housekeeping requirements must also be included either on this sewer system map or on a separate MS4 map.

The permit requires the permittee to train field staff, who may come into contact or observe illicit discharges, on the identification and proper procedures for reporting illicit discharges. Field staff to be trained may include, but are not limited to, municipal maintenance staff, inspectors, and other staff whose job responsibilities regularly take them out of the office and into areas within the MS4 area. Permittee field staff are out in the community every day and are in

the best position to locate and report spills, illicit discharges, and potentially polluting activities. With proper training and information on reporting illicit discharges easily accessible, these field staff can greatly expand the reach of the illicit discharge detection and elimination program.

1.5.4. Construction Site Runoff Control

Examples of sanctions to ensure compliance include non-monetary penalties, fines, bonding requirements and/or permit denials for non-compliance. Procedures for site plan review should include the review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements. Procedures for site inspections and enforcement of control measures could include steps to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and receiving water quality. The MS4 is should provide appropriate educational and training measures for construction site operators. The MS4 may wish to require a stormwater pollution prevention plan for construction sites within your jurisdiction that discharge into your system. See Sec. 122.44(s) (NPDES permitting authorities' option to incorporate qualifying State, Tribal and local erosion and sediment control programs into NPDES permits for stormwater discharges from construction sites). Also see Sec. 122.35(b) (The NPDES permitting authority may recognize that another government entity, including the permitting authority, may be responsible for implementing one or more of the minimum measures on your behalf.)

Education of construction site operators regarding stormwater management and regulatory requirements is an essential part of controlling stormwater discharges from construction sites. Making brochures, guidance documents and trainings available will increase the knowledge of operators and compliance in the field and can help them choose the correct structural control and processes, correctly install the controls, and successfully implement control measures. The permit requires the permittee to provide appropriate outreach materials to construction site operators. These materials can be made available during the normal course of business (i.e. in BMP manuals, in plan notes, during meetings) or via brochures or websites. In addition, the permittee must either provide training or notify the operators of available training opportunities.

Public involvement requirements include the development of a hotline or other telephone number for the public to call regarding stormwater concerns at construction sites.

1.5.5. Permanent Stormwater Management in New Development and Redevelopment

If water quality impacts are considered from the beginning stages of a project, new development and potentially redevelopment provide more opportunities for water quality protection. The BMPs chosen should: be appropriate for the local community; minimize water quality impacts; and attempt to maintain pre- development runoff conditions. In choosing appropriate BMPs, the MS4 should participate in locally-based watershed planning efforts which attempt to involve a diverse group of stakeholders including interested citizens. When developing a program that is consistent with this measure's intent, the MS4 should adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non- structural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing the program, the MS4 should consider assessing existing ordinances, policies, programs and studies that address stormwater runoff quality. In addition to assessing these existing documents and programs, the MS4 should provide opportunities to the public to participate in the development of the program. Non- structural BMPs are preventative actions that involve management and source controls such as: policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; policies or ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure; education programs for developers and the public about project designs that minimize water quality impacts; and measures such as minimization of percent impervious area after development and minimization of directly connected impervious areas.

Structural BMPs include: storage practices such as wet ponds and extended-detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; and infiltration practices such as infiltration basins and infiltration trenches. The MS4 should ensure the appropriate implementation of the structural BMPs by considering some or all of the following: pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for the noncompliance with design, construction or operation and maintenance. Stormwater technologies are constantly being improved, and EPA recommends that your requirements be responsive to these changes, developments or improvements in control technologies.

In addition, this permit requires implementation of Permanent Stormwater Controls. The permittee is required to develop policies and procedures to protect receiving waters from the impacts of stormwater runoff from new and redevelopment associated with both site scale decisions and designs, as well as with neighborhood, community and watershed scale decisions and designs.

Land development directly affects watershed functions, and water quality in receiving waters. When development occurs in previously undeveloped areas, the resulting alterations to the land can dramatically change how water is transported and stored. Development creates impervious surfaces and compacted soils that increases surface runoff and decreases ground water infiltration. These changes can increase the volume and velocity of runoff, the frequency and severity of flooding, peak storm flows as well as the type, concentration, and quantity of pollutants in discharges.

