Metropolitan Nashville and Davidson County

MS4 NPDES Permit No. TNS068047

Annual Report
Year 1 - Permit Cycle 2

November 2004

METRO WATER SERVICES

Pure Nashville ... right as rain.

TABLE OF CONTENTS

Appendices

List of Figures

List of Tables

1. Contact List

The following people had contributed to and are responsible for the data collection and/or preparation of the annual report.

Table 1.1 Contact List

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2. Storm Water Management Plan (SWMP) Evaluation

2.1 OBJECTIVE OF THE PROGRAM

The objective of the SWMP is to maintain or improve the quality of Davidson County water resources and "Waters of the State of Tennessee" to the Maximum Extent Practicable (MEP). This leads to an overall goal of achieving water quality improvements in every Davidson County stream reach included on TDEC's 303(d) impaired streams list to a level so the stream can be successfully removed from the list. To accomplish this overall goal, several smaller goals were established in the first permit cycle (1996 – 2001) as a basis for developing a variety of storm water management programs that address specific issues. The following is a list of refined goals established to facilitate ongoing management program improvements and implementation.

- Emphasize public education, awareness, and reporting as the primary non-structural Best Management Practice (BMP).
- Minimize construction-phase water quality impacts through developer and engineer education, continued improvement of the plans review process, and construction site inspections and monitoring.
- Minimize long-term water quality impacts through effective, fair, equitable, and feasible site-design requirements and guidance.
- Implement an effective, fair, equitable, and feasible enforcement program that will reduce water quality impacts from accidental and/or intentional discharge of pollutants into the municipal separate storm sewer system (MS4).
- Gain a greater knowledge of any water quality problems within Metro to be used as a decision-making tool in the Capital Improvement Program (CIP).
- Base programs on current storm water management theory and acceptable practices.
- Prioritize efforts to solve the worst water quality problems.
- Identify problems that can be corrected with reasonable effort and fiscal commitment.
- Establish and implement the financial, organizational, and legal foundations to support the other program goals.

These goals, as developed in the permit application process, resulted in the following program elements to achieve the objective of the SWMP:

- Structural Storm Water Controls and Collection Systems;
- New Development and Significant Redevelopment;
- Roadways;
- Landfills and Other Waste Treatment, Storage, or Disposal Facilities;
- Pesticides, Herbicides, Fertilizers, Oils, and Other Toxic Materials;

- Illicit Discharges and Improper Disposal;
- Industrial and High Risk Runoff;
- Construction Site Runoff;
- Habitat Improvement;
- Monitoring;
- Public Information and Education (PI&E); and
- Reporting.

2.2 MAJOR FINDINGS AND IDENTIFICATION OF WATER QUALITY IMPROVEMENTS OR DEGRADATION

As MWS continues to implement the stormwater program, fewer new major findings are discovered. However, the following projects are considered major findings and/or water quality improvements worth noting.

Whittemore Branch Crayfish Relocation Project

In 2004, MWS identified a need to perform maintenance on a box culvert on Whittemore Branch. This project involved the removal of consolidated sediment located in and directly upstream and downstream of a box bridge on Brook View Estates Road. In order to perform the work, MWS needed TDEC, USFWS, and Corps of Engineers approval. Initial coordination began in May, and MWS received approval from the Corps and USFWS on June 15, 2004 and from TDEC on June 23, 2004.

Because the subject creek to be cleaned out was Whittemore Branch, a tributary to Mill Creek and habitat of the federal and state endangered Nashville Crayfish (*Orconectes shoupi*), MWS hired a biologist licensed to relocate the crayfish. One of the conditions of TDEC and USFWS was that a crayfish sweep should occur before any work begins and that no work could occur in the stream following a period of 48 hours after the sweep. MWS performed two sweeps to complete the work. The first sweep was on July 15, with clean-out work taking place on July 16th and 17th. Work was then stopped until another crayfish sweep could occur. The second sweep was conducted on July 27th and the rest of the clean-out took place on July 28th.

2.3 MAJOR ACCOMPLISHMENTS

MWS has facilitated many major accomplishments during the first permit year of the second permit cycle, including:

1. The NPDES office has worked closely with MWS maintenance crews to improve erosion prevention and sediment control (EPSC) on Metro maintenance projects. MWS feels that Metro projects should be held to the same EPSC standards that the development community must meet.
2. In the past, MWS has not been staffed to handle inspections and maintenance issues on BMPs. The NPDES office has instituted a post-construction structural BMP inspection program and has begun enforcing BMP maintenance requirements.
3. MWS has identified storm water programmatic issues that need to be revised or updated. An effort has begun to make these revisions and upgrades, using a stakeholders' group and staff from other Metro Departments. The intent of this process is to clarify standards, enforcement, and maintenance issues and to revise requirements for new development with respect to floodplain management and post-construction water quality BMPs.
4. Metro flew the County and obtained thermographic maps, showing temperature changes in surface waters. The temperature variations were potential indicators of illicit discharges into Metro's storm water system. These maps were used to find illicit discharges that were subsequently mitigated.

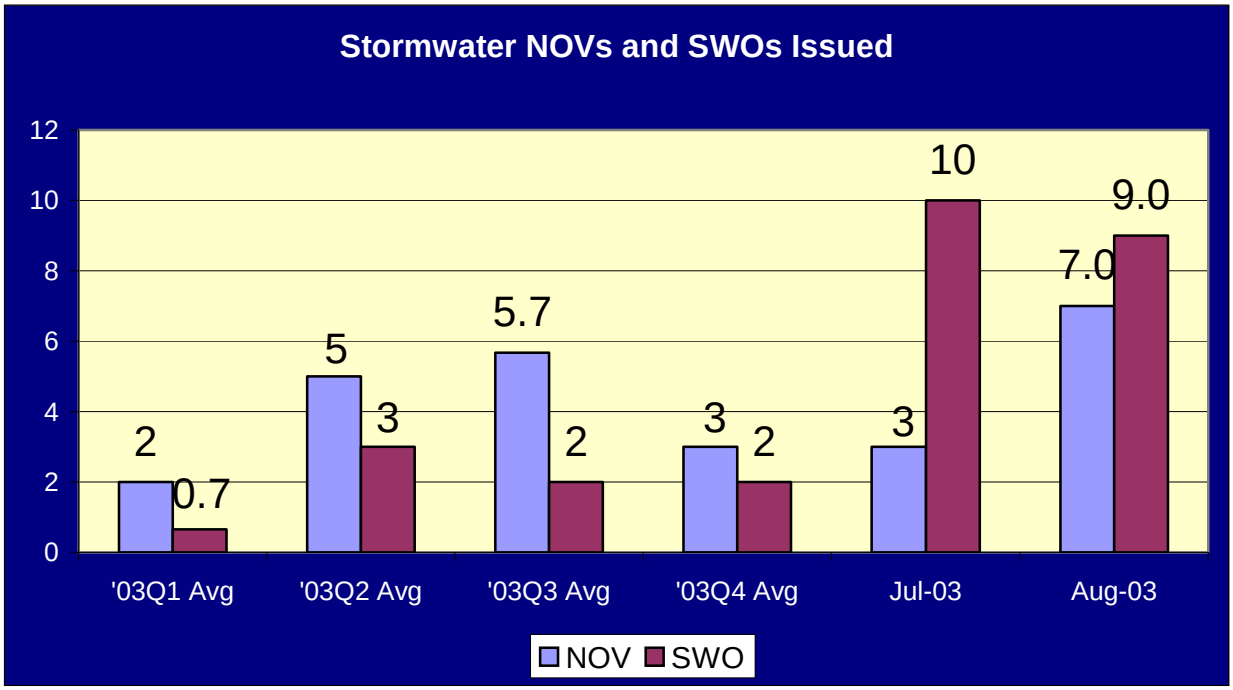
2.4 ENFORCEMENT DOCUMENTATION

Table 2.4.1 presents the numbers of Notices of Violation (NOVs) and Stop Work Orders (SWOs) generated by the MWS NPDES office from April 2002 to June 2004.

Table 2.4.1 Metro NPDES Enforcement Letters

Metro NPDES NOVs and SWOs		
Time Frame	**Notices of Violation**	**Stop Work Orders**
April 2002 – December 2002	32	12
2003 (through June)	26	12
2004 (through June)	132	96
Totals	**190**	**120**

Figure 2.4.1 Issued NOVs and SWOs



2.5 OVERALL PROGRAM STRENGTHS AND WEAKNESSES

Program Strengths

Understanding the strengths and weaknesses is key to a successful SWMP. When the strengths and weaknesses are identified, the strong points may be featured as the program foundation and limitations may be addressed and improved upon.

One obvious strength of Metro's NPDES Program is the ongoing commitment from the Mayor and officials of MWS to meet the requirements of the MS4 permit and the intent to adopt the spirit of the permit to sustain or improve Metro storm water resources and waterways for future generations. This is demonstrated by MWS' efforts to make the NPDES program activities known throughout MWS and Metro. This continues to result in cross-departmental cooperation for the protection or improvement of storm water quality. This increases with each passing year of the NPDES Program's existence.

MWS has been staffing up to appropriate levels to handle development in the Metro area. In the past year, MWS has added four (4) new plans reviewers, increasing ability to provide a thorough technical review of new development plans and decreasing the plan review waiting time.

With workload and staff increases, MWS staff have been working diligently to provide quality service in a timely manner. Training opportunities have been sought after and taken to improve quality and efficiency. Organizational and time management training has been offered and taken by many MWS staff.

MWS has also begun a thorough process of revising and upgrading the storm water regulations to provide a high level of water quality protection. In an effort to gather information from many different stakeholders, the development, environmental, regulatory and general public communities have been included in the process. Elected officials and other Metro Departments have also been included. It is anticipated that this process will be completed and revisions made by early to mid 2005.

Program Weaknesses

As Metro has built its Stormwater Quality program over the last eight years, a continuous examination of how best to achieve both its permit objectives and community benefits have been a priority. In applying that consideration to the current state of the program, the following items are areas where the program is working toward making improvements:

Regulations: Over the past 8 years, various elements of the Metro Stormwater Regulations have been shown to require modification in order to achieve a more effective program. Modifications have been made on two occasions in the past few years, in 1999 and 2001, to incorporate relatively small, focused changes. Currently, Metro has convened a Stakeholders Group that is detailed in other sections of the annual report. This group is charged with reviewing all components of the current Stormwater regulations to recommend (based to some degree on staff input) programmatic changes to areas of the regulations where apparent modifications are warranted. Metro anticipates that this group will submit its recommendations during the first quarter of 2005 and that the associated regulation changes will be implemented on or about July 1, 2005. Also, based on the experiences of other stormwater programs across the country that have been researched, Metro is investigating the feasibility of an annual regulation revisions process that may become part of the overall program improvement process.

Wet Weather sampling: During the initial formation of the NPDES Section, three wet weather sampling sites were established/approved during the 1997-1998 period. Over time, given the logistics of these sites and the weather patterns in Middle Tennessee, it has proven difficult to consistently collect wet weather samples. Metro continues to endeavor to secure meaningful wet weather samples according to our permit requirements, but in the meantime we are considering possible alternative sampling strategies that would provide more relevant, useful analytical data that may be submitted for consideration at some point in the future.

MS4 GIS Data: Keeping MS4 infrastructure data for more than 500 square miles up to date is a significant undertaking, especially in an area such as Metro that has experienced brisk development over the past few years. In 1999, Metro completed (at a significant cost) an initial GIS-based MS4 inventory. Since that time (with the exception of one subsequent update in 2000), projects that served to create changes to the Metro MS4 have been logged to be included in future updating of the MS4 GIS. Additionally, as GIS software has evolved over the past few years, the basic method by which this data is accessed/stored has undergone significant changes. Metro has finished getting the data into an appropriate format by migrating it into a geodatabase (ArcView 3.X to ArcGIS 8/9.X). In further anticipation of creating a situation by which the MS4 inventory is brought up to date and is kept up to date, Metro Stormwater has hired a person who is solely dedicated to GIS-related responsibilities. This should greatly benefit Metro by a allowing a greater utilization of various GIS tools that lend themselves well to stormwater-related considerations, to include maintaining an up-to-date MS4 GIS.

2.6 FUTURE DIRECTION OF THE PROGRAM

The MWS NPDES Program is continuing to define its role in the governmental/regulatory community of Nashville and Davidson County. Several issues have become apparent in the early stages of implementing the MS4 permit. The most apparent of these is that storm water solutions must be allowed a sufficient amount of time for implementation so that a greater understanding of the system and the associated water quality issues develops in the community. It is also apparent that improvements in storm water quality can only come from open and direct communication among the various governmental agencies within Nashville and Davidson County. Part of the program's future is to build upon the coordinated efforts between MWS and other departments to benefit water quality.

Metro's current NPDES program direction, as stated in previous annual reports, is to continue to increase knowledge about storm water quality status and trends. This understanding is being generated through various activities including: execution of inspections, investigations (including needed enforcement activities), monitoring, and master planning. It will be enhanced within Metro by proactive communication among agencies in Nashville and Davidson County. Finally, that understanding will come to Metro's citizens in the form of a continuously growing public education program with the goal of encouraging the average citizen to make a positive impact on the quality of Davidson County's water resources.

As the NPDES section better understands the trends in the various program aspects, it is refining the program activities to maximize its effectiveness. The NPDES section refines the program in order to focus and intensify attention to previously unidentified storm water quality problems and reduce attention to issues that have yielded little, if any, protection or enhancement of storm water quality.

III.3. Summary Table

- Permit Item Accomplished

Item Not Required during associated Permit Year

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
OPERATIONS AND MAINTENANCE OF STRUCTURAL CONTROLS								
1a	Update Storm Water Inventory Geographic Information System (GIS)	Ongoing – by PY 4	●					
1b	Continue Existing System Maintenance	Ongoing	●					
1c	Inspections of Dry Creek Detention facility	1 / quarter	●					
1d	Train Inspection and Maintenance Staff	PY 2 and PY 4						
1e	Review Maintenance Procedures	PY 2 and PY 4						
1f	Housekeeping Programs	Ongoing	●					
1g	Storm Water Detention/Retention Facilities	PY 2						

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
CONTROL OF DISCHARGES FROM AREAS OF NEW DEVELOPMENT AND SIGNIFICANT REDEVELOPMENT								
2a	Ordinances, Regulations, and Guidance	----						
	Enforce Existing Ordinances and Regulations intended to limit long-term water quality impacts	Ongoing	●					
	Evaluate and Update Guidance Materials	PY 2 and PY 5						
	Public Education	Ongoing	●					
2b	Report BMP Monitoring and Considerations	Annually	●					
2c	Master Planning	----						
	Report water quality issues to Planning Commission	PY 2						
	Report water quality evaluations performed as part of **new** water quantity master planning efforts	PY 2 and PY 5						
	Report regional water quality practices evaluations performed in **any** master planning activities	PY 2 and PY 5						
	Report watershed prioritization changes	PY 2 and PY 5						
	Report master planning performed per prioritized watersheds	PY 2 and PY 5						
2d	Training	Annually	●					

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
ROADWAYS								
3a	Catch Basin Cleaning	----						
	Prioritize	PY 1	●					
	Report and record	Annually	●					
3b	Downtown Street Sweeping	Ongoing	●					
3c	Deicing Practices – Evaluate and Report	PY 1 and PY 3	●					
3d	Evaluate Herbicides, Pesticides, and Fertilizers application and storage practices	PY 1 and PY 3	●					
3e	Report on Spill Response Program	Annually	●					
3f	Report Modifications to Design and Construction	Each Compliance Report	●					

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
LANDFILLS AND OTHER WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES								
4a	Monitor Activities, Report on Issues	Ongoing	●					

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
PESTICIDES, HERBICIDES, AND FERTILIZERS								
5a	Operate Household Hazardous Waste Facility	At least 1/quarter	●					
5b	Commercial Distributors – Public Information	Ongoing	**X**					Not completed.
5c	Evaluate Metro Facilities Practices	PY 2						

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
ILLICIT DISCHARGES AND IMPROPER DISPOSAL								
6a	Refine Ordinances and Enforcement Measures	PY 1 and PY 3	●					
6b	Update and Prioritize Dry-Weather Field Screening	PY 5						
6c	Illicit Discharge Investigations	Ongoing	●					
6d	Distribute Public Information to Residential/Commercial Areas	Ongoing	●					
6e	Evaluate Reporting for Sanitary Sewer Seepage	PY 1 and PY 3	●					

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
INDUSTRIAL AND HIGH RISK RUNOFF								
7a	Data Management – Update Industrial Site Databases	Annually	●					
7b	Inspections	---						
	Refine procedures/criteria to prioritize sites	PY 1, PY 3, and PY 5	●					
	Train Inspectors	PY 2 and PY 4						
	Inspect Facilities	Once by PY 5	●					Ongoing
	Coordinate inspection and enforcement activities with TDEC staff	Ongoing	●					
	Report Inspection Locations	Ongoing	●					
7c	Restaurant Impacts – Report activities that reduce water quality impacts	Annually	●					

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY 1
			1	2	3	4	5	
CONSTRUCTION SITE RUNOFF								
8a	Ordinances, Regulations, and Guidance	---						
	Enforce existing ordinances and regulations	Ongoing	●					
	Refine procedures to enhance enforcement	PY 1 and PY 3	●					
	Evaluate and Update guidance materials	PY 1 and PY 3	●					
	Public Education	Ongoing	●					
	Require proof of coverage under the state's construction general permit	Ongoing	●					
8b	Train Plans Reviewers and Inspectors	Annually	●					
8c	Records Management - EP&SC inspections	Ongoing	●					
8d	Plan Review and Inspection Resources	Ongoing	●					
8e	Evaluate Metro Activities	PY 2						

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments
			1	2	3	4	5	
STREAM HABITAT IMPROVEMENT REPORT								
9a	Report habitat improvement activities/projects	Annually	●					

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY 1
			1	2	3	4	5	
PUBLIC INFORMATION AND EDUCATION (PI&E)								
10a	Inform Public – General Housekeeping Procedures	Ongoing – at least one activity per year	●					See Activity 1F
	Inform Home Owner Associations – Detention Pond Maintenance	Ongoing – at least one activity per year	●					See Activity 1G
	Educate Engineering and Development Community – Long Term WQ Impacts	Ongoing – at least one activity per year	●					See Activity 2A / 2D
	Inform Public – Pesticides, Herbicides, and Fertilizers	Ongoing – at least one activity per year	●					See Activity 5B
	Inform Public – Oils and Hazardous Chemicals	Ongoing – at least one activity per year	●					See Activity 5B
	Inform Public – Illicit Connections / Discharges	Ongoing – at least one activity per year	●					See Activity 6D
	Educate Engineering and Development Community – Construction WQ Impacts	Ongoing – at least one activity per year	●					See Activity 8A
	Other Not Yet Identified Opportunities	Ongoing – at least one activity per year	●					
10b	World Wide Web Site	----						
	Enhance Public Works Website[1]	Ongoing	●					
	Provide Reporting Mechanism	Ongoing	●					

[1] Note that since the Cycle 2 permit was issued, the NPDES Section, along with the rest of the Stormwater Division, has relocated to Metro Water Services from Metro Public Works.

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY 1
			1	2	3	4	5	
	Establish an Area Dedicated to Recognition	PY 4						

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY 1
			1	2	3	4	5	
REPORTING REQUIREMENTS								
11a	Compliance Report	End of each PY (+ 6 months)	●					Annually
11b	Propose Third Permit Cycle Activities	End of PY 4 (+ 6 months)						

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY 1
			1	2	3	4	5	
MONITORING								
A	Ambient – 8 or more in-stream locations Sample each site at least 6 times annually	6X Annually (Bi-monthly)	●					Ongoing
B	Wet Weather – 3 or more in-stream locations Sample each site at least 2 times annually	2X Annually	●					Completed as part of Sevenmile Creek Master Plan
C	Industrial – Sampling based on inspections	As needed	●					No sites identified.
D	Bioassessment – Perform RPB III at 2 designated sites Perform RPB III at 1 or more reference sites	Annually	●					As inspections increase, sampling more likely.
D	Bioassessment – Refine Procedures	PY 1	●					Ongoing
D	Bioassessment – Perform “quick assessments” as necessary	Annually	●					
E	Loadings Estimate – Report EMC changes	PY 5						Ongoing
E	Loadings Estimate – Report annual volume and loading changes	Complete by end of PY 3						

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IV.4. Narrative Report

This section of the annual report presents a discussion of items presented in the Summary Table (Section 3.0), including descriptions of studies, analyses, and investigations performed. In addition, similar activities that are difficult to quantify in the summary table are described in this section. The narrative report is subdivided according to the eleven program elements of the permit as listed in Permit Part III B. For each program element, this section includes a discussion of each objective, activities in permit year one, and a discussion of Future Direction activities that the MWS NPDES Section proposes for the full permit cycle.

An abbreviated summary table is presented prior to the Activity narrative to facilitate review. Unless otherwise noted, June 30, 2003 will be used as a "cutoff date" or "to date" in reporting quantity-based SWMP progress. In the summary table, the required activities that were accomplished during the permit year are denoted by a bullet (•), while those activities not required during a permit year are shown for reference but are shaded ( ).

4.1 Operation and Maintenance of Structural Controls (Part III B.1)

This program element's objective is to maintain an understanding of the collection system and its performance as a basis for maintenance activities that are intended to benefit storm water quality. This program element focuses on optimizing the water quality benefits generated through the proper operation, inspection, and maintenance of the existing storm drainage system under the public domain. The proposed program element activity only pertains to storm water infrastructure that directly and significantly impacts public infrastructure.

4.1.1 Update Storm Water Infrastructure Inventory GIS (Part III.B.1.a.)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
1a	Update Storm Water Inventory Geographic Information System (GIS)	Ongoing – by PY 4						

The object of this activity is to maintain the storm water GIS system developed in the first cycle of the permit. The GIS system will be updated to show areas of new development, significant redevelopment and Metro drainage construction/modification activities performed since the initial infrastructure inventory. It is anticipated that the GIS system update will be performed on an ongoing basis during the second permit term, but at a minimum, the GIS storm water infrastructure data will be revised by the end of year 4 of the second permit cycle.

During this first year of the second permit term, little progress was made on updating the GIS system due to GIS staff turnover. Recently, a new staff member was hired to assist with the update of the MS4 GIS. Grading permit plans have been earmarked, and following approval and field inventory/corrections, they are scheduled to be used to update the GIS system during permit year 2. The storm water infrastructure data remains on schedule to be completed by permit year 4.

4.1.2 Existing System Maintenance (Part III.B.1.b.)

Contact Name: Denny Bone, MWS Maintenance Section, 615.862.4537

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
1b	Continue Existing System Maintenance	Ongoing	●					

MWS Maintenance Section continued to maintain the existing public storm water drainage infrastructure during the first year of the second permit term. Maintenance activities were performed on public infrastructure and on private infrastructure that directly impacted public infrastructure. The determination of maintenance service on private infrastructure was made on a case-by-case basis with potential projects identified through customer complaints and otherwise noted through MWS and/or NPDES MS4 permit-related activities.

The MWS Storm Water Division currently employs eight maintenance crews. The crews are assigned to large ditch maintenance, storm water inlet construction, storm water inlet cleanout, and storm water masonry work. Maintenance work completed during permit year 1 is presented in Table 4.1.2.1.

MWS' storm water consultant, AMEC, investigates customer complaints. During Cycle 2, permit year 1, AMEC field personnel investigated 604 complaints (See Figure 4.1.2.1). Of these complaints, 170 were resolved either through remedial maintenance or though small capital improvement project design. Of the remaining 434 complaints, 119 have been closed due to a variety of reasons, including the following:

- Not a storm water issue;
- Not an issue of functionality;
- Not a government responsibility;
- A problem that no longer exists;
- Referred to another agency; or
- Referred to major capital improvement projects.