As urbanization occurs, a corresponding increase in impervious surface area also occurs. These changes to the landscape cause the volumes, rates and durations of runoff-related discharges to increase, along with a corresponding increase in pollutant loadings. In addition, stream channels are destabilized due to the increased energy of the runoff that results in bank cutting, stream channel widening, channel incision and detrimental sediment mobilization and deposition. Because of these changes n runoff volumes and rats, the stream systems and waterbodies within and downstream of urbanization are commonly impaired due to sediment and nutrient loadings, increased total suspended solids, poor biotic communities, and increased stream temperatures.

Stormwater management standards have been historically written with provisions that promote or require extended detention controls, such as extended detention wet ponds, dry detention basins or constructed wetlands. There are multiple problems with extended detention as a water quality management practice. Primary to this is that receiving stream dynamics are based on balances of much more than just discharge rates. Extended detention practices are first and foremost designed to prevent downstream flooding and not to protect downstream channel stability and water quality. Water quality protection has been a secondary goal, or one omitted entirely during the design of these facilities. Over time it has become apparent through research and monitoring that these practices do not effectively protect the physical, chemical or biological integrity of our receiving waters. Furthermore, operation and maintenance of these systems to ensure they perform as designed requires a level of managerial and financial commitment that is often not provided.

There is now a large body of research demonstrating that practices that mimic the natural water cycle – processes that result in the infiltration, evapotranspiration and capture and use of stormwater – are simultaneously advantageous for protecting the physical, chemical and biological characteristics of receiving waters. These practices are designed to mimic the way natural vegetated landscapes respond to precipitation events. When it rains or when snow melts, vegetated areas (forests, prairies and grasslands, gardens and trees) intercept, evaporate and absorb much of the rainfall. Some of the precipitation is also absorbed of infiltrated into the soil. Ideally, site designs and plans should make use of these natural systems and processes as much as possible to mimic or preserve the site hydrology, i.e., the balance of plant uptake of water, infiltration of runoff into the soil and groundwater table, and the natural runoff patterns into natural drainage ways and streams.

This permit encourages infiltration, evapotranspiration and capture and use of stormwater by prescribing iterative set of performance standards. These standards are listed below in the priority order:

- Runoff Reduction (infiltration or green infrastructure)

- Pollutant Removal
- Off-site Mitigation or
- Payment into Public Stormwater Project Fund.

The division determined that infiltrating the first inch of rainfall would be most protective of water quality with respect to loading of pollutants. This approach mimics most closely the pre-development hydrologic conditions. Pollutant removal would be used at those sites which can manage less than 100% of the runoff reduction. These two options are mandatory. The division recognizes that some MS4s may need to allow other options, such as off-site mitigation or payment into public stormwater project fund. The division set a 1:1.5 ratio for mitigation and/or payment upon recommendation from EPA.

Imperviousness has been shown to correlate with water quality impacts. In order to minimize water quality impacts, the permittee must examine their planning principles to manage the creation of impervious surfaces at the watershed level, such as reducing the footprint of streets and parking lots. Also, ecologically sensitive areas can protect water quality by acting both as filters that reduce pollutants in stormwater discharges and as sponges to reduce the impact on the ecosystem's hydrology. Thermal pollution is also a concern that can impact biota in waterways. Stormwater discharges from impervious surfaces are often characterized by higher temperatures than natural, pervious surfaces. Reducing the chances of further increasing this temperature by preserving, protecting, and restoring natural features that provide shading for the waterway can further help reduce thermal pollution. Whenever possible natural waterways must be protected and not disturbed by stormwater from developed sites. For example, areas that have a high potential for erosion must be avoided for development when possible. Protecting vegetation, native soils, and conserving water can also help ensure the hydrologic qualities of the site remain intact.

Consideration of stormwater impacts from development is critical during the planning phases of development. This not only includes planning on the site-level, but also with respect to discharges from the MS4 on the watershed level. To the extent possible, stormwater management must be an integral part of higher level planning documents that determine where and how development that will result in stormwater discharges to the MS4 should occur since these decisions affect water quality. Using land efficiently can result in better stormwater management by putting development where it is most appropriate. For example, by directing and concentrating new development in areas targeted for growth, communities can reduce or remove development pressure on undeveloped parcels and protect sensitive natural lands and recharge areas. Another strategy is redeveloping already degraded sites such as abandoned shopping centers or underutilized parking lots. In this case, the net increase in discharges from developed sites would likely be zero, and it would likely decrease, depending on the on-site infiltration practices used. Also, by allowing or encouraging denser development, less land is converted overall, and less total impervious area created.