The complaints that have not been resolved or closed remain open, awaiting review by an engineer for status determination based upon a pre-determined priority matrix.

Table 4.1.2.1 Existing System Maintenance Activity Summary

Maintenance Area	Maintenance Type	Permit 1 YR 4	Permit 1 YR 5	Permit 2 YR 1	Total
Ditch Maintenance	Routine	137	352	84	573
	Complaint	0	203	558	761
	Total	***137***	***555***	***642***	***1,334***
Walls & HW	Routine	22	75	17	114
	Complaint	0	45	211	256
	Total	***22***	***120***	***228***	***370***
DW Pipes	Routine	151	115	106	372
	Complaint	0	139	249	388
	Total	***151***	***254***	***355***	***760***
Cross-Drains	Routine	85	118	74	277
	Complaint	0	80	135	215
	Total	***85***	***198***	***209***	***492***
Flooding	Routine	14	45	4	63
	Complaint	0	2	14	16
	Total	***14***	***47***	***18***	***79***
Debris Removal	Routine	39	59	26	124
	Complaint	0	44	30	74
	Total	***39***	***103***	***56***	***198***
Erosion	Routine	0	1	2	3
	Complaint	0	0	7	7
	Total	***0***	***1***	***9***	***10***
Mud Removal	Routine	4	3	8	15
	Complaint	0	0	3	3
	Total	***4***	***3***	***11***	***18***
Miscellaneous	Routine	35	420	590	1,045
	Complaint	0	94	95	189
	Total	***35***	***514***	***685***	***1,234***
TOTAL	Routine	487	1,188	911	2,586
	Complaint	0	607	1,302	1,909
	Total	***487***	***1,795***	***2,213***	***4,495***

Figure 4.1.2.1 Complaint Investigation Photograph

4.1.3 Inspections of Dry Creek Detention Facility (Part III.B.1.c.)

Contact Name: Dale Binder, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
1c	Inspections of Dry Creek Detention Facility	1 / quarter	●					

MWS Maintenance crews currently inspect the Dry Creek detention facility once per quarter in accordance with the permit requirements. The form presented in Figure 4.1.3.1 is completed for each inspection of the Dry Creek facility. A copy of each completed form is kept on file at the MWS NPDES Section. The information on the completed, filed forms is entered into the NPDES database via the Dry Creek Inspection Log Table (a corresponding Dry Creek Inspection Form created to enter data into the table). Table 4.1.3.1 summarizes major inspection findings and maintenance activities at the Dry Creek Detention Facility.

Figure 4.1.3.1 Dry Creek Detention Pond Inspection Log

DRY CREEK DETENTION POND INSPECTION LOG			
Inspector		**Date/Time**	
Date of the last inspection?			
Has the auto dialer called since the last inspection?	Yes		No
Has there been any significant rainfall in the past 3 days?	Yes		No
Is there any **NEW** accumulation of debris along the access road?	Yes		No
Is there any standing water around the outlet structure?	Yes		No
Is there any new accumulation of debris around the outlet structure?	Yes		No
If there is, will the debris be removed on this visit?	Yes		No
Is there any apparent damage to the outlet structure?	Yes		No
Battery Check (circle one) Yes No		Battery Replaced (circle one) Yes	No
Is the calling mechanism functioning properly?	Yes		No
Special comments/observations/or special action taken:			
Signature of Inspector			
Upon completion of this form, please make a copy and send it via Metro Mail to: Metro Water Services, NPDES Program, 1607 County Hospital Road, Attention Michael Hunt, 880-2420 File the original in the Dry Creek Inspection Log Book			

Table 4.1.3.1 Dry Creek Inspections and Maintenance Activities

INSPECTION DATE	MAINTENANCE ACTIVITIES
11/3/1997	Dialer battery replaced, Drain cleaned and new dialer installed, caller tested.
1/2/1998	Dialer battery replaced, Cleaned off top of inlet, caller tested.
9/4/1998	Dialer battery replaced, Removed brush from outlet. Landowner dumping brush and debris on land. City of Goodlettsville cleaned debris from area and installed fence to restrict access.
2/23/99	No maintenance issues reported.
12/10/99	No maintenance issues reported (due to dry conditions).
5/4/00	Will remove debris when gets dry.
12/11/00	Doing repair on dialer at present.
5/8/01	Dialer damaged, waiting to replace.
6/11/03	Site inspection done to locate structure and note conditions. Area is generally clear and free from debris within channels. Some brush accumulated around structure. Outlet is 100% open. Some debris at adjacent culvert area.
8/12/03	Maintenance will do some clearing and debris removal once area dries. After facility has access, inspection of battery, dialer and charger will be performed.
8/12/03	Met Richard Holland and Ronald Moore (MWS Maintenance) at site along with Ann Morbit. Maintenance will do some clearing and debris removal once area dries. After facility has access, inspection of battery, dialer and charger will be performed. (boom truck)
10/24/03	Metro Water Services Maintenance crew on site began removing debris located at the outlet, culvert area and drainage channel. Metro Public Works on site to inspect conditions of warning portion of the structure. Frank Osley is going to replace the dialer and make sure it is working properly. Battery, solar charger and float will also be inspected. MWS will routinely remove debris.
10/22/03	Site inspection. Conditions at the site are a little drier. Spoke to Steve Gorham in regards to cleaning up debris. Gave Steve information on site. Once debris is removed and area has access will proceed to have dialer, battery, charger, and float inspected.
6/7/04	Met with Frank with Public Works. He had boom truck and inspected dialer box. Solar panel does not work, No batteries, No dialer, exposed wires, and tower is coming off the structure. It appears that entire tower needs to be replaced. Currently talking to Michael Hunt in regards to proceeding.
1/12/04	Area clean and free from debris. Rock placed along access road by TDOT. Spoke to TDOT contractor and inspector. They didn't think that the telephone pole that has the connection for the facility will be removed. They are going to place rock along the slope of the interstate. Continuing to follow through on getting dialer up and running. Have not gained access to look at existing conditions of dialer and charger. Working with Steve Gorham and George Pettie (ITS).
3/23/04	No debris within channel. TDOT working near structure placing rock along slope.
4/28/04	Met Brad and Gary (Bell South) at the site. The line at the pole is ok, however the other end of the line at the structure is bad. Line is probably cut in-between somewhere. Brad is installing a temporary line from the pole to the structure today. Also, due to the safety concerns and access he is going to install a new interface on the side of the structure. The plan at this time is after all parties are available in a couple of weeks to go to the site and hook up the auto dialer and make sure it is working with the float. At that time I will have to run a line from the new interface to the dialer location (up on the structure).

4.1.4 Training (Part III.B.1.d.)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
1d	Staff Training	PY 2 and 4						

Metro recognizes that periodic training is critical to the success of any program to benefit water quality. For this program element, Metro proposes to train key inspection and maintenance staff from MWS and other Metro departments to identify potential water quality impacts and procedural changes that could be implemented to minimize or eliminate those impacts. This training is scheduled for permit years 2 and 4.

4.1.5 Maintenance Procedures (Part III.B.1.e.)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
1e	Maintenance Procedures	PY 2 and 4						

Metro proposes that it be required to review the existing storm water maintenance procedures and system services to identify potential changes that would benefit water quality. This review is scheduled for permit years 2 and 4.

4.1.6 Housekeeping Programs (Part III.B.1.f.)

Contact Name: Chace Anderson, MDPW Waste Management Division 615.862.8727

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
1f	Housekeeping Programs	Ongoing	●					

The Metro Nashville Division of Waste Management (DWM) provides trash collection service to all residents in the Urban Service District (USD); all businesses in the USD and the Downtown Business District (DBD); and all apartments, public housing, and Metro government buildings within the USD. Monthly trash collection statistics for fiscal year 2003-2004 are presented in Table 4.1.6.1. The trash collection statistics present DWM trash collection, contracted residential trash collection, and Convenience Center trash collection.

In an effort to promote waste reduction among residents and businesses in Nashville and Davidson County, DWM provides several opportunities for recycling. All residents and apartments within the USD are provided with curbside recycling or a recycling dumpster. Outside of the USD, there are 10 recycling drop-offs and two recycling convenience centers available. Additional forms of recycling include downtown nighttime recycling and curbside metal collection. Recycling statistics are also presented in Table 4.1.6.1.

Brush collection service is provided by Metro Public Works. A route system is utilized to collect brush in the Urban Services District and General Services District. Residents of either area will have brush collected automatically at certain times every year. A collection map is available for residents to determine the dates of brush collection. Brush collection statistics are also presented in Table 4.1.6.1.

Public information activities associated with these Housekeeping Programs are presented in Section 4.10.1.

Table 4.1.6.1
Monthly Trash Collection Statistics

Public Sector Trash in Tons												
	July	**August**	**September**	**October**	**November**	**December**	**January**	**February**	**March**	**April**	**May**	**June**
Public Works Trash Collection	5,458.68	5,033.12	5,168.62	5,286.87	4,641.09	5,182.00	4,963.71	4,464.12	5,181.90	5,323.40	4,833.12	5,398.83
Contracted Residential Trash Collection	8,444.98	7,969.43	7,591.25	6,386.15	5,308.70	5,809.53	5,718.49	4,981.27	6,044.39	6,339.46	6,158.71	6,554.94
Convenience Center Trash	1,675.84	2,094.79	1,787.00	1,952.17	1,773.73	1,045.80	1,285.01	1,728.70	1,834.97	2,152.15	2,244.43	1,777.69
Total Trash Tons	**15,579.50**	**15,097.34**	**14,546.87**	**13,625.19**	**11,723.52**	**12,037.33**	**11,967.21**	**11,174.09**	**13,061.26**	**13,815.01**	**13,236.26**	**13,731.46**
Public Sector Recycling in Tons												
	July	**August**	**September**	**October**	**November**	**December**	**January**	**February**	**March**	**April**	**May**	**June**
Curbside Recycling	955.35	1,215.41	1,075.24	1,062.46	1,248.84	1,114.09	1,196.73	1070.89	974.43	1,091.39	1,136.20	960.22
Metro Drop-Off Facilities	688.41	744.84	667.62	700.81	733.1	679.32	756.56	669.05	667.61	630.12	637.54	738.86
Brush Collection	2,191.74	2,696.28	2,944.11	2,796.45	2,323.63	1,847.12	1,615.31	1,479.24	2,099.79	2,371.95	2,503.12	2,936.10
Tires	565.06	573.66	674	549.47	591.04	185.89	576.76	437.68	860.48	425.92	827.53	838.48
Other Recycling	74.68	59.7	48.48	82.88	74.25	87.85	78.55	79.68	115.41	109.2	102.31	201.37
Total Recycling Tons	**4,483.23**	**5,316.21**	**5,416.93**	**5,198.39**	**4,975.87**	**3,915.56**	**4,225.21**	**3,739.28**	**4,725.32**	**4,640.11**	**5,209.46**	**5,683.33**

4.1.7 Storm Water Detention/Retention Facilities (Part III.B.1.g.)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
1g	Storm water Detention / Retention Facilities	PY 2						

Metro recognizes that planning and acting upon an understanding of location and function of storm water detention/retention facilities is important to managing water resources. Metro proposes that it expand upon the information collected in the first permit cycle and re-evaluate long-term maintenance strategies. Metro anticipates that any long-term operation and maintenance strategy adopted will need to include educating the public on proper maintenance procedures/schedules for privately owned facilities. All storm water detention/retention activities are scheduled for completion in permit year 2.

Due to the recent increase of West Nile Virus cases resulting from mosquito bites, the NPDES office along with the Metro Health Department and the Mayor's Office developed a task force in 2002 to regulate and inspect structures that could provide mosquito breeding grounds. NPDES's involvement in this initiative has mainly related to the maintenance of storm water detention facilities. Through a regulations review process, the program hopes to address mosquito breeding in detention structures by mandating that all detention structures drain completely within 72 hours (the time needed for a mosquito to breed).

4.1.8 Future Direction of Element 1 - Operations and Maintenance of Structural Controls:

Update Storm Water Infrastructure Inventory (GIS format)

The GIS system will be updated to represent areas of new development, significant redevelopment and Metro drainage construction/modification activities performed since the initial infrastructure inventory. MWS will investigate requiring digital as-built submittals of the storm water system to aid in cost-effectively updating the storm water infrastructure inventory.

Existing System Maintenance

The MWS Maintenance Section will continue to maintain the existing public storm water drainage infrastructure throughout the second permit term, in accordance with the decision matrix developed by MWS. Maintenance crews are assigned to large ditch maintenance, storm water inlet construction, storm water inlet cleanout, and masonry. It is anticipated that all maintenance activities will be reincorporated into Metro Water Services from AMEC Earth & Environmental during permit year 2.

Inspections

Metro will continue to inspect the Dry Creek Detention Facility as prescribed in the first cycle MS4 permit, once per quarter. Any other detention/retention facilities that come under Metro ownership will be inspected and maintained accordingly.

Training

The NPDES Section will develop an efficient, ongoing training program for inspection and maintenance staff within MWS and other Metro Departments. Key inspection and maintenance staff will be cross-trained in water quality issues.

Maintenance Procedures

The NPDES Section will define a process for the MWS Maintenance staff to routinely consider improvements to the existing maintenance procedures that could benefit water quality.

Housekeeping Programs

The Department of Public Works will continue the existing housekeeping programs as a part of its ongoing Waste Management Program.

Storm Water Detention/Retention Facilities

A GIS based database has been created of all storm water detention/retention facilities. All storm water detention/retention facilities, identified by map and parcel number, have been located and location information has been included as a layer in the GIS. Associated design and construction files have been converted to an electronic format and linked to the detention/retention facility by the map and parcel number. The NPDES Section intends to formulate a process to maintain existing data and input new information.

A pilot BMP inspection and maintenance project has begun to determine how well private retention/detention BMPs have been maintained. Once the data collection has been completed, MWS will assess the success of the current program and identify needed BMP inspection and maintenance program revisions.

To facilitate better long-term BMP maintenance, a public education strategy will be developed to educate the community on BMP inspection and maintenance responsibilities.

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4.2 Control of Discharges from Areas of New Development and Significant Redevelopment (Part III.B.2.)

The goal of this portion of the SWMP is to satisfy the requirements of Permit Part III.B.2. This section was designed to minimize the long-term impacts of new development and significant redevelopment on water quality. Specific activities include enforcing ordinances and regulations that are supported by guidance materials for the proper placement of BMPs and educating local stakeholders about their roles in minimizing long-term water quality impacts.

4.2.1 Ordinances, Regulations and Guidance (Part III.B.2.a.)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
2a	Ordinances, Regulations, and Guidance	----						
	Enforce Existing Ordinances and Regulations intended to limit long-term water quality impacts	Ongoing	●					
	Public Education	Ongoing	●					

Ordinance and Regulation Enforcement

The NPDES office has continued to enforce the provisions of the storm water regulations. During permit year 1, MWS began identifying needed changes to the storm water ordinance and design manual. Changes include

- Tightening buffer requirements;
- Streamlining enforcement;
- Redefining storm water quality program goals and requirements;
- Examining floodplain management and detention policies; and
- Better defining program responsibilities.

Please see Section 2, Table 2.4.1 for enforcement actions taken in permit year 1.

Public Education

During permit year 1, MWS began the process of revising the existing storm water management program using a Stakeholders Group, which reviews and comments on proposed changes. The Storm Water Regulation Review Committee (SR2C) includes representatives from the following community sectors:

- Elected officials (Council members);
- Development community;
- Engineering community;
- Environmental community; and

- General public.

The first SR2C Meeting, an introduction to the storm water regulation review process and the storm water topics to be covered, was held on June 24, 2004. The Group will meet on a monthly basis and discuss the following topics:

- Grading Permits;
- Buffer Program;
- Post construction BMPs; and
- Other Program Issues, including:
  - Sinkhole development;
  - As-built certifications;
  - Full built-out design; and
  - Lower impact culverts.

4.2.2 Storm Water Best Management Practices (Part III.B.2.b.)

Contact Name: Danny Smith, MWS Engineering Section, 615.862.4799

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
2b	Report BMP Monitoring and Considerations	Annually	●					

All publicly operated BMPs, including regional or retrofitted facilities, and their available monitoring data will be reported to TDEC. MWS recognizes that regional facilities and the facilities retrofitted to improve pollutant capture efficiencies are important to the long-term success of an MS4 program. During permit year 1, a GIS database of all storm water detention/retention facilities within Davidson County was completed. A maintenance schedule, which draws from the GIS database, was initiated in June of 2004. The MWS Storm Water Division Maintenance staff inspects an estimated 100 structures each month. The inspection program is performed in conjunction with storm water system maintenance for documentation purposes.

4.2.3 Master Planning (Part III.B.2.c.)

Contact Name: Danny Smith, MWS Engineering Section, 615.862.4799

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
2c	Master Planning	PY 2 and 5						

MWS recognizes that master planning is essential to the long-term success of a water quality management program. MWS also understands that the Metro Planning Department is a critical facilitator in this area and in related processes. Therefore, MWS intends to work closely with Metro Planning Department staff in the upcoming permit years to help facilitate this process as well initiate internal Master Planning activities within the Stormwater Division as it relates to overall Stormwater quality and quantity considerations. MWS Stormwater anticipates that this Master Planning effort will increase in subsequent permit years.

4.2.4 Training (Part III.B.2.d.)

Contact Name: Danny Smith, MWS Engineering Section, 615.862.4799

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
2d	Training	Annually	●					

MWS trains plans review staff periodically in minor changes to grading permit plan preparation and plan review policies. Additionally, MWS trains grading permit plan reviewers periodically on the latest techniques and management practices to address long-term water quality issues. This training includes lessons learned both locally and from other communities across the nation. The intent is for the grading permit plan review policy to grow gradually to account for the current state of the art technology and to reflect MWS' plans review and inspection staff experiences.

During permit year 1, the MWS plans review staff received Level 1 and 2 Erosion Protection and Sediment Control (EPSC) training from TDEC. Level 1 training is a foundation-building course intended for individuals involved in land-disturbing activities covered by TDEC's Construction General Permit, including inspection and enforcement personnel from all levels of government, plan preparers and reviewers, designers, and engineers. The course gives participants a solid working knowledge of erosion and sedimentation processes and practices. Level 2 training is an advanced two-day course designed for engineers, environmental designers, and plan preparers and reviewers. Detailed instruction is given on the engineering technologies needed to control storm water on a construction site. Workshop participants obtain the tools needed to develop an acceptable, working erosion and sediment control plan as described in TDEC's Tennessee Erosion & Sediment Control Handbook and required by the Tennessee General Construction Storm Water Permit.

Fourteen MWS staff members received OSHA Operator's Spill Response Training. Staff members represented the NPDES Office, the Stormwater Maintenance Section, and the Pretreatment Section. This training (one day for those needing a refresher and two days for those taking the training for the first time) provided staff members with the appropriate knowledge to enable them able to assess any spill or discharge issue that might be encountered in the field in a safe and effective manner. OSHA Operator's Spill Response Training promotes the safety of staff in performing their various responsibilities and also assists them in knowing how to best act quickly so as to minimize the impact of any serious spill or discharge

4.2.5 Future Direction of Element 2 – Control of Discharges from Areas of New Development and Significant Redevelopment:

Ordinances, Regulations, and Guidance

MWS will continue to take steps toward more effective enforcement of local regulatory mechanisms in order to enhance water quality. The regulations revision process using the Storm Water Regulations Revision Committee (SR2C) of stakeholders will develop recommendations for changes to the storm water regulations and policies. These regulatory changes will be implemented in late permit year 2 and permit year 3.

Best Management Practices (BMPs)

MWS recognizes that regional BMP facilities and the facilities retrofitted to improve pollutant capture efficiencies are important to the long-term success of an MS4 program. The MWS Storm Water Division Maintenance Staff will continue to inspect storm water BMP structures in the upcoming permit years. BMP monitoring data will also be reported in the next annual report.

Master Planning

MWS recognizes that master planning is essential to the long-term success of a water quality management program. MWS also understands that the Metro Planning Department is a critical facilitator in this area and related processes. Therefore, MWS intends to work closely with Metro Planning Department staff in the upcoming permit years to help facilitate the long-term planning process. The first step will be to prepare a “growth readiness” presentation for the Metro Planning Commission. Then, as the Master Planning staff of the Plans Review Section develops, the Master Planning program will be established.

Training

MWS will to train the plan review and inspection staff in the revisions and changes resulting from the regulations revision process with the SR2C. Additionally, MWS will continue to train grading permit plan reviewers periodically on the latest techniques and management practices to address long-term water quality issues. MWS will also provide training for the development community on storm water program changes, such as those resulting from the regulations revision process.

4.3 Roadway Maintenance (Part III B.3.)

The objective of this section is to satisfy Part III.B.3 through reduction of the impacts of storm water discharges from roadways. This objective is accomplished by examining several programs including catch basin cleaning, downtown street sweeping, management practices for the use of deicing chemicals, storm water controls at salt storage areas, management practices in the use of herbicides, and spill response. Furthermore, roadway design criteria, construction requirements, and street maintenance responsibilities were explored.

4.3.1 Catch Basin Cleaning (Part III.B.3.a.)

Contact Name: Denny Bone, MWS Maintenance Section, 615.862.4537

	Activity	SWMP Schedule	1	2	3	4	5	Comment
3a	Prioritize catch basin cleaning activities	PY 1	●					
	Report catch basin cleaning activities	Annually	●					

MWS Maintenance Section has continued the basic program of catch basin cleaning into the first year of the new permit. MWS Maintenance Section cleaned over 33,000 catch basins during the permit year 1. Table 4.3.1.1 presents the statistics on catch basin cleaning from year 4 of the first NPDES permit cycle through year 1 of the second permit cycle. The increase in the number of catch basins routinely cleaned as well as the number cleaned in response to complaints can be noted.

Table 4.3.1.1
Catch Basin Cleaning

	Cycle 1 YR 4	Cycle 1 YR 5	Cycle 2 YR 1
Routine Maintenance	177	7,278	33,495
Complaint-Driven Maintenance	0	260	416
TOTAL	177	7,538	33,911

MWS Maintenance Section uses two trucks mounted with a pressure wash and vacuum system to clean catch basins. One is located at Metro's East Center location and the other is at the West Center location. They are used daily to clean storm inlets and pipes that are clogged. MWS Maintenance Section crews perform inspections for required cleanings and are on call to address other reports of clogged inlets as they are received.

Figure 4.3.1.1 Vactor Truck

4.3.2 Downtown Street Sweeping (Part III.B.3.b.)

Contact Name: David Himes, MDPW Streets Services Division, 615.862.8716

	Activity	SWMP Schedule	1	2	3	4	5	Comment
3b	Downtown street sweeping	Ongoing	●					

The Department of Public Works is responsible for downtown street sweeping. MDPW continues to sweep approximately 1,400 miles of street every month. Every curbed and guttered street is swept once per month. MWS Maintenance Section will also continue to review the procedures associated with these programs to benefit storm water runoff quality.

4.3.3 Deicing Practices (Part III.B.3c.)

Contact Name: David Himes, MDPW Streets Services Division, 615.862.8716

	Activity	SWMP Schedule	1	2	3	4	5	Comment
3c	Evaluate Metro application and storage practices and Report modifications	PY 1 and 3	●					

The management practices for deicing chemicals, runoff controls at salt storage areas, and deicing were first addressed in the 1992 Part 2 Application. Since then, many initiatives have been undertaken that have minimized the water quality impacts of roadway salt application, which is required on occasion during the winter months to create safer driving conditions in Davidson County. Specific aspects of this program are summarized below.

Prior to the formation of the NPDES Program, MDPW conducted a series of studies to determine the safest, most effective, and most economical roadway deicing agent available. These studies concluded that salt was the best deicing agent alternative for Metropolitan Nashville and Davidson County. MDPW has since initiated Brine De-Icing of the roadways prior to winter storms to prevent ice from binding to the roadway. This preventative measure has resulted in a reduction of the total amount of salt applied

directly to the roads, Brine de-icing can be applied at a much lower rate with successful results, thus reducing chlorides in storm water runoff and cutting salt usage costs.

MDPW Maintenance Section Salt Usage

Salt costs MDPW approximately $33 per ton. MDPW prepares for each winter season with approximately 8,000 tons of salt in storage, with any unused salt held until the next year. MDPW currently receives its salt in 1,500-ton barge loads. The salt is transferred from covered barges to three strategically located, covered bins. During the 2003-2004 winter season, approximately 272 tons of salt and 104,000 gallons of brine solution (containing 98 tons of salt) were applied to the roadways in Davidson County. Icy weather conditions have occurred infrequently in Davidson County over the past few years, and consequently MDPW has abundant salt reserves that must be stored. Closer attention has been given to management practices applied at salt storage bins.

Salt Storage Facilities

MDPW currently has three salt storage facilities. They are located at Public Works East Center, Public Works West Center, and at the Smith Springs Facility. Brine solution is created at the South 5th facility and then stored in sealed units at each of the sites. All three sites have concrete bins in which the salt is stored, making impacts to storm water runoff non-existent if salt is not tracked outside of the bin areas. Each site has operating procedures aimed at eliminating and/or cleaning up salt tracked from the bins. MWS NPDES Section personnel periodically inspect the three bin sites, using the form presented in Figure 4.3.3.1 to monitor the effectiveness of these procedures. Any observed deficiencies are reported to the proper MDPW officials. Results of inspections performed during permit year 1 are found in Table 4.3.3.1.

Figure 4.3.3.1 Salt Bin Inspection Form

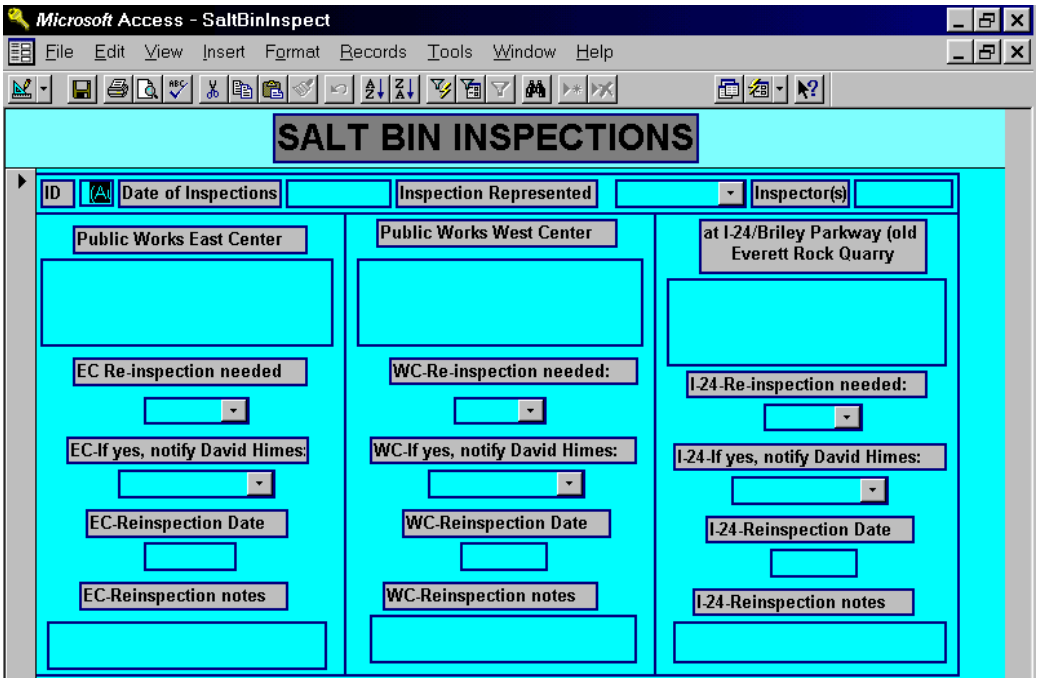


Table 4.3.3.1 Salt Bin Inspections Results

DATE OF INSPECTIONS	PUBLIC WORKS EAST CENTER	PUBLIC WORKS WEST CENTER	AT I-24/BRILEY PARKWAY OLD EVERETT ROCK QUARRY	PUBLIC WORKS SMITH SPRINGS
19-Jun-03	Bin 1/4 full, no sign of discharge or loss. Salt completely covered.	Bin 1/2 full, no sign of discharge or loss. Salt completely covered.	Bin empty of salt. Being used as storage of Averitt equipment and supplies. No signs of discharge.	
22-Oct-03	Bin 1/4 full, no sign of discharge or loss. Salt completely covered	Bin 1/2 full, no sign of discharge or loss. Salt completely covered.	Will not be used this year per David Himes.	Bin 3/4 full, no sign of discharge or loss. Salt completely covered. (Added this bin this fall)
19-Dec-03	Bin full. Trace of salt exposed. No evidence of discharge.	Bin full. Trace of salt exposed. No evidence of discharge.	Not in use.	Bin full. Trace of salt exposed. No evidence of discharge.
15-Jan-04	Bin full. No evidence of discharge.	Bin full. Trace of salt exposed. No evidence of discharge.	Not in use.	Bin full. Trace of salt exposed. No evidence of discharge.
20-Feb-04	Bin full. No exposed salt.	Bin full, some exposed salt. Salt spilled at parking and drive.	Not in use.	Bin full, some exposed salt. Signs of salt being washed away.
24-Mar-04	Bin full. No exposed salt.	Bin full. No exposed salt.	Not in use.	Bin full. No exposed salt.
21-May-04	Bin full. No exposed salt.	Bin full. No exposed salt.	Not in use.	Bin full, some exposed salt. Signs of salt being washed away.
30-Jul-04	Bin full. No exposed salt.	Bin full. No exposed salt.	Not in use.	Bin full. Minor exposed salt. No signs of washing away.

Salt and Brine Application Control

In 1996, spreader control systems were installed on all MDPW spreader trucks. These systems consist of a computer that dictates the salt spread rate based on a pre-set application rate (determined by the severity of weather conditions) that corresponds to truck speed. This means that as the trucks slow down or stop the salt spreader slows or stops correspondingly, reducing the amount of salt that is wasted or over-applied. The spread rates used follow nationally recognized spread rates. This computer-aided system has resulted in a 25% annual reduction in salt use. It is reasonable to assume that these reductions are realized each salt application season. In addition, MDPW has added additional trucks to apply a brine solution at a continuous rate on the roadways while on predetermined routes in anticipation of possible icy conditions. This further reduces the need to apply salt directly to roadways. Reducing direct salt application also helps prevent road damage due to salt application, and creates a reduction in the possible consequences of water quality.

Automated Road Data

MDPW can access automated data from five roadway sensor-sampling sites that supply real-time data (road surface temperature, moisture, subsurface sensor at 18 inches, salt brine percentage, and weather conditions including: temperature, wind speed, dew point, percent humidity) to the Main Public Works Office. MDPW use this information to determine when salt or brine application needs to begin (road surface temperature registers at or near 32° F) or when salt needs to be reapplied to roads that have already been salted (roadway salt solution percentage drops below the known level needed to prevent ice from forming/reforming). Additionally, MDPW subscribes to a real-time weather radar service that allows officials to be more accurate in predicting when and if frozen precipitation is to begin. This prevents the unnecessary application of salt in cases where expected snow or ice does not develop or move into Davidson County as predicted.

Salt and brine application controls and real-time road data have been instrumental in allowing MDPW to better manage salt application in areas where water quality can be greatly affected by careless deicing practices, such as bridges located in close proximity to water bodies, waterways, or conveyances. MDPW coordinates with the Corps of Engineers on icy roadway conditions on the Bell Road bridge over Percy Priest dam. The Corps of Engineers does not want salt applied to the section of road over the dam. Instead, this section of road is closed during hazardous driving conditions.

Metro's Salt Application Area

The State of Tennessee's Department of Transportation (TDOT) is responsible for both the Interstate and State Highway systems. In actuality, the State only has the resources to salt the Interstate system and approximately one-half of the State Highway system within Davidson County. Therefore, MDPW currently salts the other half of the State Highway system and all major Metro roads. MDPW has formulated a list of roads within Davidson County that are the most problematic during icy conditions. These roads are the first to receive salt with other roads being salted as deemed necessary by MDPW based on information received from the Police Department, other Metro Departments, citizens, etc.

4.3.4 Herbicides, Pesticides, and Fertilizers (Part III.B.3.d.)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
3d	Evaluate Herbicides, Pesticides, and Fertilizers application and storage practices	PY 1 and PY 3	●					

During the formative stages of Metro's MS4 NPDES permit program, evaluations of the applications and storage practices of herbicides, pesticides, and fertilizers were focused on Metro Public Works, where NPDES Office staff initially served. During the investigation of usage practices there, it was determined that little, if any, routine usage of these substances occurred. The same situation is also true for Metro Water Services, where NPDES Office staff currently serves. Presently, NPDES Office staff is in the process of surveying the various other Metro Departments regarding their use of these substances. Once

a determination is made regarding any usage, the NPDES Office will setup a program by which proper use and storage will be promoted and verified.

4.3.5 Spill Response Program (Part III.B.3.e.)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
3e	Report on Spill Response Program	Annually	●					

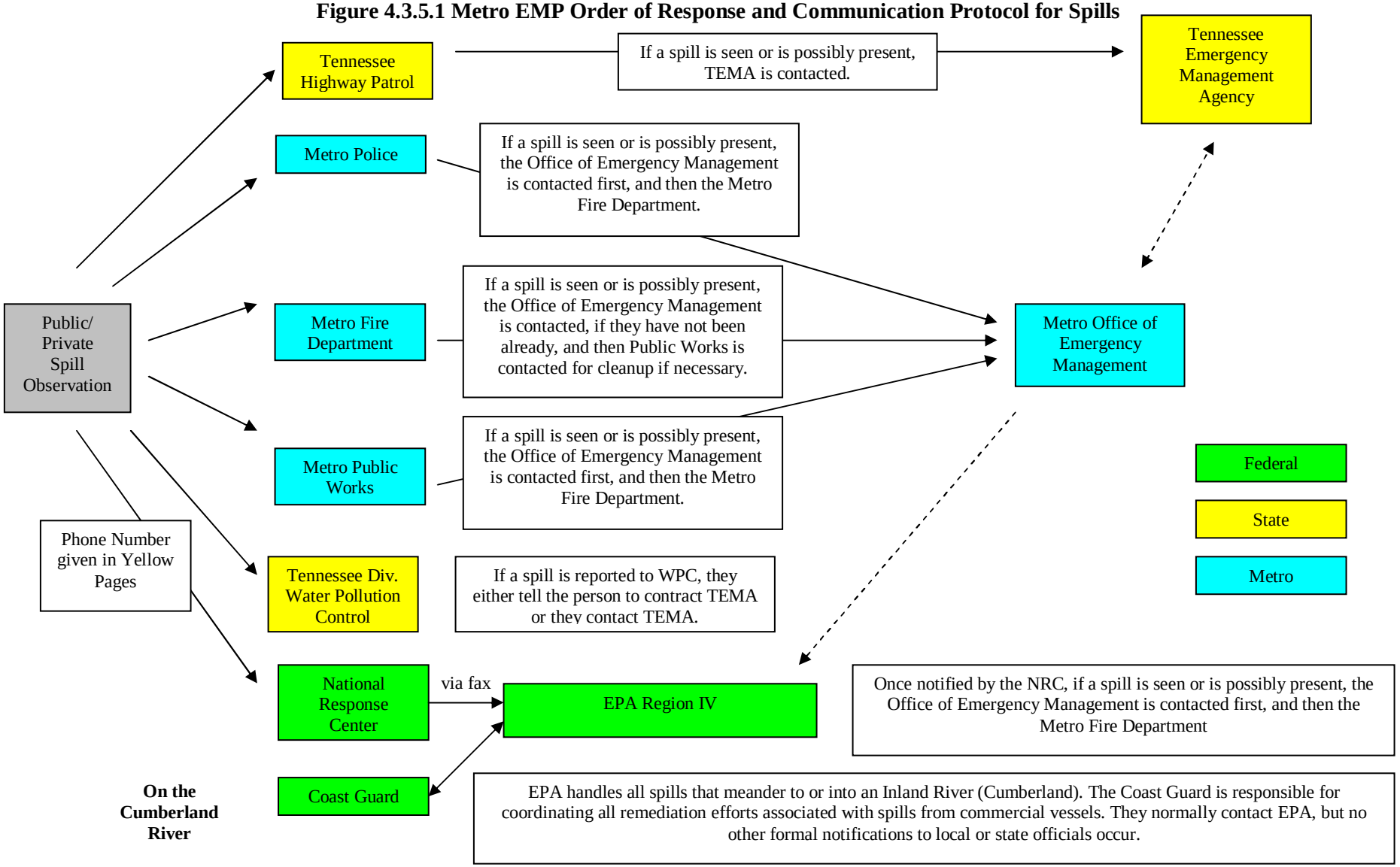
The Metropolitan Nashville and Davidson County Emergency Management Plan (EMP) has developed policies and procedures to coordinate multi-departmental response and recovery from spill incidents. In the Nashville-Davidson County area, small-scale emergencies are typically managed on the scene. Primary responsibility varies among the different agencies depending upon the type of incident. The principal agency should be responsible for taking control of the on-the-scene management of the incident by directing rescue, recovery, and control. The primary HAZ-MAT responsibilities fall to the Fire Department (Hazard 12 unit) with Public Works contributing two HAZ-MAT teams and Water Services contributing one HAZ-MAT team. Principal agency assignments are explained in detail within the EMP. If more than one Metro agency is involved, coordination of overall emergency management related activities is done through the Office of Emergency Management (OEM).

Figure 4.3.5.1 illustrates the order of response and communication protocol. The EMP calls for the Fire Department to be the first contact in the event of a spill. The Fire Department responds, assesses the situation, notifies OEM, and calls MDPW HAZ-MAT to either perform the cleanup or to notify remediation contractors if the scope of the spill is greater than MDPW can address. The response times for all Fire Department locations in the county are estimated to be less than four minutes. The HAZ-MAT team is able to respond throughout the county within six to ten minutes. The NPDES office has someone on call 24 hours a day, 7 days a week, to respond to spills from internal notifications or from OEM. During permit year 1, approximately 27 spills were investigated.

In addressing spill areas, the Fire Department no longer washes spills into the MS4. Instead, bag absorbents are used to capture and/or stabilize the spill material. MDPW HAZ-MAT teams are notified that an absorbent has been applied. MDPW HAZ-MAT then removes and disposes of the absorbent material within several days. If the party responsible for the spill can be identified, MDPW seeks compensation for the remedial activities. If identification of the responsible party is impossible, the costs of remedial services are borne by the MDPW.

Several NPDES staff received The Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) training/refresher course in April of this permit year. This course is specifically designed for workers who remove hazardous waste or who are exposed or potentially exposed to hazardous substances or health hazards. Topics include protection against hazardous chemicals, elimination of hazardous chemicals, safety of workers and the environment, site control, decontamination, and OSHA regulations.

Figure 4.3.5.1 Metro EMP Order of Response and Communication Protocol for Spills



Spills that occur at locations allowing rapid migration into waterways or conveyances would represent a severe threat to water quality in Davidson County. Such spill locations would include sites in the proximity of creeks or streams, sites from which closed impervious storm water sewer systems route directly to creeks or streams, spills from mobile vehicles on or near waterway bridges, and spills from vessels on waterways. In looking at specific industry types that have the greatest likelihood of having and impact on water quality; companies that transport large volumes of chemicals on a routine basis such as railroad, trucking, and barge companies would be considered to present the greatest threat of an impacting spill. Also, any companies that handle or utilize chemicals and/or compounds that are extremely poisonous, hazardous, toxic, etc. would also be considered to pose a threat to water quality and should have sophisticated spill prevention measures in place. The NPDES Program gives special attention to these and all industries during inspections and complaint investigations to ensure that necessary precautions are taken at each site to prevent spills from impacting water quality.

Historical spill data for Davidson County indicates that the majority of spills do not generally pose an immediate threat to "Waters of the State". Most spills did not reach waterways or conveyances such that water quality impacts to "Waters of the State" occurred. However, the NPDES Program will continue to monitor spill trends within the county and will remain ready to take necessary actions to address pertinent spill issues.

Figure 4.3.5.2 Examples of Spills and Cleanup Activities

4.3.6 Design and Construction (Part III.B.3.f.)

Contact Name: Danny Smith, MWS Engineering Section, 615.862.4799

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
3f	Report Modifications to Design and Construction	Each Compliance Report	●					

Roadway design criteria and construction requirements have been reviewed by Metro. The following design considerations were recommended for reducing the impact of roadways on storm water pollution:

1. Consider use of permanent treatment control BMPs for all new roads and extension of roads in newly developed areas.

2. Consider use of permanent treatment control BMPs for projects involving rehabilitation of existing roads if roadway runoff impacts a sensitive water body.

3. Use swales and buffer strips whenever possible.

4. Consider the use of vegetated or bio-engineered drainage ditches in lieu of rip rap whenever possible.

5. Integrate permanent treatment BMPs with temporary construction BMPs whenever possible.

6. Develop design guidelines for permanent treatment BMPs on the basis of specific hydrologic characteristics of the Metro area.

MWS has been able to incorporate most of these recommendations in roadway designs under the control of Metro. One example is the design of the Holt Road repairs. Holt Road is a heavily trafficked, two-lane roadway with no shoulder and is subject to flooding during heavy rain. Metro plans to decrease the likelihood of flooding by increasing the size of nine cross drains in a span of approximately one mile. Six of these cross drains will be replaced and improved with slab bridges. A slab bridge is a 3-sided (bottomless) box culvert. These can be installed more quickly than regular box culverts and cause less disruption to Holt Road traffic and less impact to the stream, both during construction and post-construction. Approximately 2,100 square yards of erosion control matting, instead of rip-rap, will be used on the upstream and downstream sides of the cross drain installations. Construction will begin on this project during year 2 of the permit.

4.3.7 Future Direction of Element 3 - Roadways:

Catch Basin Cleaning and Downtown Street Sweeping

MWS Maintenance Section will continue the ongoing program of catch basin cleaning throughout the permit cycle. The number of catch basins cleaned due to complaints as well as the routine maintenance program is anticipated to increase. The Department of Public Works will continue the ongoing program of sweeping approximately 2800 miles of street every month in the downtown Metropolitan area.

Deicing Chemicals

The Department of Public Works will continue to utilize a combination or either salt or a brine solution as deicing agents for Metropolitan Nashville and Davidson County. The MWS NPDES Section will continue to evaluate deicing application and storage practices to determine if any additional or alternative measures might benefit water quality from roadway runoff and salt bin storage locations.

Herbicides, Pesticides and Fertilizers

The NPDES Section will continue to evaluate chemical application and storage practices of different Metro Departments to determine if any additional or modified procedures would benefit water quality considerations in Metro.

Spills

The NPDES Section and Mayor's Office of Emergency Management will continue to document and update spill location data for the Metro area utilizing the GIS system. Any trends derived from that data will be noted and researched. MWS NPDES Section has also entered into an agreement with the Tennessee Department of Transportation (TDOT) to better address spill issues on State roadways/Interstates (from which spill might otherwise route into the Metro MS4). See page 4-66 for the specific NPDES/TDOT agreement schematic.

Design and Construction

Any modifications to the standards and procedures applied to reviewing roadways proposed by developers and/or Metro road construction projects will be reported in order to demonstrate modifications that are found to be necessary to benefit water quality.

4.4 Landfills and Other Waste Treatment, Storage, or Disposal Facilities (Part III.B.4)

The objective of this section of the SWMP is to satisfy Part III.B.4, which will minimize the impacts of municipal facilities on storm water quality. This includes the investigation of closed and open municipal landfills and other treatment, storage or disposal facilities for municipal waste, such as transfer stations, maintenance and storage yards for waste transportation fleets, POTWs, and sludge application sites. These investigations are to be used as a basis for establishing procedures and prioritization of control measures for reducing pollution in storm water discharges at these sites.

4.4.1 Monitor Water Quality-Related Activities (Part III.B.4.a)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
4a	Monitor Activities, Report on Issues	Ongoing	●					

Active Landfills

There is currently only one active landfill located on the north side of downtown Nashville close to the MWS Administration Building on 2nd Avenue North. It is in the process of being capped/closed and is closely monitored by NPDES staff. Pictures of this site can be seen in Figure 4.4.1.1.

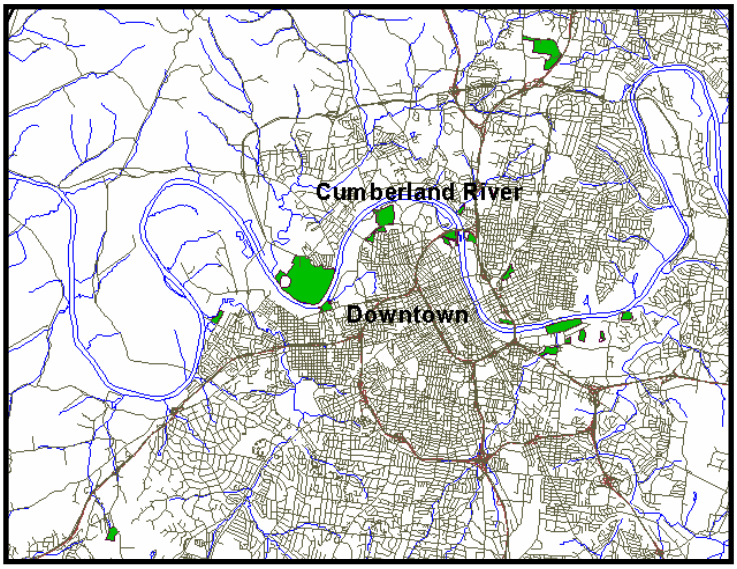
Figure 4.4.1.1 Active Landfill

Closed Landfills

The NPDES Section has secured the addresses and pertinent information relating to all of the closed/inactive landfills in Davidson County as recognized and provided by the Public Works Division of Solid Waste. As the NPDES Section inspections sites began, it was quickly realized that the majority of the sites had been developed to the point that there was little or no remaining evidence that the sites were once landfills. At that point, it was decided that surveying these areas would be better handled under the field-screening program. Consequently, the NPDES Section has converted the closed/inactive landfill information into a GIS shape file (see Figure 4.4.1.2) that will allow the NPDES Section to consider these sites as the field screening is performed in those respective areas. Based on preliminary investigations, it

is not felt that these sites impact dry weather water quality or storm water runoff quality. However, this supposition shall be verified during the field screening of these areas.

Figure 4.4.1.2 Closed Landfills



(Closed landfills are shaded in green.)

Municipal Waste Treatment, Storage, or Disposal Facilities Investigation

The Public Works Division of Solid Waste issues licenses to haulers of municipal waste in Davidson County. The NPDES Section has inspected all licensed haulers' home office sites for the purpose of determining whether storm water runoff quality is impacted by their vehicle locales and/or fleet maintenance operations. At the time of the inspections, all sites were not impacting water quality.