1.5.6. Codes and Ordinances Review and Update

The EPA Water Quality Scorecard (the scorecard) is a tool that focuses on common municipal codes and ordinances provisions that can impact the effect of stormwater runoff on receiving waters. These impacts may be inadvertent; in attempts to address unrelated municipal issues, codes and ordinances frequently drive the creation of additional impervious surfaces such as large parking lots, wide roads, curbed streets, etc. The scorecard addresses a variety of issues, and provides a quantitative scale that the MS4 will use to score its policies with respect to protection of receiving waters. The purpose of the evaluation is two-fold:

- to help the permittee identify policies that may be creating obstacles to comprehensive and effective stormwater management, and
- to identify preferred alternatives.

The MS4 is expected to make improvements to municipal policies currently creating barriers to protection of waters of the state. However, the division's intent is not for the MS4 to ultimately achieve a 'perfect score'. The score will not be used to measure compliance with the permit; rather, for the MS4 to identify high priority areas for the community, and focus effort on those particular issues. A completed copy of the scorecard shall be submitted with the subsequent annual report.

1.5.7. Project Plan Review, Approval and Enforcement

The MS4 is required to have an ordinance or other regulatory mechanism to ensure permanent stormwater management. The division believes that this can be best accomplished by establishing procedures for project review and approval that include an enforcement component.

1.5.8. BMP Maintenance

To further ensure permanent stormwater management, the division is requiring that the MS4 establish maintenance agreements with owners and/or operators at sites that are subject to performance standards. All stormwater BMPs must be maintained in perpetuity.

1.5.9. Inventory and Tracking of Management Practices

In order to make sure that BMPs are properly implemented and maintained, the division is requiring that MS4s develop a tracking system for these BMPs. The permit requires for data to be stored in electronic format so it can be readily shared with other agencies and the public.

1.5.10. Owner/Operator Inspections

In order to make sure that BMPs are properly implemented and maintained, routine and comprehensive inspections are required. Routine inspections are to be performed at an annual basis, with a purpose of confirming that BMPs are properly functioning. Comprehensive inspections should evaluate all aspects of BMP design, implementation, maintenance and effectiveness.

1.5.11. Pollution Prevention/Good Housekeeping for Municipal Operations

The Pollution Prevention/Good Housekeeping for municipal operations minimum control measure is a key element of any MS4 stormwater management program. This measure requires the MS4 operator to examine and subsequently alter their own actions to help ensure a reduction in the amount and type of pollution that: (1) collects on streets, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways; and (2) results from actions such as environmentally damaging land development and flood management practices or poor maintenance of storm sewer systems.

While this measure is meant primarily to improve or protect receiving water quality by altering municipal or facility operations, it also can result in a cost savings for the small MS4 operator, since proper and timely maintenance of storm sewer systems can help avoid repair costs from damage caused by age and neglect.

1.5.11.1 Storm Sewer System Maintenance Activities

MS4 Maintenance

Traditional municipal storm drain systems were designed to quickly collect and convey runoff to receiving waters. The purpose of catch basin, inlet, and storm drain cleanouts is to prevent blockages, flooding, and reduce pollution.

Fine particles and pollutants from run-on, atmospheric deposition, vehicle emissions, breakup of street surface materials, littering, and sanding can accumulate along the curbs of roads in between rainfall events. This results in the accumulation of pollutants such as sediment, nutrients, metals, hydrocarbons, bacteria, pesticides, trash and other toxic chemicals. Storm drain maintenance is often the last opportunity to remove pollutants before they enter the

storm drain system. Because they effectively trap solids, they need to be cleaned out periodically to prevent those materials from being transported by high stormwater flows. By doing so the MS4 will prevent trash and litter from ultimately becoming sources of marine debris, which is any man-made, solid material that enters waterways either directly or indirectly.

The permit includes a priority ranking approach for catch basins so that municipal resources are directed to the areas and structures that generate the most pollutants. A priority ranking system is required because some catch basins will accumulate pollutants faster than others based on the nature of the drainage area and whether controls are present upstream of the catch basin. Catch basins with the highest accumulations will need to be cleaned more often than those with low accumulations. The permit language also includes a requirement that triggers catch basin cleaning when a catch basin is one-third full.