NPDES Section and the MDPW Waste Management Division previously agreed to implement, as a condition of receiving the annual solid waste haulers license, a certification statement to be signed by a designated representative of the licensee that stipulates the fact that the operations permitted by the license shall not serve to contribute to either illicit discharges or storm water runoff pollution. Figure 4.4.1.3 is a copy of this new certification statement. Following the statement is a list of all Metro solid waste haulers who have signed this certification statement (Table 4.4.1.1).

Figure 4.4.1.3 Certification Statement

Storm Water Quality Certification Statement for Metro Division of Solid Waste Licensees

On July 1, 1996, the Metropolitan Government of Nashville & Davidson County (Metro) was issued an NPDES Permit from the Tennessee Division of Water Pollution Control in accordance with the Federal Water Quality Act of 1987. This permit requires Metro to initiate various programs and activities aimed at eliminating both illicit and contaminated storm water discharges within Nashville/Davidson County. Due to these permit responsibilities; henceforth, any entity wishing to secure and maintain a Solid Waste Hauler's License from the Metro Public Works Division of Solid Waste Management must sign and abide by the certification statement below.

I hereby certify, as a duly designated representative of _____ (the licensee), that _____ (the licensee) shall maintain and conduct its entire operation so as to not create or contribute to water pollution within Davidson County. _____ (the licensee) further understands that failure to meet this requirement can result in a revocation of its Metro Solid Waste haulers license and may additionally lead to other enforcement actions on the part of Metro's NPDES Program.

Note: Water Pollution is considered to include, but is not limited to; illicit discharges (to storm drains, ditches, or creeks) and/or contaminated storm water runoff and discharges. This stipulation applies to locations utilized by the Solid Waste license holder on a routine basis to conduct its business such as; fleet maintenance/storage sites, transfer stations, and any other location that might be impacted by the license holder's operations. This stipulation shall also extend to any other operational activities related to the exercising of rights granted by the Metro Solid Waste Hauler's License. If you have any questions as to what would create or constitute a water pollution issue, please contact Metro's NPDES/Water Quality Program at (615) 880-2420.

_____ **Signature** _____ **Date**

_____ **Title**

Disclaimer: This certification represents no additional requirements to the licensee as it pertains to State and Federal environmental regulations.

Table 4.4.1.1 Solid Waste Haulers Investigations

Certificate Number	Issued to	Address	Date Issued	Renewal Date	Type of Operation
03-001	Gray's Disposal	Whites Creek, TN 37189	01-07-2003	30-06-2004	Hauler
03-002	Waste Removal Services, LLC	164-B Old Carters Creek Pike, Franklin, TN 37064	01-07-2003	30-06-2004	Hauler
03-003	Horner's Disposal	631 Blackstone Ave, Madison, TN 37115	01-07-2003	30-06-2004	Collector
03-004	Crick Disposal Services, Inc.	2635 Hart Street, Nashville, TN 37207	01-07-2003	30-06-2004	Collector
03-006	Welsh Disposal	325 Hillcrest Drive, Madison TN 37115	01-07-2003	30-06-2004	Hauler
03-007	Hudgins Disposal Service	400 Crutcher Street, Nashville, TN 37206	01-07-2003	30-06-2004	Hauler
03-008	Waste Management, Inc.	1428 Antioch Pike, Antioch, TN 37013	01-07-2003	30-06-2004	Operator
03-009	Waste Management, Inc.	1428 Antioch Pike, Antioch, TN 37013	01-07-2003	30-06-2004	Collector
03-010	J. E. McMurtry	103 Donald Street, Nashville, TN 37207	01-07-2003	30-06-2004	Hauler
03-011	ICON	5424 Clarksville Hwy., Whites Creek, TN 37080	01-07-2003	30-06-2004	Operator
03-012	Expert Services LLC	713 Melpark Drive, Nashville, TN 37204	01-07-2003	30-06-2004	Hauler
03-013	H. L. Jordan Disposal	1121-A Greenland St., Nashville, TN 37216	01-07-2003	30-06-2004	Hauler
03-014	Bank of Goodlettsville	112 Long Hollow Pk, Goodlettsville, TN 37072	01-07-2003	30-06-2004	Hauler
03-015	MS-COT SERVICES LLC	3516 Central Pike, Hermitage, TN 37076	01-07-2003	30-06-2004	Operator
03-016	Action Waste Industries, LLC	3826 Whites Creek Pike, Nashville, TN 37207	01-07-2003	30-06-2004	Collector
03-017	Educator's Credit Union	1701 21st. Ave S. Nashville, TN 37212	01-07-2003	30-06-2004	Hauler
03-018	Southeastern Recycling	1029 3rd Avenue South, Nashville, TN 37210	01-07-2003	30-06-2004	Collector
03-019	H. E. Parmer Co., Inc.	1635 County Hospital Rd, Nashville, TN 37218	01-07-2003	30-06-2004	Hauler
03-020	Waste Management	4561 Amy Lynn Drive, Nashville TN 37218	01-07-2003	30-06-2004	Operator
03-021	City of Goodlettsville	215 Cartwright Street, Goodlettsville, TN 37072	01-07-2003	30-06-2004	Hauler
03-022	Crick Disposal, Inc.	2635 Hart Street, Nashville, TN 37207	01-07-2003	30-06-2004	Hauler
03-023	Hick's Tree Surgery	115 Dellway Drive, Nashville, TN 37207	01-07-2003	30-06-2004	Hauler
03-024	Quality Disposal Company	1846 Tula Pace Road, Pleasant View, TN 37146-8045	01-07-2003	30-06-2004	Collector
03-025	The Young Group LTD	7119 Cockrill Bend Ind, Blvd. Nashville, TN 37209	01-07-2003	30-06-2004	Hauler
03-026	Spurlock Disposal Company	2625 Hart Street, Nashville, TN 37207	01-07-2003	30-06-2004	Hauler
03-027	Trash Express	201 Gillespie Drive, Franklin, TN 37067	01-07-2003	30-06-2004	Collector
03-028	BFI Waste Services, LLC	700 Murfreesboro Road, Nashville, TN 37210	01-07-2003	30-06-2004	Hauler
03-029	T-Roll Disposal, LLC	1027 Bradley Road, Gallatin, TN 37066	01-07-2003	30-06-2004	Hauler
03-031	Cordell Johnson	315 Hickory Street, Madison, TN 37116	01-07-2003	30-06-2004	Hauler
03-033	JG Disposal	12049 Lebanon Road, Mt Juliet, TN 37122	01-07-2003	30-06-2004	Collector
03-034	Clarksville Disposal	714 Red River Street, Clarksville, TN 37040	01-07-2003	30-06-2004	Hauler
03-035	Pat Reade Disposal	383 Jefferson Pike, LaVergne, TN 37086	01-07-2003	30-06-2004	Hauler
03-036	AutoTruck	Does not haul anymore	01-07-2003	30-06-2004	Hauler
03-037	Cowley Container	1715 Pecan Street, Nashville, TN 37015	01-07-2003	30-06-2004	Hauler
03-038	Three Star Trash Company	2505 Old Sams Creek Rd, Pegram, TN 37143	01-07-2003	30-06-2004	Collector
03-039	Olympic Disposal, INC.	148 Volunteer Drive, Hendersonville, TN 37075	01-07-2003	30-06-2004	Hauler
03-040	Tennessee Waste, Inc.	4300 Georgia Avenue, Nashville, TN 37209	01-07-2003	30-06-2004	Collector
03-041	CSU Transport, Inc	3620 Hwy 641 South, Camden, TN 38320	01-07-2003	30-06-2004	Hauler
03-042	PDQ Disposal, Inc.	625 Hamilton Avenue, Nashville, TN 37203	01-07-2003	30-06-2004	Hauler
03-043	Burnice Winfrey Disposal, Inc.	1600 Emerald Drive, Nashville, TN 37128	01-07-2003	30-06-2004	Hauler
03-044	Waste Industries, Inc	7320 Centennial Blvd, Nashville, TN 37209	01-07-2003	30-06-2004	Hauler
03-045	MLT Disposal	4571 Clarksville Hwy., Nashville, TN 37218	01-07-2003	30-06-2004	Hauler
03-046	Randy's Tire Shop	1156 Murfreesboro Road, Nashville, TN 37217	01-07-2003	30-06-2004	Hauler
03-048	Premier Disposal Services, Inc.	460 Craighead Street, Nashville, TN 37204	01-07-2003	30-06-2004	Collector
03-049	Conwood Company	PO Box 354, Mt. Juliet, TN 37122	01-07-2003	30-06-2004	Hauler
03-050	Tennessee State University	Physical Plant, PO Box 9585, Nashville, TN 37209	01-07-2003	30-06-2004	Hauler
03-052	Southeast Financial Credit Union	444 James Robertson Pky, Nashville, TN 37219	01-07-2003	30-06-2004	Hauler
03-054	Sweeping Corp of America, Inc.	713 Mel Park Dr, Nashville, TN 37204	01-07-2003	30-06-2004	Hauler
03-055	Roger Newland	164 Scalf Drive, Madison, TN 37115	01-07-2003	30-06-2004	Hauler/Collector
03-060	BFI/AAA Transfer Station	1160 Freightliner Drive, Nashville TN 37210	01-07-2003	30-06-2004	Operator
03-061	American Disposal Service, LLC	340 Rockland Road, Hendersonville, TN 37075	01-07-2003	30-06-2004	Hauler
03-062	Waste Away - LLC	634 Moore Avenue, Nashville, TN 37203	01-07-2003	30-06-2004	Collector
03-001	Gray's Disposal	Whites Creek, TN 37189	01-07-2003	30-06-2004	Hauler
03-002	Waste Removal Services, LLC	164-B Old Carters Creek Pike, Franklin, TN 37064	01-07-2003	30-06-2004	Hauler

Table 4.4.1.1 Solid Waste Haulers Investigations (continued)

Certificate Number	Issued to	Address	Date Issued	Renewal Date	Type of Operation
03-003	Horner's Disposal	631 Blackstone Ave, Madison, TN 37115	01-07-2003	30-06-2004	Collector
03-004	Crick Disposal Services, Inc.	2635 Hart Street, Nashville, TN 37207	01-07-2003	30-06-2004	Collector
03-006	Welsh Disposal	325 Hillcrest Drive, Madison TN 37115	01-07-2003	30-06-2004	Hauler
03-007	Hudgins Disposal Service	400 Crutcher Street, Nashville, TN 37206	01-07-2003	30-06-2004	Hauler
03-008	Waste Management, Inc.	1428 Antioch Pike, Antioch, TN 37013	01-07-2003	30-06-2004	Operator

4.4.2 Future Direction of Element 4 – Landfills and Other Waste Treatment, Storage, or Disposal Facilities

In addition to inspecting municipal-owned landfills, Metro plans to inspect and monitor the activities of several large, privately-owned landfills in permit year 2. These sites will be determined based on the landfill's potential impact to water quality. Treatment, storage, and disposal facilities will continue to be monitored as necessary.

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4.5 Use of Pesticides, Herbicides, Fertilizers, Oils, and Other Toxic Materials (Part III B.5)

The objective of this section of the SWMP is to satisfy Part III.B.5 regarding the education of the public on the proper use, handling, storage, and disposal of pesticides, herbicides, fertilizers and other household hazardous wastes. This public education element is an ongoing effort.

4.5.1 Operate Household Hazardous Waste Facility (Part III.B.5.a.)

Contact Name: Chace Anderson, MDPW Waste Management Division 615.862.8727

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
5a	Operate Household Hazardous Waste Facility	At least 1/quarter	●					

Metro's Waste Management Division of Metro Public Works operates a Household Hazardous Waste (HHW) facility. The HHW facility or East Recycling Convenience Center is located at 941 Richard Adams Road. The HHW facility, open 361 days a year, is open to all residents of Nashville and Davidson County.

A full-time hazardous waste technician assists customers with unloading waste and then packages the material and finds outlets for the collected material. Items accepted at the facility include newspaper, mixed paper, paper board, cardboard, aluminum, tin, glass containers, plastic bottles, tires, appliances, furniture, other bulk items, used oil, antifreeze, batteries, cleaners/solvents, insecticides, and lawn and pool chemicals. Items not accepted include tires, trash, ammunition, business and industrial waste, explosives/fireworks, medical waste, flares, smoke detectors, radioactive material, and gas cylinders. Commercial vehicles, rental trucks, and vans are not allowed at the site.

Information on hazardous waste is provided to the public on both the WMD website and in an educational pamphlet (See Figure 4.5.1.1). Information is provided on identifying hazardous wastes, finding alternatives to hazardous products, and disposing of waste properly.
A summary of the household hazardous waste operations by private haulers and by Metro Public works is summarized in Table 4.5.1.1.

Figure 4.5.1.1. Household Hazardous Waste Pamphlet (front)

Table 4.5.1.1 Hazardous and Recyclable Materials Collected

Type of Material	Category	Tons Collected
Private Recycling Companies		
Metals	Aluminum Food/Bev	187
	Other Non-Ferrous	9,000
	Other Fe Scrap	289,500
	Total	298,687
Other	Grease	127
	Total	127
Pallets	Pallets	14,262
	Total	14,262
Paper	Other Paper	18,950
	Mixed Paper	4,903
	Old Newspaper	5,411
	Corrugated Containers	52,275
	Total	81,540
Textiles	Clothing	5,062
	Total	5,062
TOTAL	TOTAL	399,678
Metro Public Works		
Auto Fluids	Antifreeze	2
	Waste Oil	16
	Total	18
Batteries	Lead Acid	40
	Total	40
Glass	Mixed Container Glass	1,798
	Total	1,798
Metals	Aluminum Food/Bev	301
	Other Fe Scrap	1,974
	Total	2,275
Mulch	Yard Waste	74,202
	Total	74,202
Other	Commingled Paper, OCC, ABC & SFC	13,609
	Total	13,609
Paper	Old Newspaper	3,496
	Corrugated Containers	982
	Total	4,477
Plastic	Mixed PET/HDPE	266
	Total	266
Tires	Tires	3,404
	Total	3,404
TOTAL	TOTAL	100,089

(Information courtesy of Metro Department of Public Works 2004 Annual Progress Report)

4.5.2 Commercial Distributors (Part III.B.5.b.)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
5b	Commercial Distributors – Public Information	Ongoing	**X**					Not completed. Postponed to PY 3.

While this activity was scheduled for year 1, because of other resource-intensive programs, it has been delayed until year 3. Metro proposes to implement an NPDES-based educational program aimed at commercial distributors of pesticides, herbicides, fertilizers, oils, and other toxic materials. This program will function to bring attention to the water quality impacts created by the retail distribution process of such products and implement measures that would act to lessen those impacts. All public education and information activities are detailed in Section 4.10 Public Education.

4.5.3 Metro Facilities (Part III.B.5.c.)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
5c	Metro Facilities	Permit Year 2						

The NPDES Section shall develop a campaign to identify specific Metro Departments that handle and use chemicals/hazardous substances, such as fleet operations and vehicle maintenance. These Departments will then be educated on appropriate storm water practices. All activity is proposed for permit year 2.

4.5.4 Future Direction of Element 5 – Use of Pesticides, Herbicides, Fertilizers, Oils, and Other Toxic Materials:

Operate Household Hazardous Waste Facility

The East Recycling Convenience Center (HHW facility) is anticipated to remain open 361 days a year to all residents of Davidson County.

Commercial Distributors

The NPDES-based educational program aimed at commercial distributors of pesticides, herbicides, fertilizers, oils, and other toxic materials will function to bring attention to the water quality impacts created by the retail distribution process of such products and implement measures that would act to lessen those impacts. This education activity is an ongoing process to be addressed each year of the permit. All public education and information activities are detailed in Section 4.10 Public Education.

Metro Facilities

The NPDES Section shall develop a campaign to identify specific Metro Departments that handle and use chemicals/hazardous substances, such as fleet operations and vehicle maintenance. These Departments will then be educated on appropriate storm water practices.

4.6 Illicit Discharges and Improper Disposal (Part III.B.6)

This element is designed to meet Part III.B.6 by facilitating an ongoing program to detect and stop (or require the discharger to stop) illicit discharges and improper disposal of wastewater or solid wastes into the municipal separate storm sewer system (MS4). Components of the ongoing program include inspections, ordinances, enforcement procedures, field screening and investigations, spill response procedures, public participation, management and disposal of oil and toxic materials, and limiting sanitary sewer seepage. Each of the activities within these components is discussed separately in this section. The proposed future direction for the entire program element is presented at the end of this section.

4.6.1 Ordinances and Enforcement Measures (Part III.B.6.a)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
6a	Refine Ordinances and Enforcement Measures	PY 1 and PY 3	●					

In the first year of the permit cycle, Metro took steps to enhance local regulatory mechanisms designed to improve water quality by reducing illicit discharges through the process of revising the storm water ordinance, manual and program. The process began by reviewing regulations, policies, enforcement measures and other information that supports the storm water program, including enforcement measures that affect illicit discharges. Metro staff has been meeting weekly to identify changes needed in the program. Some changes have been or will be submitted to a stakeholders group, the Storm Water Regulations Review Committee, for discussion and recommendations. This stakeholders group meets monthly and includes members from Metro Council, the Metro Storm Water Management Committee, the development and engineering community, state and local organizations, and the general public.

As this process continues into permit year 2, regulations and policies will be changed and written into the revised storm water ordinances, manual, and other program components. It is anticipated that these changes will be implemented within a 6-month deadline following publishing of the new manuals.

4.6.2 Dry Weather Field Screening (Part III.B.6.b)

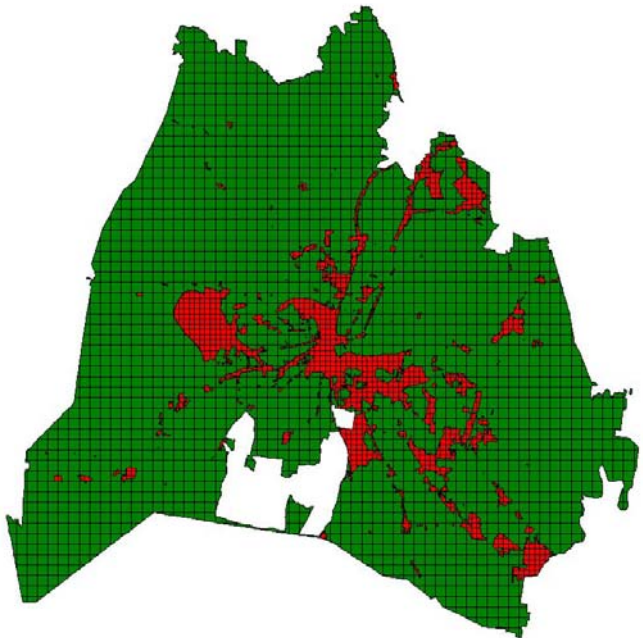
Contact Name: Mike Seremet, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
6b	Update and Prioritize Dry-Weather Field Screening	PY 5						

Metro made a significant effort in the first permit cycle in dry weather field screening 4,274 sites. For the second permit cycle, revised dry-weather field screening procedures are planned to maximize the effectiveness and efficiency of field efforts. Field screening in areas with a predominant land uses of residential or agricultural found very few, if any, illicit discharges during the first permit cycle. Therefore, dry-weather field screening will be focused more on non-residential land use/zoned areas for the second permit cycle. Any needed illicit discharge identifications and reporting in residential or agricultural areas will be conducted in response to citizen complaints.

Field screening will be conducted in non-residential zoned areas using a ¼ mile grid. The ¼ mile grid has been created from updated GIS-based land use/zoning data, developed by Metro Planning Commission, to guide and monitor dry-weather field screening activity (See Figure 4.6.2.1). Implementation of field screening will begin during the upcoming permit years. Illicit discharges to the MS4 found from the dry-weather screening will be investigated and removed.

Figure 4.6.2.1 Field Screening Grid



Non-residential areas are designated in Red.

4.6.3 Illicit Discharge Investigations (Part III.B.6.c)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
6c	Illicit Discharge Investigations	Ongoing	●					

The ongoing illicit discharge investigation program investigates the results of the field screening program or other appropriate information for sources of non-storm water discharges. The program is designed to detect, locate, and ultimately remove illicit discharges to the MS4. Key elements of the program include notification of TDEC Division of Water Pollution Control, watershed evaluation, and field survey.

The program prioritizes sites first according to complaints and then by contaminated field screening sites. The locations and activities of the investigation program are tracked, organized, and analyzed by computer through various databases linked to the storm water GIS. MWS NPDES Section will use this information in the investigation and subsequent elimination of illicit discharges. Upon discovery of an accidental illicit discharge, MWS NPDES Section contacts the discharger to solve the problem. If the discharge is considered a recurring or negligent event, the TDEC Division of Water Pollution Control (DWPC) may be contacted.

4.6.4 Public Information in Residential/Commercial Areas (Part III.B.6.d)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
6d	Distribute Public Information to Residential/Commercial Areas	Ongoing	●					

Public information activities associated with illicit discharges and improper disposals in residential and commercial areas are presented in Section 4.10.1.

4.6.5 Sanitary Sewer Seepage (Part III.B.6.e)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
6e	Evaluate Reporting for Sanitary Sewer Seepage	PY 1 and PY 3	●					

The NPDES Section periodically evaluates the protocols for reporting potential sanitary sewer seepage into the MS4 or "Waters of the State". NPDES staff participate in monthly Overflow Abatement Program (OAP) meetings to discuss current investigations relating to possible sewage seeps and propose appropriate courses of action. The Overflow Abatement Program is an on-going effort to improve the water quality of the Cumberland River and its tributaries in middle Tennessee. Significant progress has been made over the last decade in the reduction of combined sewer overflows (CSOs) and sanitary sewer overflow (SSO) points.

Information on the OAP is available to the public through the following website:

www.nashvilleoap.com/home.html

Sanitary sewer seeps are identified through both the OAP ambient monitoring program and the MWS Thermograph Investigation Program. In the winter of 2003, Metro Water Services conducted an aerial infrared or "thermographic" Sewer and Storm Water Line Inspection. The investigation enabled staff to identify leaking sanitary sewers and other illicit discharges based on elevated temperatures of illicit flows compared to ambient flows. Four creeks, Richland, Mill, Manskers, and Browns, were selected for thermal imagery video. The videos taken of the four creeks were analyzed for thermal anomalies. The thermal anomalies were transcribed onto maps and finally, the anomalies were investigated and sampled to determine whether they were the result of illicit discharges. The anomalies were classified, through investigations, into the following categories: no-flow, unidentified flow, spring/seep, stream, water line leak, sanitary sewer leak, and illicit discharges. Remedial actions were taken to eliminate the illicit discharges. The four-part procedure: aerial flights, video analysis, mapping thermal anomalies, and field investigations, yielded several important findings. Out of 212 thermal anomalies, nine were found to be confirmed sources of water pollution, including sewer leaks in Manskers and Sevenmile Creeks and a water leak from an industrial source. In addition, 20 anomalies remain undetermined and will warrant additional investigations, 81 were natural streams or seeps, and 102 were no-flows.

Figure 4.6.5.1 Video Imagery Showing Thermal Anomalies

4.6.6 Future Direction of Element 6 – Illicit Discharges and Improper Disposal

Ordinances and Enforcement Measures

Regulatory and enforcement procedures will likely be revised in permit year 2, based upon the findings of the Storm Water Regulations Review Committee. It is believed that the revisions will create a more efficient and effective program.

Dry-weather Field Screening

Field screening will be conducted within land uses that are predominantly non-residential using the newly developed ¼ mile grid. Prioritized implementation of field screening process will begin during the upcoming permit years.

Illicit Discharge Investigations

The illicit discharge investigation program is an ongoing program to identify illicit discharge sources, educate responsible parties, and implement enforcement measures as appropriate. The program will continue throughout the second permit cycle, with modifications to the enforcement procedures based upon the findings of the Storm Water Regulations Review Committee.

Public Information in Residential/Commercial Areas

Public information activities associated with illicit discharges and improper disposals in residential and commercial areas are presented in Section 4.10.1.

Sanitary Sewer Seepage

Metro will continue to evaluate the protocols for reporting potential sanitary sewer seepage into the MS4 or "Waters of the State". In addition, MWS will use lessons learned from the 2003 aerial infrared flight to improve the process of identifying leaks and illicit discharges by making it more efficient, more routine, expanding the scope of the flights, and creating quicker responses to illicit discharges. Additional efforts will be reported for year 3 of the second permit cycle.

4.7 Industrial and High Risk Runoff (Part III.B.7)

The objective of this element is to satisfy Part III.B.7 of the permit, which requires that Metro minimize the impacts of high-risk storm water runoff from industrial facilities, municipal facilities and restaurants. This objective is to be accomplished through inspecting industrial, landfill and waste disposal, transfer and storage facilities; researching the problems associated with restaurant storm water runoff; and monitoring selected industries.

4.7.1 Data Management (Part III.B.7.a)

Contact Name: Josh Hayes, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
7a	Data Management – Update Industrial Site Databases	Annually	●					

During permit year 1, the NPDES Section focused on updating the database of Industrial Sites and streamlining the processes for database entry and inspections. Previous databases were archived for reference and to provide storage and prevent confusion with current inspections. The current database includes information such as site location, inspection history, priority facilities, sampling data, correspondence, and enforcement actions. A Standard Operating Procedure (SOP) was developed for inspection preparation, and the inspection checklist was refined for the industrial site inspections. Both of these documents can be found in Appendix A.

4.7.2 Inspections (Part III.B.7.b)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420
Josh Hayes, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
7b	Inspections	---						
	Refine procedures/criteria to prioritize sites	PY 1, PY 3, and PY 5	●					
	Train Inspectors	PY 2 and PY 4						
	Inspect Facilities	Once by PY 5	●					Ongoing
	Coordinate inspection and enforcement activities with TDEC staff	Ongoing	●					
	Report Inspection Locations	Ongoing	●					

During the past year, the MWS NPDES Section met with TDEC to coordinate the criteria and procedures for prioritizing industrial facilities that require inspections. TDEC provided NPDES with a list of its first priority sectors, and that list was incorporated into the NPDES Section database. Several inspections were completed as a team effort between TDEC and the NPDES Section to insure that the two agencies evaluate the same parameters. It was decided that the NPDES Section would continue inspecting facilities, regardless of the facility's state permit status, and that the NPDES Section would provide follow-up documentation to TDEC for each site, coordinating with TDEC's engineers on sites with Individual Permits. Co-inspections would be considered for any site that resisted the NPDES Section inspections or enforcement.

Metro is required to monitor and control pollutants in runoff from the following types of industries and activities:

- Municipal landfills (see Section 4.4 of this report);
- Hazardous waste treatment, storage and disposal facilities (see Section 4.4 of this report);
- Industries subject to SARA Title III Section 313; and
- Industrial facilities that the municipal permit applicant determines are contributing a substantial loading of pollutants to the municipal storm sewer system.

There are currently 50 sites or facilities in the Nashville Metro area that match one of those descriptions. Other sites with substantial loadings may be identified in the future. A list of these sites can be found in Appendix E. Work is in progress for establishing a "priority" ranking system for inspecting these facilities and should be finalized within permit year 2. Several characteristics will be factors, including the facility's size, proximity to water bodies, and amount and type of chemicals used.

Members of the NPDES Section staff received Industrial Storm Water Inspector Training, provided by the University of Tennessee, in March of 2004. The industrial facility inspections began in the summer of 2004. The inspection of the Springs Industrial Bath Facility was completed prior to the end of permit year 1. This inspection was used as a training inspection to communicate the information learned in the Industrial Storm Water Inspector Training class with other inspectors in an in-the-field atmosphere and to provide the inspectors with information that would relate to sites in their areas.

4.7.3 Restaurant Impacts (Part III.B.7.c)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420
Hugh Garrison, MWS Operations Division - FOG, 615.862.4590

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
7c	Restaurant Impacts – Report activities that reduce water quality impacts	Annually	●					

MWS has a focused grease management program known as the Fats, Oils, and Grease (FOG) Program to address overflows and blockages of the sanitary sewer system caused by improper disposal of fats, oils

and greases. Overflow or backflow discharges caused by these blockages affect ambient water quality. The objectives of this program include:

1. Operation and Maintenance cost reduction,
2. Collection system improvement,
3. Policy development on grease control equipment, and
4. Better tracking of collection system maintenance responses.

In the past year, through cooperation with and participation by the Metro Health Department, the FOG staff and subcontractor staff have investigated all 1,600 food service establishments in Metro's jurisdiction. Food Service Establishments (FSE) include restaurants, schools, prisons, entertainment venues, and other food-servicing programs. Upon investigation, FOG issues permits (See Appendix A) that require proper disposal of grease and proper maintenance of grease control equipment. A copy of a field inspection sheet is included in Figure 4.7.3.1. In subsequent investigations, grease found on walls results in the issuance of a warning, and grease found in the sanitary sewer results in a Notice of Violation (NOV), a copy of which can be found in Figure 4.7.3.2.

MWS hired a contractor with a three-person staff to perform the education, inspections, sampling, and data collection of the field operations. This information was transferred to the FOG department and saved in a database. The FOG department uses performance indicators, such as maintenance of grease control equipment, volume of grease pumped, number of sewer line stoppages related to grease, number of overflows, and others indicators, to assess the effectiveness of the program. As of April 2003, there were 44 overflows in Metro's jurisdiction. From January through July of 2004, there were only two overflow occurrences, neither of which reached concentrated surface waters. It is evident that enforcement and education have helped to achieve compliance with FOG permit regulations.

NPDES Section staff also investigates various restaurant-related complaints as part of its illicit discharge investigation program. See Section 4.6 for more information on Metro's illicit discharge detection and elimination program.

Efforts were made this past year to establish permit requirements for the subject establishments that occasionally have water quality impact issues. A policy is now included in regulations for Mobile Food Units that states "No material (solid or liquid waste) shall be discharged to the Metro municipal storm sewer system (or to a locale where such material may be washed via storm water runoff into the storm sewer system) as it relates to the operation of a mobile food unit per Metro 15.64.205." (All requirements for Mobile Food Units can be found in Appendix A.)

Figure 4.7.3.1 FSE Grease Control Inspection Form

FOOD SERVICE ESTABLISHMENT GREASE CONTROL INSPECTION FORM

Facility Name: _____ **Inspection Date:** _____

Facility Representative: Mr. / Ms. _____ **Title:** _____

Phone: _____ **Owner/Regional Manager Name:** _____

Facility Address: _____ Mail Address: _____ (if different)

Handy Map ID: _____ **Sewer Plat ID:** _____ **GPS ID:** _____

1.**Grease Interceptor**? ____ Yes ____ No **2**. Interceptor Size(gallons) __500 __750 __1000 __1500 __2000
(For #1, if "NO" then go to # 14) __ 3000 ___Two Interceptors in series other:_____

3. Manhole Access to Interceptor:__1 __2 __3 __4 **4**. Estimated Grease Layer Depth:_____

5.Effluent T visible? ___Yes ___No **6**. Effluent T attached & in good condition: __Yes __No __ Unknown
(inspector can see the T)

7. Grease Interceptor Hauler used: _____ **9**.Bacteria/Enzymes used:___Yes___No Product Name:_____

10. Frequency Interceptor Cleaned? _____ **11**. Complete Contents Pumped? ____Yes ___ No

12.Records of Maintenance/Cleaning Available? ____ Yes ____ No **13**. Last date cleaned: _____

Grease Trap

14. **Grease Trap**? __ Yes __ No **15**. Location: ___ Under sink trap ___ Floor trap ___ Outside "floor" trap
(For # 14, if "NO" then go to #20)

16. *Grease Trap flow-through rating / grease capacity Estimate:* __ 5 gpm/ 10 lb __ 10 gpm/ 20 lb __15gpm/30lb
___ 20 gpm / 40 lb ___ 35 gpm / 70 lb ___50 gpm / 100 lb ___ Other:_____

17. Frequency Trap is cleaned:_____ **18. Maintenance/Cleaning Records:** ____ Yes ____ No

19. Grease Trap comments/location disposed of waste:

BMPs & outside conditions, other than grease interceptor or trap

20. Best Management Practices Implemented ___**Yes** ___**No** **21**. Grease Recycle Bin ___Yes ___No

22. Cleanout Covers missing or damaged? ___Yes ___No (# Cleanout covers missing: _____ damaged: _____)
(Facility needs to repair missing or damaged cleanout covers immediately)

23. FOG impact at dumpster or around recycle bin? ___Yes ___ No (if Yes give explanation below)

24. DOWNSTREAM MANHOLE: ___ Evidence of Grease in Manhole (__slight __ moderate __ heavy)

Comments: _____

25. **SAMPLE POINT** Access? __ Yes __No Effluent Temp: _____ Effluent pH:_____

26. Sample point ID: ___Interceptor Effluent T ___Downstream MH ___Cleanout ___Sample drop box

27. Picture ID:_____ **//** ____ **of Interceptor** ____ **of downstream MH** ____**other:**_____

Visual inspection results, comments: _____

Inspector Name: _____ Signature: _____

Facility Representative Signature: _____

Inspection form copy provided to facility? ____Yes

Figure 4.7.3.2 FOG Notice of Violation

Department of Water & Sewerage Services, Environmental Compliance
Noncompliance Notification

DATE ISSUED:_____ Issued by:_____ DATE RESPONSE DUE:_____

Facility:_____ Address:_____

The following marked box(es) ☒ indicate deficiencies or areas of concern that need to be addressed.

☐ Grease Interceptor Effluent T not attached or not acceptable, allowing fats, oils and grease to be discharged. *(replace effluent T and make sure length of T is adequate, to within 18" of bottom of interceptor tank).*

☐ Grease Interceptor Effluent T not visible or accessible for inspection. *(need to verify during pumping of interceptor if effluent T is attached and in good condition, or will have to take action to install access opening over effluent T to ensure it is attached to prevent fats, oils and grease from being discharge. Also you need access to outlet compartment so it can be cleaned properly).*

☐ Grease Interceptor mid baffle wall or side walls indicates deterioration of concrete. *(inspect grease interceptor at the time the grease interceptor is completely pumped, check to ensure deterioration of concrete is not going to cause the mid baffle wall or outside walls to collapse or cause tank contents to leak out of the interceptor. Normally, the concrete thickness on most interceptors is 4", it is recommended that if deterioration of concrete is greater than 50% then the interceptor needs to be repaired or replaced.)*

☐ Grease Interceptor fats, oils and grease layer and food solids layer are greater than 25% of the capacity of the interceptor tank. *(interceptor needs to be pumped immediately, provide record of pumping to Metro; get interceptor on regular schedule to be pumped, minimum of every 3 months but some larger facilities may have to pump monthly to ensure grease does not cause problems).*

☐ Fats, oils and grease evident in downstream manhole from facility, immediate action needs to be taken. *(this could include installing new grease interceptor, controlling flows through the interceptor to prevent washout of grease to the sewer, implementing strict BMPs for all personnel to control grease discharges or other action)*

☐ Facility has no grease control equipment installed. *(if large facility you will need to install an appropriate sized interceptor or trap, refer to Metro Water Services' brochure on minimum size of grease control equipment).*

☐ No Records of interceptor or trap maintenance available at the facility for inspection review. *(keep copy of all grease waste hauler manifests and records at the facility location, if the traps are cleaned by facility personnel then keep written record onsite of cleaning date, person doing cleaning and location the grease and food waste was disposed)*

☐ Sewer cleanout covers need to be replaced, allowing rainfall inflow to sewer system.

☐ Fats, oils and grease on ground around recycle bin or dumpster, causing stormwater impact.

RESPONSE FROM FACILITY (attach additional information if necessary): Mail Response to:
Metro Water Services, ATTN: FOG Program, 1607 County Hospital Rd., Nashville, TN 37218
Facility Contact Name furnishing response:_____Title:_____
(White copy: Metro; Yellow Copy: Facility to submit with response; Pink Copy: For Facility's records)

4.7.4 Future Direction of Element 7 – Industrial and High Risk Runoff

Data Management

It is important to carefully administer sampling, lab, inspection, and other correspondence data when managing impacts from industrial and other high-risk runoff facilities. Metro proposes that the data management mechanisms be routinely maintained and updated to reflect current activities throughout the permit life. This includes GIS and database information on the site locations, inspection history, potential facilities to include, sampling data, correspondence, and enforcement actions.

Inspections

Metro proposes that it periodically refine procedures to prioritize sites for inspection based on SIC code, SARA Title III Section 313 data, and other pertinent information. The intent is to maintain an up-to-date list of facilities that should be evaluated for water quality impacts so that all "current" or "active" facilities can be inspected by the end of the permit term. Furthermore, Metro plans to periodically train the inspection staff to recognize potential water quality impacts and ensure that they adhere to new and existing inspection procedures.

Restaurant Impacts

Through the FOG program and in coordination with its subcontractor and the Health Department, MWS plans to re-visit and investigate each of the 1,600 FSEs again in the next year. Inspection priority will be placed on emergencies and hotspots, while program emphasis will be placed on continued education and enforcement. FOG plans to continue partnerships with the Health Department, the Fire Marshall's Office, Codes Division, and the Department of Education and hopes to develop relationships with other Metro entities as well.

4.8 Construction Site Runoff (Part III.B.8)

This section of the program is designed to satisfy Part III.B.8 of the permit, which is intended to limit the impact of storm water runoff from construction sites through the establishment of procedures enforced through ordinances for site planning. The procedures will be implemented by plan reviewers, inspectors, and through public education. This objective will be accompanied by modifications to the Metropolitan Nashville Storm Water Management Manual (SWMM) and public education through erosion prevention and sediment control workshops.

4.8.1. Ordinances, Regulations, and Guidance (Part III.B.8.a)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY 1
			1	2	3	4	5	
8a	Ordinances, Regulations, and Guidance	---						
	Enforce existing ordinances and regulations	Ongoing	●					
	Refine procedures to enhance enforcement	PY 1 and PY 3	●					
	Evaluate and Update guidance materials	PY 1 and PY 3	●					
	Public Education	Ongoing	●					
	Require proof of coverage under the state's construction general permit	Ongoing	●					

Metro took significant steps in the first year of this permit to enhance local regulatory mechanisms designed to improve water quality by beginning to revise the storm water ordinance, manual and program. The process began by reviewing regulations, policies, enforcement measures and other information that supports the storm water program, including the storm water design manual, checklists, and written and unwritten procedural policies. Metro staff has been meeting weekly to identify changes needed in the program. As revisions or changes are identified, those that will affect the community are taken to a stakeholders group for discussion and recommendations. This stakeholders group meets monthly and includes members from Metro Council, the Metro Storm Water Management Committee, the development and engineering community, state and local organizations, and the general public.

As this process continues into permit year 2, the weekly Metro staff meetings and the monthly stakeholders meetings will continue, culminating in late permit year 2 or early permit year 3 into revisions to the storm water management manual, ordinance, and other program components. Metro will provide training to staff and the development community on the program changes. It is anticipated that these changes will be implemented within a 6-month period following the publishing of the new documents.

In addition to the regulations revision meetings, Metro staff meet periodically to discuss site inspection experiences and issues with specific sites. These meetings allow staff opportunities to refine inspection procedures and enforcement mechanisms.

In an effort to reduce the amount of materials wasted on a construction site, such as soil and stone and to reduce the number of unpermitted fill or borrow sites, Metro developed a "SoilTrader" program, based on a similar program in Portland, Oregon. This program provides guidance to match sites that generate materials with sites that need materials. These exchanges are logistically and financially beneficial to the SoilTrader users and facilitate better compliance with Metro's regulations by promoting options for disposal/fill on properly permitted sites. SoilTrader can be located on the MWS website at:
www.nashville.gov/stormwater/soiltrader/index.htm.

Metro routinely requires grading permit applicants to submit a copy of their Notice of Intent (NOI) for a Tennessee Construction General Permit (CGP) along with their grading permit application. Plans submitted without a signed NOI are returned to the applicant for insufficiency. This policy insures that a permittee is aware of the CGP requirement.

4.8.2 Training (Part III.B.8.b)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY 1
			1	2	3	4	5	
8b	Train Plans Reviewers and Inspectors	Annually	●					

Metro's Inspection and Engineering staff have attended TDEC's Level 1 and 2 Erosion Prevention and Sediment Control Training and Certification Workshops. The classes are a foundation-building course open to the public, but intended for all levels of government, plan preparers and reviewers, and designers and engineers. The course aims to build a solid working knowledge of erosion and sedimentation processes and practices and hydrologic cycles. It provides a better understanding of the impact of erosion on Tennessee's natural resources and of Best Management Practices for erosion prevention and sediment control on construction sites.

4.8.3 Records Management (Part III.B.8.c)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

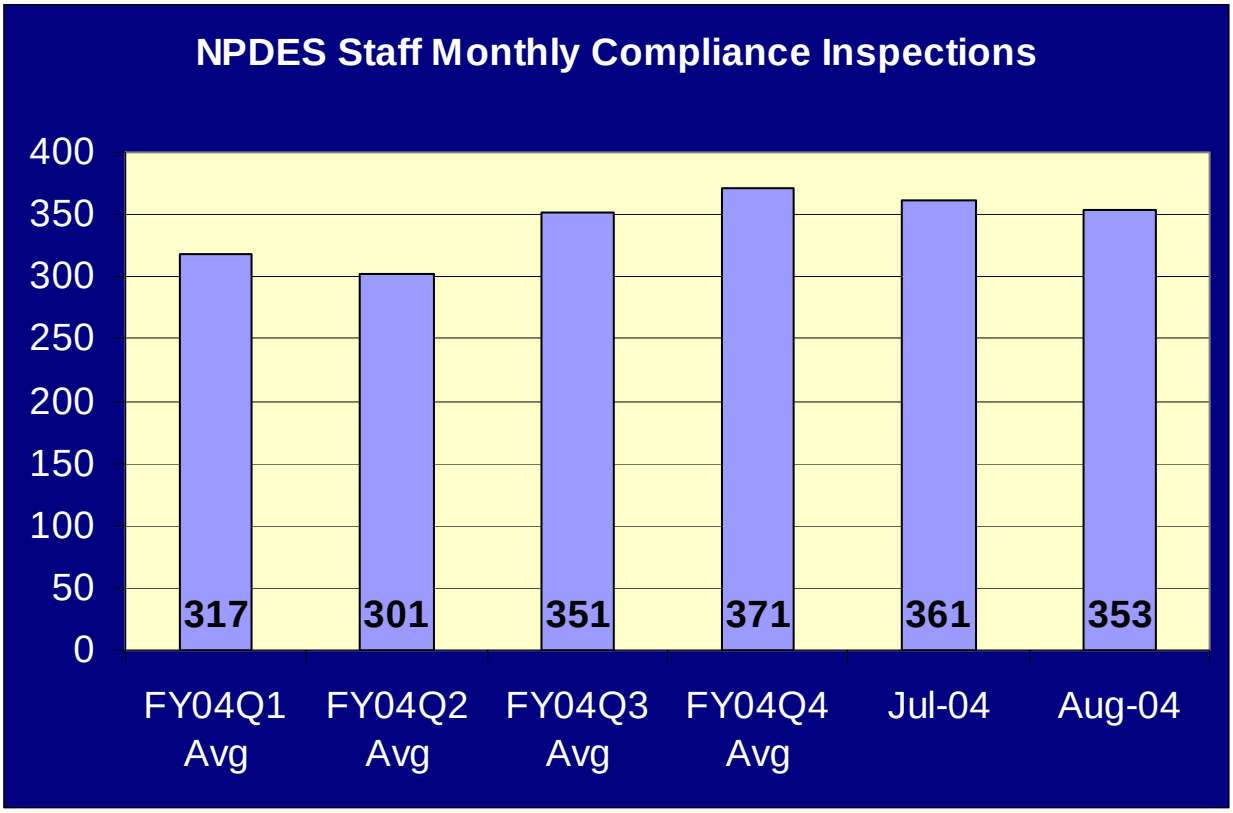
Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY 1
			1	2	3	4	5	
8c	Records Management - EP&SC inspections	Ongoing	●					

The MWS NPDES Section records inspections and enforcement activities in a local database. Tallies for inspections are updated monthly. In permit year 1, NPDES staff conducted over 4,000 inspections and averaged approximately 350 inspections each month (see Table 4.8.3.1 and Figure 4.8.3.1).

Table 4.8.3.1 Annual Compliance Inspection Tally

	Michael Hunt	Steve Wall	Mike Seremet	Rebecca Dohn	Ann Morbitt	Silas Mathis	Valerie Williams	Josh Hayes	Dale Binder	Sonia Harvat	Preston Winesett		TOTAL
Total FY02	8	57	103	0	0	0	0	0	0	46	0		214
Total FY03	8	138	710	825	661	509	140	0	91	0	0		3,082
Total FY04	9	0	735	684	269	444	105	394	1,222	0	162		**4,024**
Total	25	195	1,548	1,509	930	953	245	394	1,313	46	162		7,320

Figure 4.8.3.1
Quarterly Compliance Inspections Averages



***Note: FYO4 begins in July of 2003, therefore FYO4Q1 includes July, August, and September of 2003.

4.8.4 Plan Review and Inspection Resources (Part III.B.8.d)

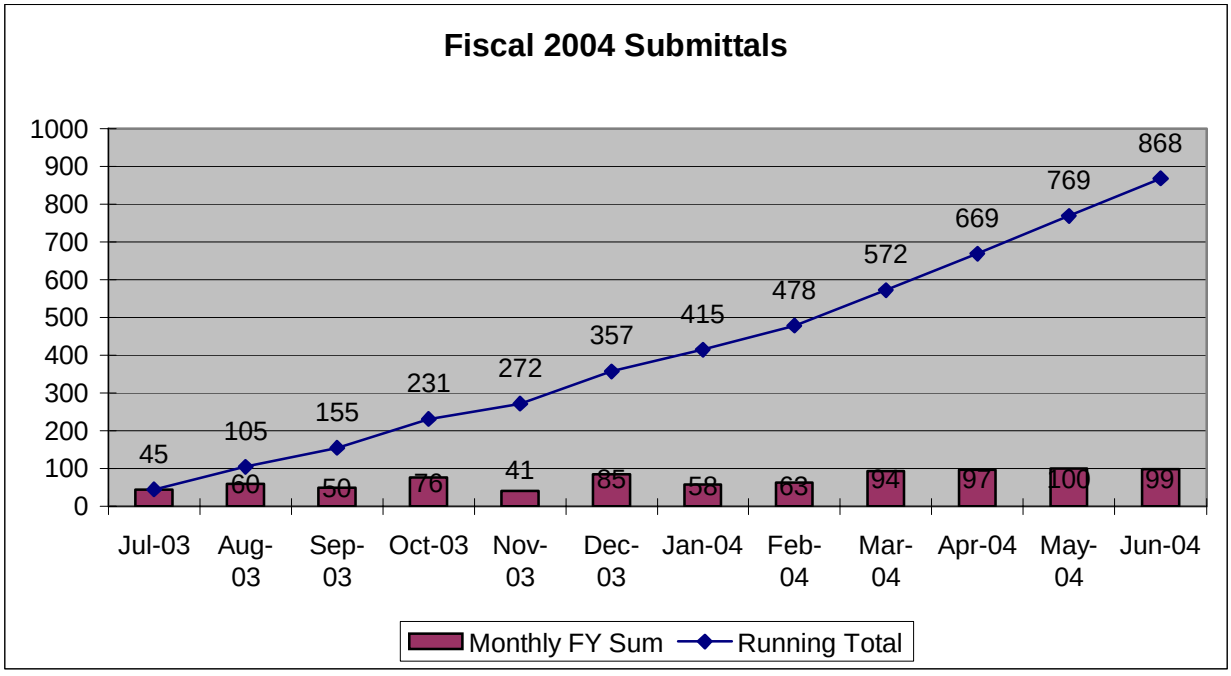
Contact Name: Danny Smith, MWS Engineering Section, 615.862.4799

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY 1
			1	2	3	4	5	
8d	Plan Review and Inspection Resources	Ongoing	●					

Resources were increased in permit year 1 with the addition of four new Plans Review Section engineers. This additional staff has equipped the Plans Review Section with the capabilities to effectively review grading permit applicants in a more timely manner.