Proper storm drain system cleanout includes vacuuming or manually removing debris from catch basins; vacuuming or flushing pipes to increase capacity and remove clogs; removing sediment, debris, and overgrown vegetation from open channels; and repairing structures to ensure the integrity of the drainage system. It is important to conduct regular inspections of all storm sewer infrastructure and perform maintenance as necessary. Though these activities are intended to ensure that the sewer system is properly maintained and that any accumulated pollutants are removed prior to discharge, if not properly executed, cleanout activities can result in pollutant discharges. In selecting maintenance practices, the permittee must carefully evaluate each with an eye towards stormwater pollution potential to minimize unintended pollutant discharges, such as the use of flushing storm drain pipes to remove debris without recapturing the debris further down the pipe.

The materials removed from catch basins may not reenter the MS4. The material must be dewatered in a contained area and the water treated with an appropriate and approved control measure or discharged to the sanitary sewer. The solid material will need to be stored and disposed of properly to avoid discharge during a storm event. Some materials removed from storm drains and open channels may require special handling and disposal, and may not be authorized to be disposed of in a landfill.

Street Sweeping and Cleaning

Street and parking lot sweeping is a practice that most municipalities initially conducted for aesthetic purposes. However, the water quality benefits are now widely recognized. Street sweeping also prevents particulate matter associated with road dust from accumulating on public streets and washing into storm drains.

The permit language addresses a number of important factors that impact the effectiveness of a street sweeping program. The first factor is the type of equipment used; the permit language stipulates that when equipment needs to be replaced, high-performance sweepers are purchased preferentially. Street sweeping has traditionally been more effective at removing large-sized particles, but new equipment has been developed to remove smaller, fine-grained particles. Mechanical sweepers (broom-type) are usually the least expensive and are better suited to pick up large-grained sediment. Vacuum and regenerative air sweepers are better at removing fine-grained sediment particles, but they are more expensive. Removal efficiency can be improved through tandem sweeping (i.e., two sweepers sweeping the same route, with one following the other to pick up missed material), or if the street sweeper makes multiple passes on a street.

The second factor influencing street sweeping effectiveness is the way in which the equipment is operated; the permit specifies that equipment be operated according to the manufacturers' operating instructions by operators who have been trained to sweep in accordance with the Permit Requirements in order to protect water quality.

The third determining factor is the degree to which parked cars block sweeper access to the curb; one of the best ways to ensure access to the curb is to establish parking restrictions based on sweeping schedules and to inform residents of the schedule so they can voluntarily move their cars. The permit requires that the permittee institute parking restrictions and/or a public outreach campaign requesting that cars be parked elsewhere to accommodate sweeping schedules.

Because not all streets are suitable for sweeping (e.g., those that don't have a curb and gutter), source controls can be used in place of sweeping in those areas.

The permittee is required to maintain documentation of sweeping events and characterize the quantity and composition of pollutants removed from roadways. Street sweeping data are relatively easy to track and maintain, so the permit includes requirements for reporting and assessment of the effectiveness of the sweeping activities based on equipment used, miles swept, and the amount of materials collected.

The street sweeping material may not reenter the MS4. The material must be dewatered in a contained area and the water treated with an appropriate and approved control measure or discharged to the sanitary sewer. The solid material will need to be stored and disposed of properly to avoid discharge during a storm event. Some materials may require special handling and disposal, and my not be authorized to be disposed of in a landfill.

Flood Management

This permit requires that existing flood management projects be prioritized and a set number be evaluated to identify opportunities for water quality retrofits. This is because the focus of stormwater management in the past had been to control flooding and mitigate property damage, with less emphasis on water quality protection. These structures may handle a significant amount of stormwater and therefore offer an opportunity to modify their design to include water quality features for less than the cost of building new controls. This requirement applies not only to new flood control projects, but also to existing structures.

Pesticide, Herbicide, and Fertilizer Application and Management

The permit focuses on requiring source controls to reduce the amount of chemicals used. The permit specifies the use of integrated pest management, selection of native vegetation that is naturally adapted to local conditions and therefore requires fewer chemical and water inputs, reducing exposure of the chemicals to water by scheduling application according to weather forecasts and plant needs, and ensuring that municipal employees who are responsible for storing and handling these materials are educated about their use, disposal, and possible impacts.