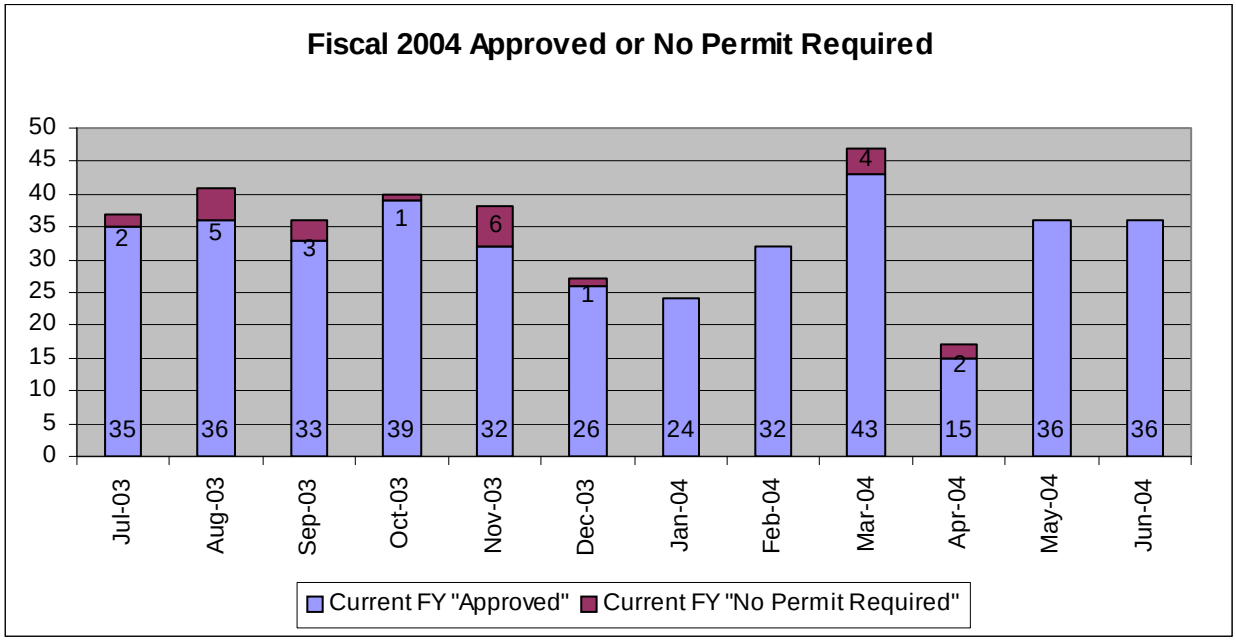
The MWS NPDES section experienced several changes within its staff in permit year 1. Although new inspectors were hired to fill vacant positions, the staff size has not increased significantly. The NPDES Section continues to evaluate staff assignments on a routine basis to ensure that adequate inspector resources are available to monitor ongoing land disturbance activities on active construction sites in the Metro area.

Figure 4.8.4.1 Plans Submitted for Review



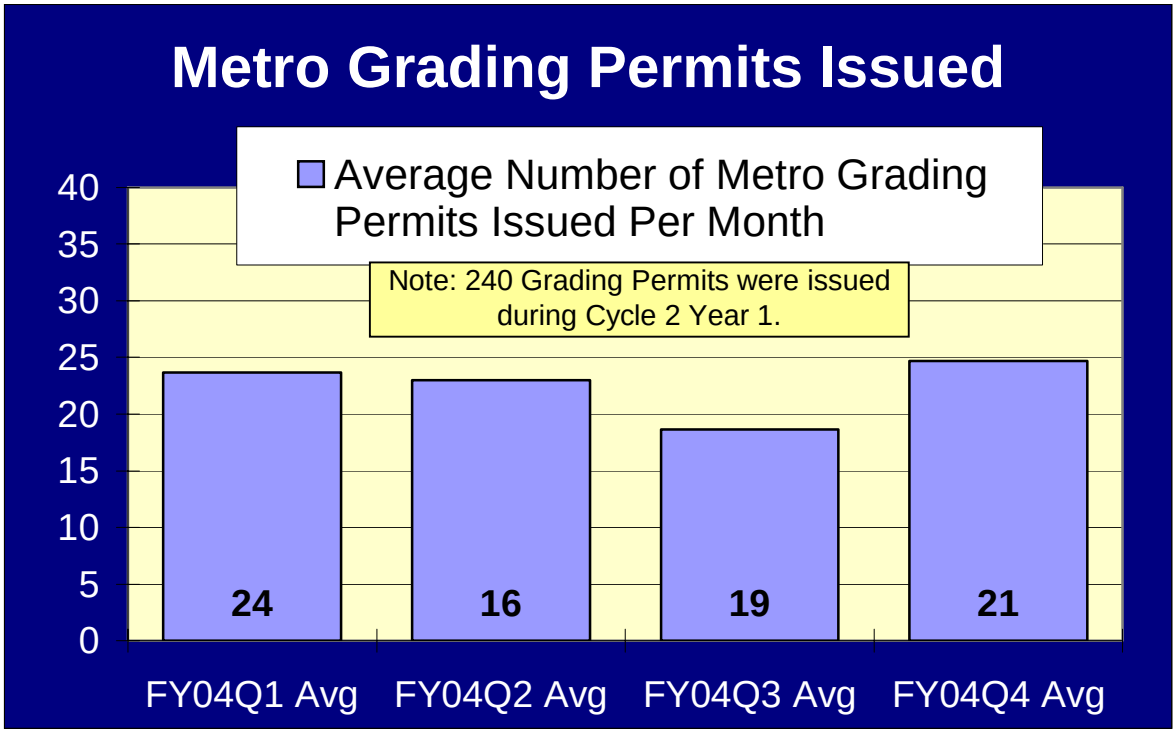
***Note: Approvals include grading plans, as-builts, critical lots, LOMA/LOMR requests and/or Preliminary PUDS.

Figure 4.8.4.2 Plans Approved or No Permit Required



***Note: Approvals include grading plans, as-builts, critical lots, LOMA/LOMR requests and/or Preliminary PUDS.

Figure 4.8.4.3 Grading Permits Issued



4.8.5 Metro Activities (Part III.B.8.e)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY 1
			1	2	3	4	5	
8e	Evaluate Metro Activities	PY 2						

In year 2 of the permit, Metro plans to evaluate the construction practices implemented by Metro Departments, such as sanitary sewer and utility line installations, to limit erosion and sedimentation impacts.

4.8.6 Future Direction of Element 8 – Construction Site Runoff

Ordinances, Regulations and Guidance

The Storm Water Regulations Revision process will continue into permit year 2. Eventually all proposed changes will be included in the storm water management manual and other program elements. It is anticipated that these changes will be implemented within a 6-month timeframe following publishing of the new documents.

Existing ordinances and regulations will continue to be enforced until new regulations are implemented. Meetings and discussions regarding site inspection experiences will be used to evaluate and update guidance materials and enforcement actions as necessary.

Training

Plan reviewers and construction site inspectors will continue to be informed of and educated on the latest and most effective management practices. Meetings between these two groups are ongoing and will continue throughout the permit cycle.

Records Management

Inspections and any enforcement actions will continue at a steady rate through the second year of the permit. These inspections will be documented in the NPDES database and tallies will be updated monthly.

Plan Review and Inspection Resources

Staffing is expected to remain constant after the Inspector vacancy in the NPDES section is filled.

Metro Activities

Metro plans to evaluate the construction practices implemented by Metro Departments to limit erosion and sedimentation impacts. Practices evaluated should include such projects as sanitary sewer installations, utility line installation, etc.

4.9 Habitat Improvement (Part III.B.9)

The objective of Part III.B.9 of the permit is for MWS to investigate and report on the feasibility of a program to improve Davidson County stream habitats.

4.9.1 Report Habitat Improvement Activities/Projects (Part III.B.9.a)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments
			1	2	3	4	5	
9a	Report habitat improvement activities/projects	Annually	●					

MWS investigated the feasibility of a program to improve fish and wildlife habitats in Davidson County streams. Among Metro's efforts has been the establishment by the Metropolitan Council of The Greenways Commission of Metro Parks and its Citizens Advisory Committee (CAC). The Commission and the CAC oversee the community's public/private greenways effort. Several greenways, featuring hiking, biking, and horseback riding trails and walking/running paths, have been established along streams in Nashville. MWS presently has a staff member on the greenway committee to promote and enhance this program. Presented below are greenways projects that have been active in the last year.

- Adoption of the 2002 Parks & Greenways Master Plan that identifies conservation of Davidson County's seven main water corridors as greenways.

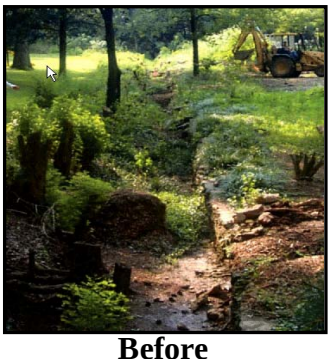
- Completion of 23 miles of greenway trails and conservation of over 3800 acres of land, including:
  - Shelby Bottoms Greenway and Nature Park on Cumberland River (800 acres);
  - Downtown Greenway (connects Riverfront Park to the Bicentennial Mall);
  - Metrocenter Levee Greenway;
  - Mill Creek Greenway – Ezell Park;
  - Mill Creek Greenway – Blue Hole Road;
  - Harpeth River Greenway;
  - Stones River Greenway – Two Rivers Park to Heartland Park;
  - Stones River Greenway – YMCA to Percy Priest Dam;
  - Richland Creek Greenway – Phase I;
  - Brookmeade Park Cumberland River Greenway;
  - Beaman Park – Phase I; and
  - Bells Bend Greenway — Master Plan completed; Trails underway; expected completion Fall 2004.

Also, as a part of the small capital improvements program, several projects during permit year 1 were designed with tree plantings, creating habitat:

- Kemper Drive - 50 linear feet of bank stabilization and sapling planting;
- Milliken Drive; and
- Broadmoor Drive.

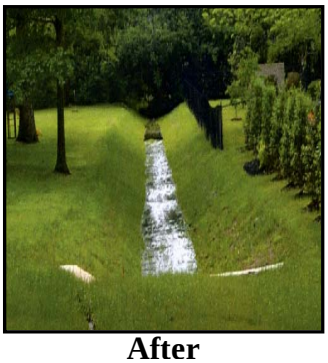
Maintenance work performed by MWS Maintenance Section at Antioch High School and Ewing Creek included the removal of trash and debris from the creek. Additionally, MWS Maintenance Section has purchased permanent erosion control blanketing from multiple vendors that will be tested for functionality against riprap. Depending on test results, the MWS Maintenance may shift away from using riprap in the maintenance program to and begin using matting. The advantage of using matting over rip-rap is that matting promotes vegetation growth and water infiltration.

Figure 4.9.1.1 Matting Project



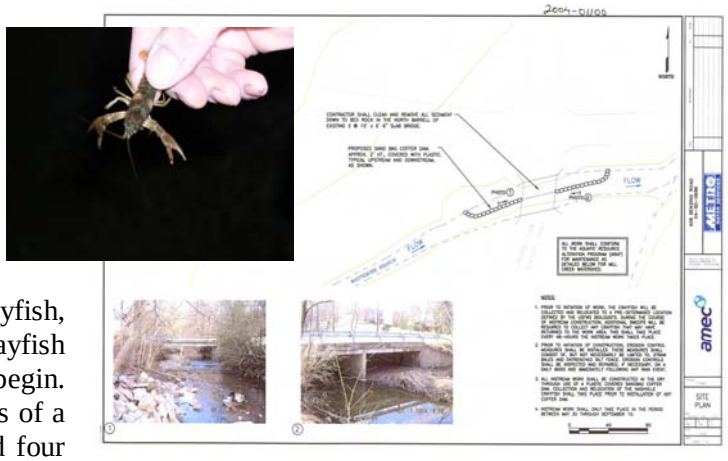
Before

During Installation



After

For the first time, MWS sponsored a Stream Sample workshop to train volunteers to take a water sample that would be used to monitor water quality conditions in a stream (see Appendix A). Following the training, volunteers chose a stream and were given a map and a sampling kit. Volunteers returned with their water sample later that day, and a water resource professional tested it for water quality. Reports were written for all streams sampled that day and delivered to the volunteers. Additional stream clean-up projects conducted by MWS during permit year 1 are described below.



Brook View Estates Road, Whittemore Branch – This project involved the removal of consolidated sediment located in and upstream and downstream of a box culvert. Because Whittemore Branch is a tributary of Mill Creek, the habitat of the endangered Nashville Crayfish, MWS had to conduct a crayfish sweep/relocation before any work could begin. Work had to be performed within two days of a sweep. Therefore, it took two sweeps and four days of work to complete the project.

Figure 4.9.1.2 Whittemore Branch Habitat Improvement

County Hospital Road, Whites Creek – In this stream clean up, an illegal dumpsite was removed from MWS property and a greenway trail was developed along the creek. Approximately 60-70 volunteers, including community members, Metro staff, and the Whites Creek Preservation Society, helped to remove 7,500 pounds of trash from the site and cut a trail that eventually highlighted 300 feet of fishing access along Whites Creek. Waste Management donated dumpsters for the trash collection and installed a gate at the entrance of the property to restrict further dumping.

Figure 4.9.1.3 Whites Creek Cleanup

Murfreesboro Road, Mill Creek – Approximately 35 volunteers worked together to clean 3.79 tons of trash out of Mill Creek. Trash bags and gloves were donated by Metro Beautification. Metro Public Works supplied a large dumpster, and Camp Marymount allowed the use of their canoes. This clean-up was promoted in several local environmental organizations newsletters and in *The Tennessean*.

Poplar Creek Road, Poplar Creek – In March of 2004, an emergency repair was performed on two sections of Poplar Creek that were eroding portions of the Poplar Creek Road. The project consisted of minor channel excavation and the placement of large-sized riprap along the eroded bank for a combined length of approximately 50 linear feet. The existing gravel stream substrate was preserved and placed back into the stream channel.

Figure 4.9.1.4 Poplar Creek Repair and Restoration

Before

After

4.9.2 Future Direction of Element 9 – Habitat Improvement

This program element's objective is to make TDEC Water Pollution Control aware of habitat improvement activities in the permit area. It should be noted that Metro is committed to habitat improvement activities as demonstrated by recently adopted regulations concerning waterway buffers and several greenways projects reported in the NPDES MS4 annual reports (Section 4-10).

In relation to this program element, Metro requests a written policy statement from TDEC-WPC regarding the policy and procedure by which entities such as Metro can secure, if needed, individual Aquatic Resource Alteration Permits (ARAP) for stream habitat improvement projects. This would include such information as application costs and application review periods.

MWS will continue to have a staff member participate on the greenway committee to promote and enhance the program. The small capital improvements program will continue to include habitat improvement opportunities in designs. MWS Maintenance staff will continue to remove trash and debris from steams in an effort to improve habitat.

MWS is currently partnering with the Tennessee Department of Agriculture and several other State and local agencies in the Sevenmile Creek Watershed Community Project. This Project is an initiative to improve or preserve water quality in healthy streams and to restore and de-list polluted streams within the Sevenmile Creek Watershed. The Project in funded through 319 Grant monies and the goals are to restore riparian areas; improve in-stream habitat; install BMPs specific to pollution sources of the watershed; promote public/community interest, awareness, and cooperation in maintaining and improving water quality; and engage developers, regulators, and planners in smart development techniques and practices for water quality. In the next year, the Project plans to implement wider stream buffers on public lands, implement model stream buffers in a private residential community, implement in-stream habitat improvements for the Nashville Crayfish, and develop an educational greenway trail along the stream in the Ellington Agricultural Center property.

4.10 Public Information and Education (Part III.B.10)

This element is designed to meet Part III.B.10 of the permit by facilitating an ongoing program of public education and outreach efforts. Areas of education include general housekeeping procedures; use, storage, and disposal of pesticides, herbicides, fertilizers, used oils, and other hazardous chemicals; identification and prevention of illicit connections and discharges; construction and long-term water quality impacts; and detention pond maintenance. These topics are presented to audiences ranging from school children to homeowners' associations to developers and engineers

4.10.1 Public Education of Other Elements (Part III.B.10.a)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420
Sonia Harvat, MWS Public Information Officer, 615.862.4494

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY 1
			1	2	3	4	5	
10a	Inform Public – General Housekeeping Procedures	Ongoing – at least one activity per year						See Activity 1F
	Inform Home Owner Associations – Detention Pond Maintenance							See Activity 1G
	Educate Engineering and Development Community – Long Term WQ Impacts							See Activity 2A / 2D
	Inform Public – Pesticides, Herbicides, and Fertilizers		●					See Activity 5B
	Inform Public – Oils and Hazardous Chemicals							See Activity 5B
	Inform Public – Illicit Connections / Discharges							See Activity 6D
	Educate Engineering and Development Community – Construction WQ Impacts							See Activity 8A
	Other Not Yet Identified Opportunities							

The NPDES Program is committed to addressing the public education requirements of the permit. A listing of presentations by NPDES Section staff members is found in Appendix B. Sonia Harvat, Metro Water Services' full-time Public Information Officer (PIO), spearheads various public education efforts for MWS. Her presentation activities are also found in Appendix B. During permit year 1, the NPDES program received local media attention. Copies of articles are presented in Appendix B.

General Housekeeping Procedures – Education for the General Public

- The NPDES Section developed a General Brochure that summarizes the NPDES Program and explains ways for the general public to prevent storm water pollution. This brochure, titled "Water – Protect It With Your Lifestyle", is given out at all presentations and events where NPDES staff are present and is available for pick up at several Metro offices (see Appendix B).

- The NPDES Program provides a Storm Water Pollution Hotline (313-PURE) for reports related to any discharge or activity that is contributing to water pollution. The hotline functions 24-hours a day, 7-days a week and is managed through the NPDES Program office. This hotline number is included on all of NPDES educational materials.

- The NPDES Program also has a logo and slogan (Pure Nashville…Right as Rain) that is extensively promoted.

- Several of the presentations listed in Appendix B are Microsoft PowerPoint© presentations that visually summarize the NPDES program activities. An NPDES Program video has also been developed as a public education tool. Many of these presentations are available on the Metro website (see Section 4.10.2).

- NPDES staff uses government-issued vehicles in performing its functions, mainly sampling and complaint investigation. In an effort to promote its program and public awareness, the NPDES Section displays the NPDES logo and hotline phone number on the nine (9) NPDES Section fleet vehicles (see Figure 4.10.1.1).

Figure 4.10.1.1 NPDES Truck and Van

- WaterWorks! is a pilot public education program through the Middle Tennessee State University (MTSU) Center for Environmental Education designed to promote clean water in Tennessee through a series of public service announcements, both video and audio, promoting water quality through responsible action. WaterWorks! is partnering with the Phase II MS4 municipalities in Tennessee to complete their required public education mandate. MWS is participating the public education campaign as well by providing money to buy airtime for the public service announcements. Since January 2004, Metro's support of $2000 has been valued at more than $80,000 in airtime bought for the WaterWorks! campaign.

- MWS sends annual notices to all properties located in the special flood hazard area, approximately 10,000 properties. The pamphlet, found in Appendix B, is individualized to show a

map of the owner's property and flooplain. The pamphlet also includes general information about flood hazard areas, flood insurance, safety, permitting requirements, drainage system maintenance, and illicit discharges.

Detention Pond Maintenance – Education for Homeowner's Associations

Although there were no formal educational opportunities offered to Homeowner Associations this year, the NPDES staff educated those Associations that were required to maintain detention ponds in their areas on an as-needed basis.

Construction and Long Term Water Quality Impacts – Education for Engineers and Developers

MWS works along with TDEC and the University of Tennessee in presenting the TDEC Erosion Prevention and Sediment Control Training and Certification Workshops in the Nashville area. This class is a foundation-building course open to the public, but intended for all levels of government, plan preparers and reviewers, and designers and engineers. The course aims to build a solid working knowledge of erosion and sedimentation processes and practices and hydrologic cycles. It provides a better understanding of the impact of erosion on Tennessee's natural resources and of Best Management Practices for erosion prevention and sediment control on construction sites.

In Year One of the Permit, six of these workshops were offered in the Nashville area – three Level I workshops and three Level II workshops. Tom Palko with MWS gave a 45-minute presentation at the three Level I workshops outlining Metro Grading Permits and EPSC requirements. Over 400 people attended the workshops, including all of Metro's inspection and engineering staff. Additionally, a number of people from the Nashville area have attended the workshop in other areas of Tennessee.

Another one-day workshop offered by the MWS NPDES Section in June focused on Current Issues in Storm Water Regulations in Tennessee. This workshop was designed to educate engineers, public works and utility directors, project managers, business administrators, developers, planners, surveyors, property owners, architects, and attorneys. Michael Hunt, with the NPDES Section of MWS, presented on the Phase I MS4 Program.

In a continuing effort to educate the development and construction community, MWS periodically sends out notices via email to provide further information on Metro permit issues. The email distribution list has been compiled from attendees at Pre-Con Meetings and Grading Permitees.

A short Microsoft PowerPoint© presentation ran for several months on Metro's cable channel that educated the public, but was of particular interest to developers, about the need for grading permits and providing the proper contact to receive more information.

Oils and Hazardous Materials – Education for the General Public

In the past year, the MDPW Waste Management Division (WMD) hosted special household hazardous waste recycling events and a permanent drop-off site, to which the public may bring any hazardous household chemical for proper disposal (for more information on this see Section 4.5). Participants received educational materials on the proper use and disposal of various hazardous wastes; alternatives to hazardous products; MWS' new NPDES Program; a basic description of storm water contamination, causes and prevention; the location of MDPW recycling and solid waste drop-off sites; and a how-to brochure on composting. The MDPW Waste Management Division (WMD) also provides public information and education on the household recycling program, litter and debris, and brush removal.

In addition to educational pamphlets, the WMD advertises services through the use of billboards, radio commercials, print advertising, partnerships with local businesses, and media relations. WMD also provides outreach to the public through events, exhibits, and festivals, display boards and kiosks, and the public works website.

The list developed by TDEC of used motor oil recycling centers within Davidson County, along with addresses, phone numbers, and information about proper disposal of used oil, is provided through a link from the NPDES storm water quality website at http://www.state.tn.us/environment/dca/oil/site11.php.

Illicit Connections/Discharges – Education for the General Public

MWS NPDES Section continued the ongoing process of educating the public on reporting spills, illegal dumping, illicit connections, and other water quality problems through several types of media, including the use of the telephone hotline and distributing educational brochures.

The newest and most prevalent form of public education and notification was developed in Permit year 1. In 2003, MWS personnel conceived a cartoon character, "Toxic Dude", who is consumer-friendly and approachable. A graphic designer was engaged to bring the staff's concept to life. The cartoon includes a sign that mirrors the design of the catch basin markers used on storm drains. "Toxic dude" is reminded by fish "What you dump in a storm drain ends up in my home!" and encourages readers "Don't Dump On Us!" (See Figure 4.10.1.2). The storm water website and hotline numbers are included in the graphic for additional information. The image was printed on 2,500 T-shirts and distributed in the community and appeared on the outside of six Metro Transit Authority (MTA) buses, 20 bus benches and inside an additional 40 MTA buses for a period of three months. This campaign came very close to winning a Public Relations Award, receiving a score of 38.67 out of a possible 40.

Figure 4.10.1.2 Toxic Dude

All water quality-related complaints received by or routed to the NPDES Section are logged into databases that track the status of all storm water quality **complaints** that are investigated by NPDES Section personnel. Figure 4.10.1.3 is a screen capture of MWS' complaint database. While the NPDES investigation is ongoing, the complaint is kept in the "open" database. Once the complaint issue has been resolved, it is moved to the "addressed" database until full compliance is verified by NPDES staff after an appropriate period of time has passed (assuring no reoccurrence of the problem). Once the NPDES staff is certain the complaint issue poses no further water quality threat and needs no more scrutiny, the complaint is moved from the "addressed" database to the "closed" database. Since its inception, NPDES

has received, investigated, and attended to 989 total complaints. Of these 989 complaints, there are currently:

- 930 "closed" complaints;
- 44 "addressed" complaints; and
- 15 "open" complaints.

Figure 4.10.1.3 Complaints Database

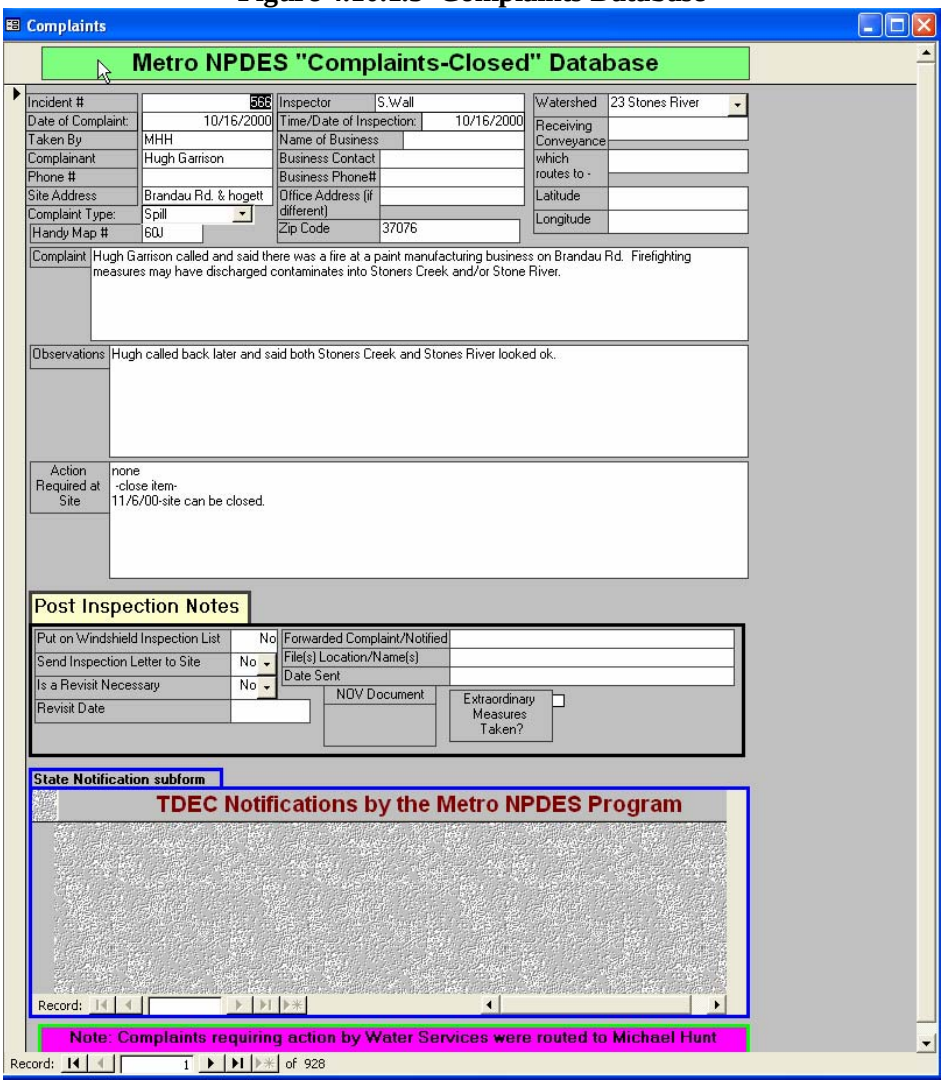
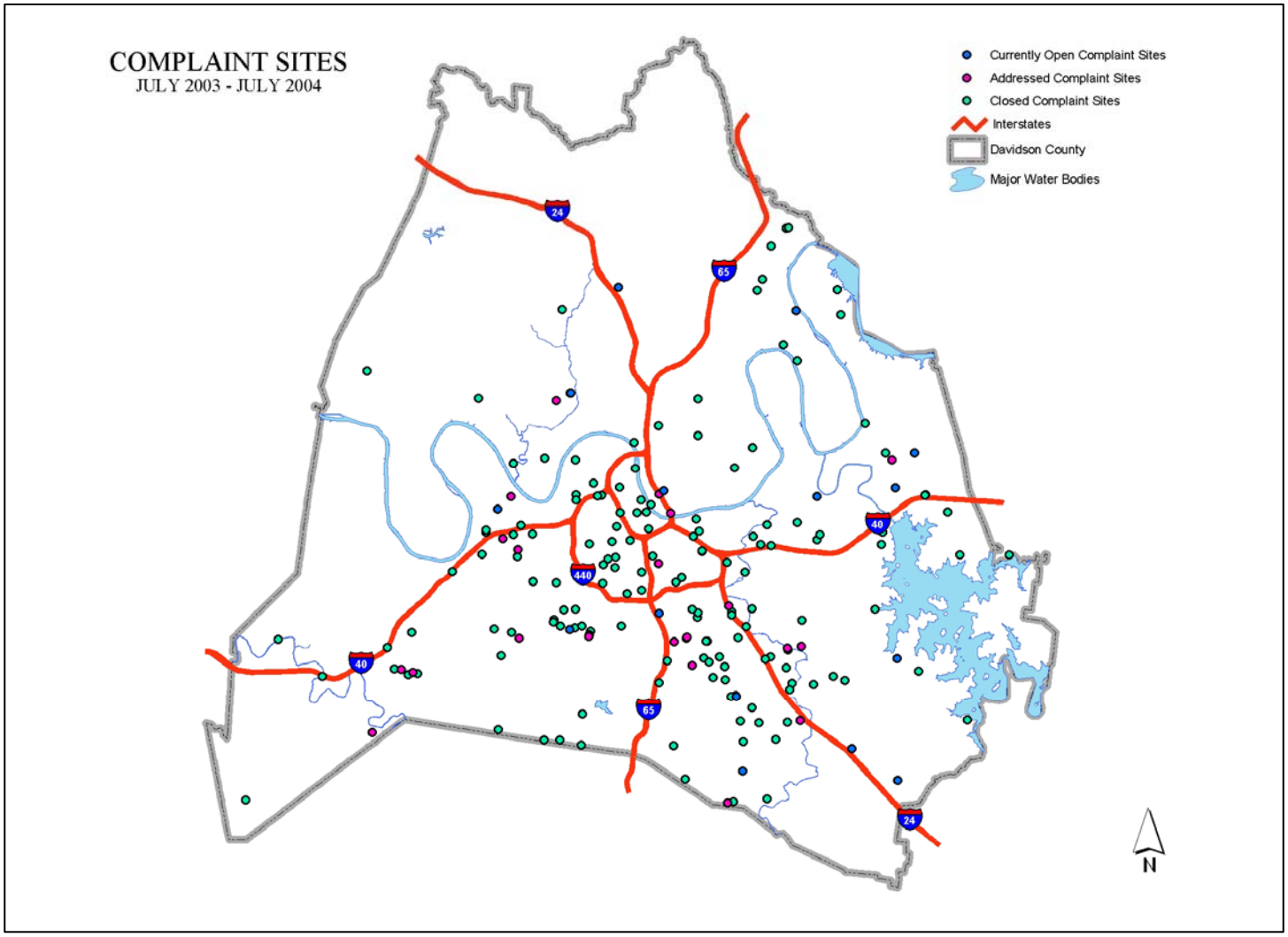


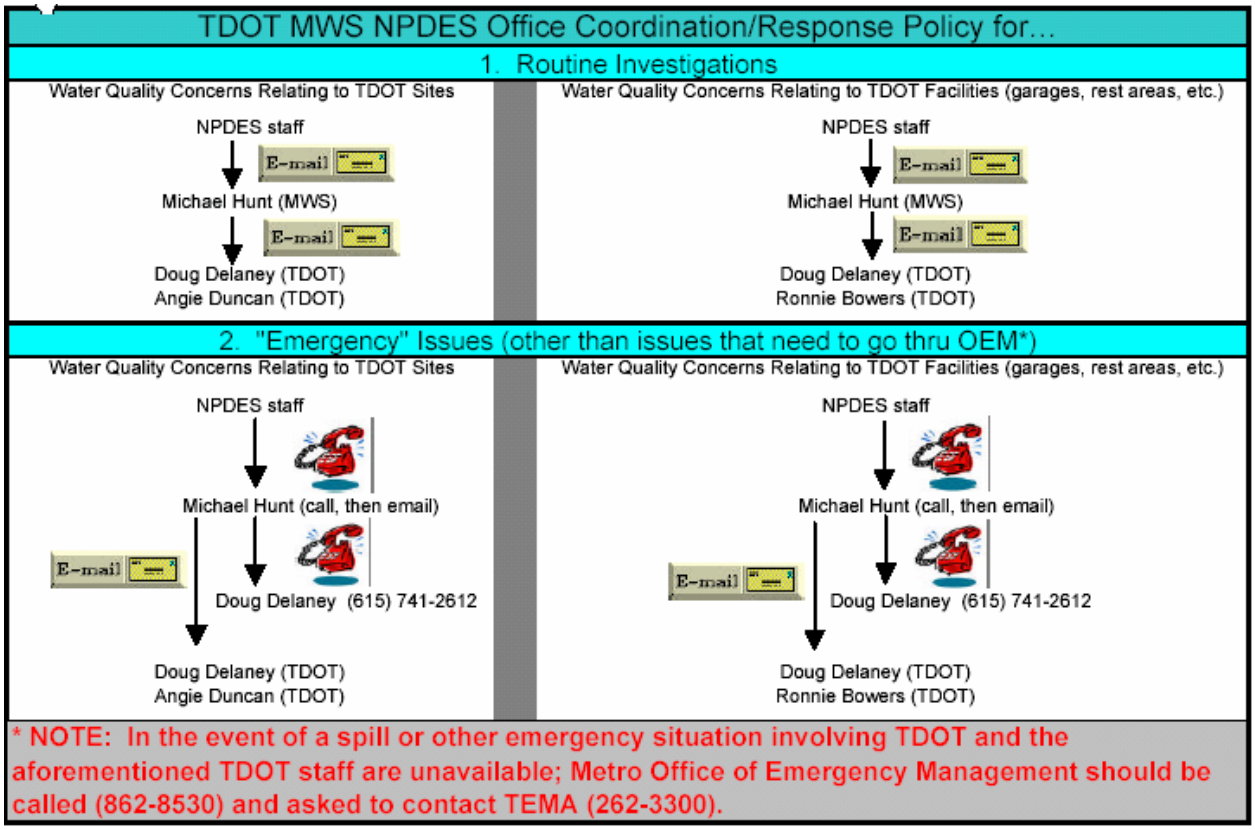
Figure 4.10.1.4 shows the geographical distribution of complaints that have been investigated/addressed by the NPDES Program through permit year 1.

Figure 4.10.1.4 Geographical Distribution of Complaints for PY 1



In permit year 1, new policies and procedures were adopted for water quality concerns relating to TDOT sites and facilities. Concerns are still received by MWS, but are forwarded on to TDOT personnel now as well. See Figure 4.10.1.5.

Figure 4.10.1.5 Procedure for Reporting Water Quality Concerns on TDOT Sites



4.10.2 World Wide Web Site (Part III.B.10.b)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

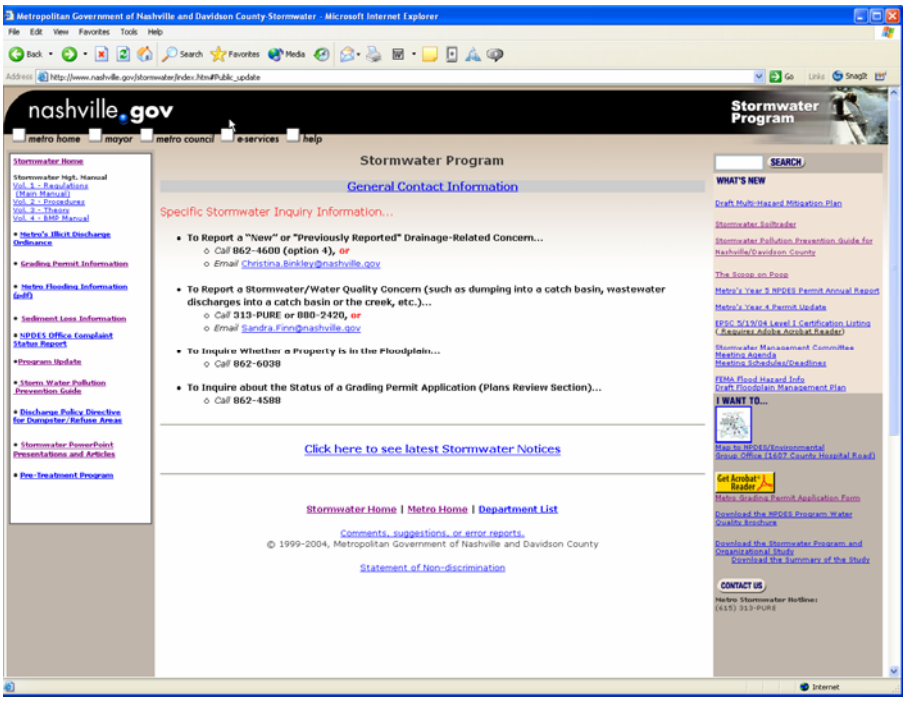
Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY 1
			1	2	3	4	5	
10b	World Wide Web Site	----						
	Enhance Public Works Website	Ongoing	●					
	Provide Reporting Mechanism	Ongoing	●					
	Establish an Area Dedicated to Recognition	PY 4						

Metro's Cycle 2 NPDES permit contains references to Metro Public Works as the Department that oversees the NPDES permit implementation. However, in April 2002, the Storm Water Program moved from Metro Public Works to Metro Water Services. The NPDES Section and permit management is now located within Metro Water Services. Therefore, the NPDES section website can be found on the World Wide Web at www.nashville.gov/stormwater (see Figure 4.10.2.1). This site contains an enormous amount of information including summaries about the NPDES MS4 program activities, documents pertaining to NPDES requirements, informative articles to educate the public about water quality impacts and preventative measures, and links to many websites that provide further information about water quality friendly activities and programs in Nashville.

There were 14,538 visits made to this website from July 2003 through June 2004, averaging 40 hits per day. The pages that received the most attention were:

- Storm Water Home
- Disclaimer (precursor page to view/download Storm Water Management Regulations)
- BMP Manual
- Plans Review/Grading Permit Issuance
- Discharge Policy
- Committee Meeting Notice
- Grading Permits
- Storm Water Notices
- Sediment Loss
- Non-Discharge Policy

Figure 4.10.2.1 Metro Storm Water Webpage



4.10.3 Future Direction of Element 10 – Public Information and Education

Public Education of Other Elements

MWS NPDES Section will continue to formulate and distribute educational materials that will promote a better awareness of storm water pollution and pollution prevention practices in Davidson County. MWS NPDES Section is also committed to pursuing various other educational mechanisms/opportunities within the community. One opportunity that is currently being considered is the Project WET program. NPDES is hopeful that the Davidson County Board of Education will adopt the program to be included as a part of the Davidson County Public Schools science core curriculum. It is the intent of the NPDES Section to facilitate similar programs at any of the various private schools in Davidson County that would like to cover such topics.

World Wide Web Site

As new presentations and revisions to the storm water program are developed, information will be included on the webpage. It is the desire of MWS to keep the development community and the general public up to date with program changes and/or additions.

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4.11 Reporting

This element is designed to meet Part III.B.11 of the permit by summarizing program elements and revisions each permit year and by quantitative and qualitative controls assessment when appropriate. Components of this ongoing element include ongoing data collection, data compilation, and creating the annual report.

4.11.1 Compliance Report (Part III.B.11.a)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
11a	Compliance Report	End of each PY (+ 6 months)	●					Annually

During permit year 1, Metro recorded and assessed program activities for the year and compiled the annual compliance report. For year one of the second permit cycle the annual activities have been reported in a concise form.

4.11.2 Propose Third Permit Term Cycle Activities (Part III.B.11.b)

Contact Name: Michael Hunt, MWS NPDES Section, 615.880.2420

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY1
			1	2	3	4	5	
11b	Propose Third Permit Cycle Activities	End of PY 4 (+ 6 months)						

Metro proposes that it prepare a brief narrative rationale to support its intent for the third permit term activities (July 1, 2008 through June 20, 2013) six months after year four of the second permit term (December 31, 2012).

4.11.3 Future Direction of Program Element 11 –Reporting

Metro will continue to track pertinent components of its storm water management program to aid in the development of the annual report. Databases will be maintained and updated as an ongoing effort. Also, Metro will investigate the development of management tools to facilitate more efficient data collection and report generation for future annual reports.

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V.5. Monitoring Programs

Activity ID	Activities Required By SWMP	SWMP Schedule	Permit Year Accomplished					Comments for PY 1
			1	2	3	4	5	
A	Ambient – 8 or more in-stream locations Sample each site at least 6 times annually	6X Annually (Bi-monthly)	●					Ongoing
B	Wet Weather – 3 or more in-stream locations Sample each site at least 2 times annually	2X Annually	●					Completed as part of Sevenmile Creek Master Plan
C	Industrial – Sampling based on inspections	As needed						
D	Bioassessment – Perform RPB III at 2 designated sites Perform RPB III at 1 or more reference sites	Annually	●					
D	Bioassessment – Refine Procedures	PY 1	●					Ongoing
D	Bioassessment – Perform "quick assessments" as necessary	Annually	●					
E	Loadings Estimate – Report EMC changes	PY 5						Ongoing
E	Loadings Estimate – Report annual volume and loading changes	Complete by end of PY 3						

Wet Weather Monitoring Program

The MWS NPDES Section has adopted a wet weather characterization approach that focuses on stream monitoring to quantify the status and trends of water quality. The MWS NPDES Section believes that the approach is consistent with national trends and maximizes the usefulness of the data collected by optimizing staff's understanding of the area streams and their response to the various factors impacting flow, quality and volumes. The data collected is intended to assist the section in ranking storm water management program resources and practices, and to establish goals for the waterways. Recent developments in stream monitoring suggest that data with significantly greater value toward understanding stream dynamics and responses can be obtained through the monitoring of streams draining areas with varied land uses. The MWS NPDES Section has developed a stream monitoring approach based on the assessment of three watersheds with mixed land uses. The watersheds selected, their land use mixes, their expected future development, and potential monitoring locations are as follows and presented in Figure 5.1.

- **Ewing Creek** is a tributary to Whites Creek that has been moderately developed for residential and commercial use with a high potential for future development. The monitoring site is located at the Knight Drive bridge crossing.

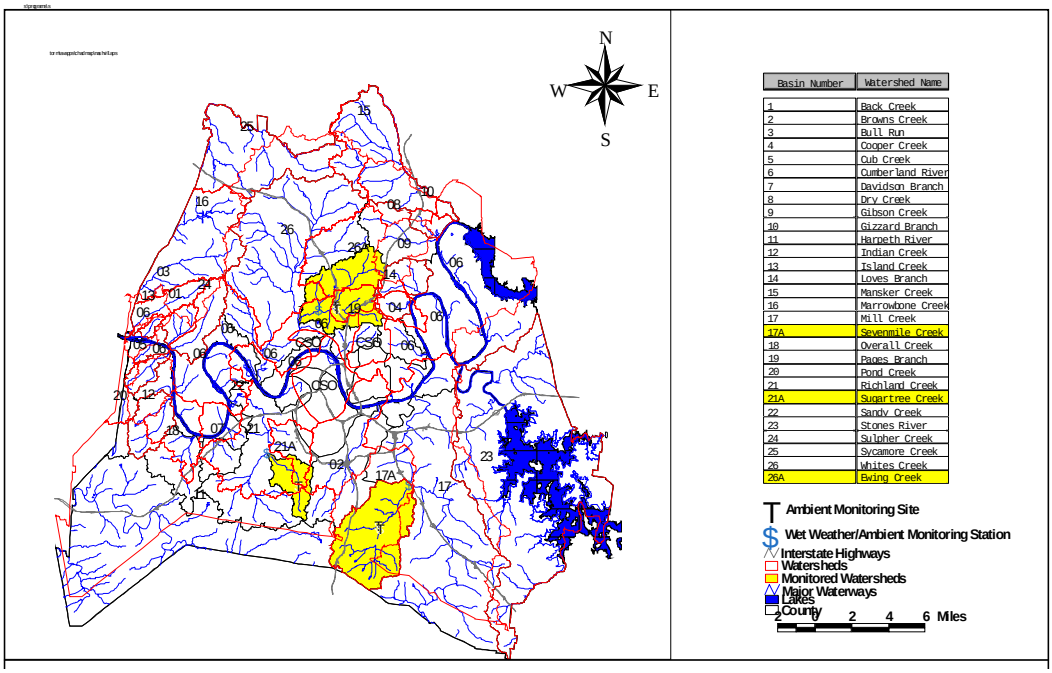
- **Sugartree Creek** is a tributary of Richland Creek, located southwest of Nashville's central business district. It is considered fully developed with residential and commercial land use resulting in a low potential for future development. The monitoring site is located on Estes Lane off of Woodmont Boulevard.

- **Sevenmile Creek** is a tributary of Mill Creek, located in the southeastern corner of Davidson County. It contains partially rural, residential, and commercial use areas and has a high potential for future development. The monitoring site is located at the bridge crossing of McCall Street and Antioch Pike.

Metro is directed by the permit to obtain samples from an optimum event, and it strives to sample events where qualifying amounts occur at all three sites for more useful comparative data analysis. During permit year 1, the equipment that had been installed at monitoring stations in cycle 1, permit year 5 failed. Metro staff returned to manual sampling at each of the three locations. Because of the equipment failure, Metro only collected one sample in permit year 1, cycle 2, March 29, rather than the two sampling events that had been planned. Next year, Metro plans three sampling events to compensate for not meeting this year's sampling goal.