Contractor Requirements and Oversight

Many municipalities use third-party contractors to conduct municipal maintenance activities in lieu of using municipal employees. Contractors performing activities that can affect stormwater quality must be held to the same standards as the permittee. Not only must these expectations be defined in contracts between the permittee and its contractors, but the permittee is responsible for ensuring, through contractually-required documentation or periodic site visits, that contractors are using stormwater controls and following standard operating procedures.

1.6. Qualifying Tribe, State or Local Program (QLP)

Under CFR 122.44(s), the division can formally recognize a MS4 as a Qualified Local Program (QLP) that has been shown to meet or exceed the provisions of the construction general permit. The division is providing a QLP program that provides clear criteria, incentives and formal recognition under the Tennessee Construction Stormwater Excellence Initiative.

The goal is to encourage the permittee to utilize the qualifying provision through the development of criteria, incentives and a formal "excellence" recognition and awards program

QLPs will provide for a more efficient process for managing construction stormwater by eliminating duplication of the effort between the MS4 and the division; ease the burden on construction site operators by providing them with one set of requirements to follow, not two; stronger MS4 erosion prevention and sediment control programs.

1.7. Antidegradation Review

The antidegradation policy in Tennessee Rules, Chapter 1200-4-3-.06 requires that degradation of existing water quality be prevented unless necessary for economic and social benefit. The division believes that existing water quality will not be degraded by the issuance of this permit. The stormwater discharges authorized by this permit have been on-going since the federal regulations requiring an NPDES permit were adopted. This permit will reduce the current level of pollution discharged from the MS4. The division also expects the pollution reduction measures implemented by the permittee to offset any expansion of stormwater conveyances systems and outfalls because of the permit requirement to implement a broad range of pollution reduction measures, including measures to address impacts from new development and significant redevelopment. The permit does not set numeric discharge limits. Stormwater discharges are highly variable in nature and difficult to control due to topography, land use and weather differences (e.g., intensity and duration of storms). Through an adaptive management process, the co-permittees are required to regularly review and refine their best management practices to reduce pollutants to the maximum extent practicable. The goal of the permit is a net reduction in pollutant loadings over the five-year permit term. Over the five-year permit term, a range of programs will be implemented and enhanced to minimize stormwater pollution discharges from existing and new residential, commercial, and industrial developments. Therefore, the issuance of this permit will protect and improve existing water quality and is consistent with the division's antidegradation policy.

1.8. Reviewing and Updating Stormwater Management Programs

The SWMP is a set of structural and nonstructural actions and activities used by the permittee to reduce the discharge of pollutants to the maximum extent practicable. Minor changes and adjustments to the various SWMP elements are expected and may be necessary to more successfully adhere to the goals and requirements of the permit. One of the purposes of this section of the permit is to specify the procedures for making changes to the SWMP. A distinction is made between adding new components and replacing (or removing) components of the SWMP.

Most changes to the SWMP are considered a part of adaptive management and do not require modification of this permit unless the division determines that the magnitude of proposed SWMP revisions substantially change the nature or scope of the SWMP.

The division does not intend to require a permit modification should the permittee(s) annex additional lands or accept the transfer of operational authority over portions of the MS4. Implementation of appropriate SWMP elements for these additions is required.

1.8.1. Requirement to Ensure Adequate Resources to Comply with MS4 Permit

The annual fiscal analysis will show the allocated resources, expenditures, and staff resources necessary to comply with the permit, and implement and enforce the permittee's SWMP. (See 40 CFR 122.26(d)(2)(vi). The annual analysis is necessary to show that the permittee has adequate resources to meet all permit requirements. The analysis can also show year-to-year changes in funding for the stormwater program. A summary of the annual analysis must be reported in the annual report. This report will help the division understand the resources that are dedicated to compliance with this permit, and to implementation and enforcement of the SWMP, and track how this changes over time.

1.9. Enforcement Response Plan

Permittee is required by the Phase I and Phase II regulations to include in the ordinance, or other regulatory mechanism, penalty provisions to ensure compliance with construction and industrial requirements, to require the

removal of illicit discharges, and to address noncompliance with post-construction requirements. In complying with these requirements, the division requires the use of enforcement responses that vary with the type of permit violation, and escalate if violations are repeated or not corrected (recidivism reduction). The MS4 must develop and implement an enforcement response plan (ERP), which clearly describes the action to be taken for common violations associated with the construction program, industrial and commercial program, or other SWMP programs. A well-written ERP provides guidance to inspectors on the different enforcement responses available, actions to address general permit non-filers, when and how to refer violators to the State, and how to track enforcement actions.

1.10. Sampling and Monitoring Requirements

1.10.1. Introduction

The phase I MS4 stormwater application regulations set forth requirements such that MS4 cities will address at least three types of sampling during the term of their permits. The types of samples are as follows:

- representative data collection (refers to sampling stormwater discharges at Outfalls of the MS4 system; may be designed to describe an area of homogeneous land use);
- field screening for illicit connections and improper disposal; and,
- monitoring runoff from industrial sites.

In addition, large and medium MS4s might perform other types of monitoring as well, including but not limited to:

- in-stream sampling, both chemical and biological;
- stream bioassessments; and,
- BMP or other stormwater treatment system influent and effluent monitoring.

Over the course of three permit cycles, the permittee has worked with TDEC-WPC to tailor a monitoring plan meeting these objectives and that is practical for the scope of this individual program and its associated streams. These requirements are contained in Part 3.3 of the permit.

1.11. Assessment of Controls

1.11.1. Need for assessments

The division believes an MS4 needs to assess the effectiveness of its stormwater quality management program for a number of reasons. These assessments serve many purposes such as:

- a step in determining whether the most cost effective best management practices are included in the stormwater management program;
- a means to ensure the operator of the MS4 is accountable to the public and other users of the MS4;
- to assist in designing ongoing monitoring, inspection and surveillance programs that help refine estimates of program effectiveness;
- a baseline and ongoing measuring stick of the progress of the program; and
- in developing a strategy to evaluate progress toward achieving water quality goals.

1.11.2. Proposed Assessments

A key requirement in the stormwater rule is a report (40 CFR 122.34(g)(3)) that includes "the status of compliance with permit conditions, an assessment of the appropriateness of identified [control measures] and progress towards achieving identified measurable goals for each of the minimum control measures." This assessment is critical to the

stormwater program framework which uses the iterative approach of implementing controls, conducting assessments, and designating refocused controls leading toward attainment of water quality standards.

Building on the monitoring and assessment program developed in part 4, the permittee must conduct an annual effectiveness assessment to assess the effectiveness of significant control measures, SWMP components, and the SWMP as a whole. The California Stormwater Quality Association's (CASQA) Municipal Stormwater Program Effectiveness Guidance describes strategies and methods for assessing effectiveness, including examples of effectiveness assessment for each SWMP program component. The CASQA Effectiveness Guidance is available at www.casqa.org for purchase. A two-hour EPA webcast focusing on the CASQA Guide is also available (available at www.epa.gov/npdes/training under "Assessing the Effectiveness of Your Municipal Stormwater Program"). A resources document from the webcast includes a 10 page summary of the Guide and example pages from the municipal chapter (www.epa.gov/npdes/outreach_files/webcast/jun0408/110961/municipal_resources.pdf).

The Municipal Stormwater Program Effectiveness Assessment Guidance synthesizes information on designing and conducting program effectiveness assessments. The document also explains how to select certain methods based on programmatic outcomes and goals. The reader is led through a series of questions and case studies to demonstrate how proper assessments are selected. Techniques are related to different level of outcomes: level one – documenting activities, level two – raising awareness, level 3 – changing behavior, level 4 – reducing loads from sources, level 5 – improving runoff quality, and level 6 – protecting receiving water quality. The Guide includes fact sheets for all six NPDES program elements, outlining methods and techniques for assessing effectiveness of each program.

1.12. Consideration of Comments and Permit Issuance Decisions

The Division of Water Pollution Control proposes to issue this permit with the described monitoring and reporting requirements and standard conditions. These conditions are tentative and open to comment. Interested persons are invited to submit comments for consideration.

Comments should be submitted to the following address:

Division of Water Pollution Control
ATTN: Wade Murphy
6th Floor, L & C Annex
401 Church Street
Nashville, Tennessee 37243

and/or by e-mail to wade.murphy@tn.gov.

1.13. Permit Term

This permit will be issued for a five-year term.