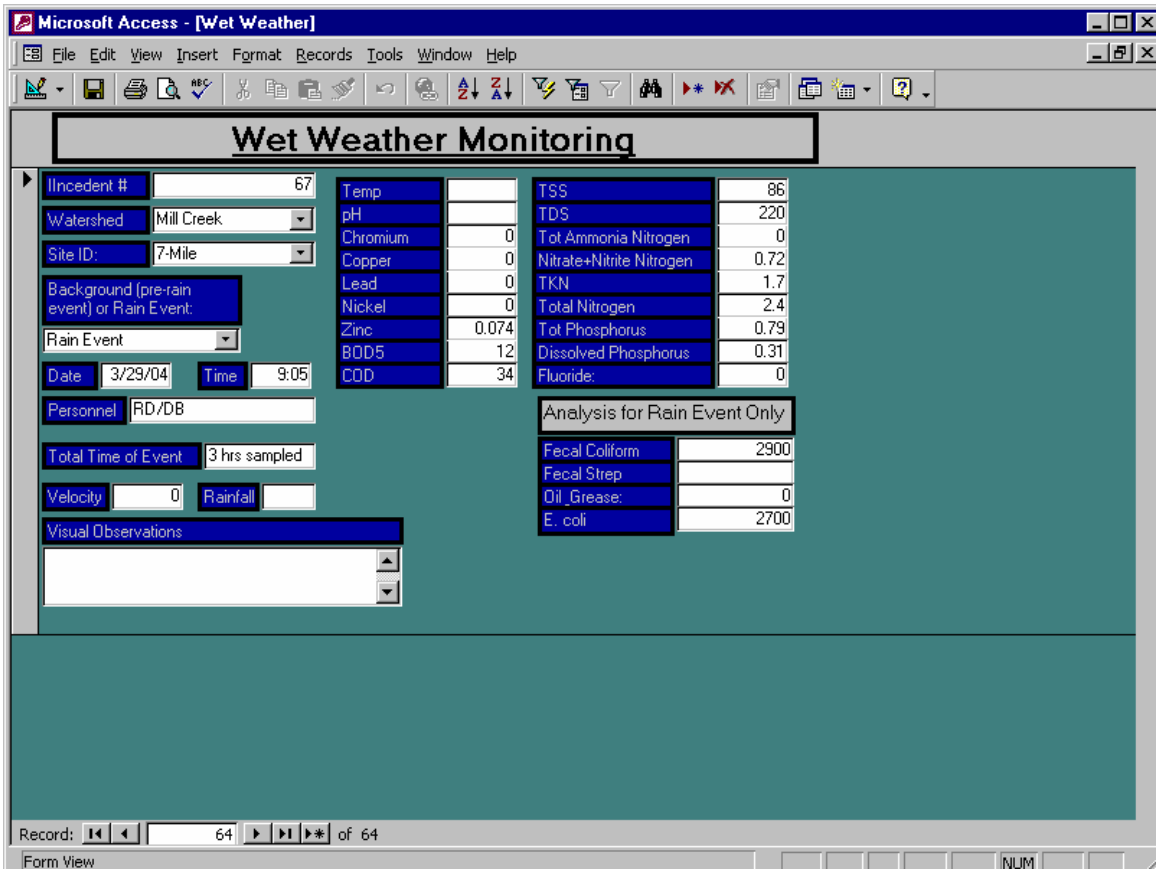
Trained NPDES Section staff members perform all sample collection and handling. EPA-certified laboratories using EPA-approved, standard methods conduct all sample analyses.

Figure 5.1 Wet and Ambient Weather Monitoring Locations



The wet weather monitoring data and other observations are stored in a database illustrated in Figure 5.2. Appendix C presents detailed records of the wet-weather sampling activities.

Figure 5.2 Wet-Weather Monitoring Database



The NPDES Section uses an electronic database system to store and retrieve results from the monitoring programs.

Ambient Monitoring Program

Ambient stream monitoring includes two fundamental components: (1) regular grab samples from established points in the streams and (2) the assessment of the biology and stability of selected streams. Ambient stream monitoring includes the bimonthly collection of a grab sample from the downstream station (two sites have two upstream ambient sampling locations) and from a site approximately two-thirds of the way up the stream length. The locations by watershed are as follows and presented in Figure 5.1.

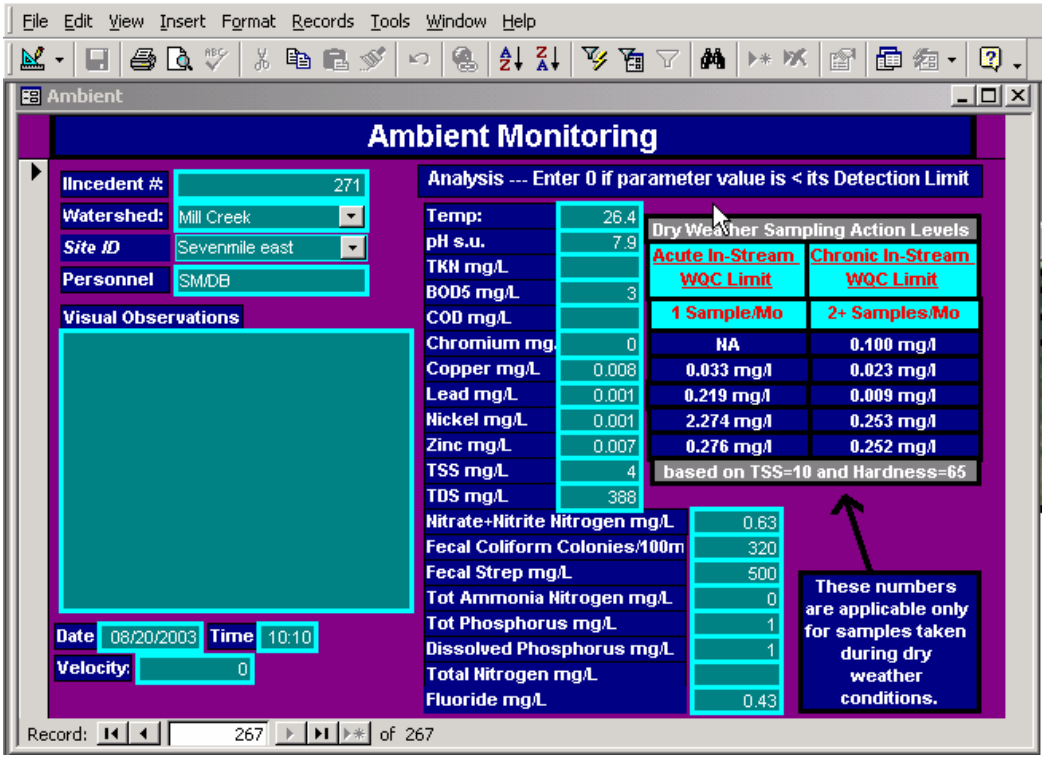
- **Ewing Creek**: The three monitoring sites are the bridge crossing at Knight Drive, close to Ewing Lane, and Brick Church Pike.

- **Sugartree Creek**: The two monitoring sites include a site adjacent to the Kroger on Harding Place, and a site at the bridge crossing on Hobbs Road.

- **Sevenmile Creek**: The three monitoring sites are the bridge crossing of McCall Street and Antioch Pike and two sites on separate tributaries close to the bridge crossing at the entrance of the Players Club apartment complex, south of the Ellington Agriculture Center.

Ambient monitoring is conducted on the same day of each month every two months, regardless of weather conditions, within the limits of safety. All stream samples are analyzed for the parameters listed in the permit. The ambient monitoring data and other observations are stored in a database illustrated in Figure 5.3. Appendix D presents detailed ambient-weather monitoring data.

Figure 5.3 Ambient Weather Monitoring Database



Industrial Inspections

Industrial inspections were conducted in fulfillment of program element 7. See Section 4.7.2.

Biological Assessment

Metro conducted its program of periodic biological assessment of two urban streams and one reference stream during permit year 1. Early in April of 1999, the NPDES Section submitted its chosen bioassessment sampling sites and protocols to TDEC. The Director of Water Pollution Control subsequently approved this submittal information. The NPDES Section originally chose Sevenmile Creek and Sugartree Creek as the two stream bioassessment locations. These sites were chosen because they allowed the NPDES Section to combine new biological data with chemical data that has been and will be gathered. This enabled the NPDES Section to gain a better understanding of the streams' conditions and how activities and situations affect watersheds. Although Sevenmile Creek wasn't

actually listed as a currently impacted stream, it was anticipated that it would be designated by TDEC in the 2004 303(d) list. In addition, the "endangered" Nashville crayfish are present in Sevenmile Creek, and it was decided that this stream should be monitored carefully and improved to ensure the well being of this species. However, the NPDES Section determined that Sugartree didn't have the base flow necessary to collect adequate biological data in cycle 1, permit year 5. The NPDES Section consulted with TDEC staff and chose Browns Creek as the second stream for biological assessments. It is anticipated that Browns Creek will maintain the base flow necessary to support biological monitoring and was sampled in permit year 1.

Metro's Standard Operating Procedure (SOP) of the Rapid Bioassessment Protocol (RBP) III, developed in September of 1999, was refined during the first permit cycle and continued to be improved this permit year. Figures 5-4 through 5-6 show samples of stream surveys and habitat assessment field data sheets.

For the past 2 years, the NPDES Section has more consistently applied the scoring system for the habitat assessments. Instead of having multiple people performing assessments on the same stream, one person handles the assessment. Since the habitat assessment scoring is mostly subjective, keeping staff consistency in conducting the assessment removes some of the variability. Since one staff member has conducted the scoring, that staff member can conduct a quick check for noticeable changes in the field, instead of re-assessing the stream at each visit. In the future, if no changes are noted, a new habitat assessment will not be conducted.

For permit year 1, biological assessments were made in the fall and the spring for the reference (Whites Creek) and test streams (Browns Creek and Sevenmile Creek). The data obtained from the assessments showed that Browns Creek scored 144 out of 200 possible points in the fall and spring assessments. Whites Creek, the reference stream, scored 166 points. Accordingly, Browns Creek possesses 87 percent of the habitat of the reference stream. Figure 5.7 is a completed survey for Sevenmile Creek for May of 2004. In addition, Sevenmile Creek scored 130 out of 200 possible points in the fall and 133 out of 200 points in the spring assessment. . Therefore, Sevenmile Creek possesses 78 percent of the habitat of the reference stream. The closer each of these streams is to the reference stream, Whites Creek, the more the test streams resemble the preferred habitat. Data to compare permit year 5 to permit year 1 are not available for Browns Creek, however, for Sevenmile Creek, the percent comparability decreased from 88 percent (permit year 5) to 78 percent (permit year 1).

Figure 5.4 Sample Stream Survey

Stream Survey Information **Storet #**

Stream: Browns Creek
Stream Location:
County Code:(FIPS) ____ Field # ____ Assessors: ____MS
Major Basin: ____ Date: 05/10/2004
WBID#/HUC: ____ Time: 11:00 AM
WBID Name: ____ Stream mile: ____
Lat/Long Deg: ____ Stream Order: ____
Lat/Long Dec: ____ Reach file: ____
USGS Quad: ____ 3Q20: ____
Drains to: ____rm____rm___ Elevation (ft): ____
Ecological Subregion: ____
Objectives:

Samples Collected **Meters used:**

Chemicals Y or **N** Life Assessed? **Macroinvertebrates** Fish Algae Other:
Additional List Attached? Yes / **No** Samples Returned? Yes or **No** Sampling Method: ____

Field Analysis:

pH	8.2	SU	Dissolved Oxygen	99.90	%
Conductivity		UMHOS	Time	11:45 AM	
Temperature	17.5	C	Others		

Previous 48 hours Precip: UNKNOWN **NONE** LITTLE MODERATE HEAVY FLOODING
Ambient Weather: SUNNY **CLOUDY** BREEZY RAIN SNOW

Watershed Characteristics **App. % of watershed observed:**

Upstream Surrounding Land Use: (estimated %)

Pasture		Urban	15	Residential	15
Crops		Industry	70	Other	
Forest		Mining			

Impacts: rated S(light), M(oderate), H(igh) magnitude. Blank = not observed

Causes		Sources	
Pesticides (0200)	Flow Alter. (1500)	Point Source: Indust (0100) **S**	Unknown (9000)
Metals (0500)	Habitat Alt. (1600)	Logging (2000)	Municipal (2000)
Ammonia (0600)	Thermal Alt. (1400)	Construction; Land Dev. (3200)	Mining (5000)
Chlorine (0700)	Pathogens (1700)	U/S Dam (8800)	Road/Bridge (3100)
Nutrients (0900) **S**	Oil & Grease (1900)	Riparian Loss (7600)	Urban Runoff (3100)
pH (1000)	Unknown (0000)	Agriculture: Row Crop (1000)	Bank Destabilization (7700)
Organic Enrichment / Low D.O. (1200)	Siltation (1100)	Livestock grazing-riparian (1410)	Intensive Feedlot (1600)
Other:		Other:	Dredging (7200)

Physical Stream Characteristics **Length of stream area assessed (m):**

Surrounding Land Use (facing downstream):

Estimate %	RDB	LDB		RDB	LDB		RDB	LDB
Pasture			Urban	15	15	Residential		
Crops			Industry	70	70	Other		
Forest	15	15	Mining					

% Canopy Cover: ____80_____ Open (0-10) Partly shaded (11-45) Mostly shaded (46-80) Shaded (>80)
Bank Height (m): ___.5_____ High water mark (m): ____
Sediment Deposits: None **Slight** Moderate Excessive Blanket
Type: Sludge Mud **Sand** **Silt** None Other Contaminated Y or N
Turbidity **Clear** Slight Moderate High Opaque
Excessive Algae Present? **None** Slight Moderate Choking
Aquatic Vegetation Rooted Floating Type ____
Additional Comments: (Oil sheen, Odor, Color) __Strong Vomit Odor

Physical Stream Characteristics (cont.)

	Riffle	Run	Pool
Depth (m)	3"	8"	18"
Width (m)	3	3	4
Reach Length (m)	40	40	20

Staff Guage/ Bench Ht. _
Velocity (CFS)
Flow (CFS)
Habitat Assessment Scor
RR# ____

Gradient (sample reach): Flat Low Moderate High Cascade
Size (stream width): Very Small (<1.5m) Small (1.5-3m) Medium (3-10m) Large (10-25m)

Substrate (%) **(Visual estimates)**

	Riffle	Run	Pool		Riffle
Boulder (>10")	45%	25%	10%	Clay (slick)	1%
Cobble (2.5-10")	20%	25%	15%	Silt	5%
Gravel (0.1-2.5")	15%	15%	5%	Detritus (CPOM)	3%
Bedrock	5%	10%	60%	Muck-Mud (FPOM)	1%
Sand	5%	10%	5%	MARL (shell frag.)	%

Biological Assessment

List Log Numbers of Samples ____

Relative Abundance of Taxa

Dominant (>50): ____
Very Abundant (30-40): ____
Abundant (10-29): ____
Common (3-9): ____
Rare (<3): ____

Stream Use Support: **Specifically Classified for:** (circle)

Dom. H2O Supply Ind. H2O Supply Navigation Tier II/ Tier III Trout>> N
Water Withdrawl noted ____
Is stream posted? Fish Tissue Advisory: Do Not Consume Precauti
Bacteriological Advisory

Based on Observations and Data, stream is: (circle)
Fully Supporting (FS) Supporting, but Threatened (TH) Partially Supporting (PS) Nonsupp

Comments: Photos **Y** or N Roll # Photo #
8 Crayfish

Stream Sketch

Figure 5.5
Sample Habitat Assessment Field Data Sheet (Front)

HABITAT ASSESSMENT FIELD DATA SHEET -- LOW GRADIENT STREAMS

STREAM NAME Browns		LOCATION	
STATION RIVERMILE		STREAM CLASS	
LAT. LONG.		RIVER BASIN	
STORET #		AGENCY	
INVESTIGATORS			
FORM COMPLETED BY		DATE 5/11/04 TIME 11:00 **AM** PM	REASONS FOR SURVEY

Parameters to be evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat ; lack of habitat is obvious; substrate unstable or lacking.
SCORE 20	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
2. Pool Substrate Characteristics	Mixture of substrate materials with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
SCORE 10	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
3. Pool Variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large deep, very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
SCORE 8	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than 20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE 16	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
5. Channel Flow Status	Water reaches base of both lower bank, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE 18	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

Figure 5.6
Sample Habitat Assessment Field Data Sheet (Back)

HABITAT ASSESSMENT FIELD DATA SHEET -- LOW GRADIENT STREAMS

Parameters to be evaluated in sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE 19	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
SCORE 6	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
8. Bank Stability (score each bank) Note: determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank had erosional scars.
Score (LB) 8	Left Bank 10 9	8 7	5 4	2 1 0
Score (RB) 8	Right Bank 10 9	8 7	5 4	2 1 0
9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
Score (LB) 7	Left Bank 10 9	8 7	5 4	2 1 0
Score (RB) 7	Right Bank 10 9	8 7	5 4	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters; little or no riparian vegetation due to human activities.
Score (LB) 10	Left Bank 10 9	8 7	5 4	2 1 0
Score (RB) 7	Right Bank 10 9	8 7	5 4	2 1 0

Total Score= 144

Figure 5.7
May 11, 2004 Bioassessment of Sevenmile Creek
(Note: this presents only a portion of the assessment data sheet)

Reference Stream	Whites 5/11/04
Test Stream	7-Mile
Date	05/11/2004

Special Notes - Do not use "0"s when enteri
You must enter DIC's
You must enter habitat scor

Reference Site =	a
Test Site =	b
Ttl. Organisms - a	202
Ttl. Organisms - b	200
Taxa Richness - a	16
Taxa Richness - b	14

NCBI= ∑ xi ti / n

NCBI=	
Ref.	Test
5.98	5.77

Comparitive Biotic Index = NCBI sample a / NCBI sample b x 100

Phylum / Class / Order / Suborder – Taxa	Tolerance Value (TV)	Functional Feeding Group (FFG)	Reference Stream Abundance (a)	Test Stream Abundance (b)	Calculation Column tv*a/n	Calculation Column tv*b/n
Platyhelminthes						
Turbellaria						
Planariidae	6.1	2		2	0.00	0.06
					0.00	0.00
Annelida					0.00	0.00
Oligochaeta					0.00	0.00
Lumbriculidae	7.03	7	1	4	0.03	0.14
Naididae	6.10	4			0.00	0.00
					0.00	0.00
Mollusca					0.00	0.00
Gastropoda					0.00	0.00
Ancylidae	7.02	4			0.00	0.00
Physidae	8.80	4			0.00	0.00
Planorbidae	6.30	4			0.00	0.00
Pleuroceridae	3.40	4	17	11	0.29	0.19
Pelecypoda					0.00	0.00
Corbiculidae	6.10	2			0.00	0.00
Sphaeriidae	6.60	2			0.00	0.00
					0.00	0.00
Arthropoda					0.00	0.00
Crustacea					0.00	0.00
Amphipoda					0.00	0.00
Gammaridae	6.60				0.00	0.00
Crangonyx	7.87	3		2	0.00	0.08
Gammarus	9.10	3			0.00	0.00
Hyalellidae					0.00	0.00
Hyallela	7.75	3			0.00	0.00
Decapoda					0.00	0.00
	7.50	6	1	9	0.04	0.34
Isopoda					0.00	0.00
Asellidae					0.00	0.00
Asellus	9.11	3			0.00	0.00
Lirceus	7.85	3	58	7	2.25	0.27
Arachnoidea					0.00	0.00
Hydracarina	5.53	5			0.00	0.00
Insecta					0.00	0.00
Ephemoroptera					0.00	0.00
Baetidae	6.10	3	49	102	1.48	3.11
Caenidae					0.00	0.00
Caenis	7.41	3			0.00	0.00
Ephemeridae					0.00	0.00
Hexagenia	4.90	3			0.00	0.00
Ephemerellidae					0.00	0.00
Eurylophella	4.34	3	1		0.02	0.00
Serratella	1.57	3			0.00	0.00
Heptageniidae					0.00	0.00
Stenacron	3.58	4			0.00	0.00

Metric		Value
Comparitive Taxa Richness	%	88
North Carolina Biotic Index Comparitive NCBI	%	104
Functional Feeding Group % Similarity - FFGPS	%	79
Indicator Assemblage Index (IAI)		0.67
Dominants in Common		2
Percent EPT Index	%	43
Community Loss Index		0.50

Metric	Scoring Criteria 6	4	2	0
1. Taxa Richness	6	----	----	----
2. NCBI	6	----	----	----
3. FFGPS	----	4	----	----
4. IAI	----	4	----	----
5. DIC	----	----	2	----
6. EPT Index	----	----	----	0
7. CLI	6	----	----	----

BIOLOGICAL CONDITION		0.67
Habitat Percent Comparibility	%	78

Sab = ∑ min (Pia, P

Number of Individua in each FFG

FFG	# A
0	0
1	1
2	37
3	117
4	32
5	9
6	1
7	1

Relative Abundance Each FFG (%)

FFG	# A / Pia
0	0.000
1	0.005
2	0.183
3	0.579
4	0.158
5	0.045
6	0.005
7	0.005

Min (Pia, Pib)	
0	0.000
1	0.000
2	0.075
3	0.555
4	0.135
5	0.010
6	0.005
7	0.005
QSI / Sab =	0.79
FFGPS =	79

Figures 5-8 and 5-9 show Whites Creek, the reference stream, which was assessed in fall and spring of the permit year.

Figure 5.8
Whites Creek (Reference Stream) Bioassessment

Figure 5.9
Whites Creek (Reference Stream) Bioassessment

Table 5-1 summarizes the bioassessment findings for both the reference stream and the test streams. This data is derived through biometric calculations, generated through procedures outlined in Tennessee's Biological Standard Operating Procedure Manual.

Table 5.1 Bioassessment Findings

Test Stream	Reference Stream	Biological Score
Whites Creek		
05/04/2000		---
11/20/2000	"too dry, not done"	---
05/11/2001	Whites 5/4/00	76
10/10/2001	Whites 5/11/01	86
06/04/2002	Whites 5/11/01	76
10/28/2002	Whites 10/10/01	71
05/13/2003	Whites 6/4/02	71
10/22/2003	Whites 10/21/02	76
05/11/2004	Whites 5/13/03	67
7-Mile		
05/03/2000	Whites 5/4/00	52
11/20/2000	"too dry, not done"	---
05/07/2001	Whites 5/11/01	90
10/09/2001	Whites 10/10/01	57
05/03/2002	Whites 6/4/02	52
10/21/2002	Whites 10/21/02	52
05/13/2003	Whites 5/13/03	57
10/21/2003	Whites 10/22/03	52
05/11/2004	Whites 5/11/04	67
Browns		
05/29/2001	Whites 5/11/01	52
10/09/2001	Whites 10/10/01	38
05/30/2002	Whites 6/4/02	48
10/23/2002	Whites 10/21/02	33
05/13/2003	Whites 5/13/03	29
10/23/2003	Whites 10/22/03	38
05/10/2004	Whites 5/11/04	24
Sugartree		
Spring 2000	Whites 5/4/00	24
Fall 2000	"too dry, not done"	---

Future Direction

In the next permit year, Metro plans to meet its goals for the Wet Weather Monitoring Program: sampling three events for each of the three sites.

While the Cycle 1, Year 5 report noted that MWS intended to adopt the Rapid Bioassessment protocols for assessments. RBP I has been adopted and is in use for bioassessments required by the permit. In addition to RBP I, RBP III has been adopted for routine evaluations when investigating various matters in the field. However, during this permit year, heavy workloads prevented NPDES from completing the necessary training to use RBP III. It continues to be the intent of MWS to begin using the Rapid Bioassessment Protocol as workloads allow it.

6. Assessment of Controls

The effectiveness of the SWMP is assessed for the following reasons:

- To determine whether the most cost-effective best management practices are included in the storm water management program;
- To assist in design of ongoing monitoring, inspection, and surveillance programs that help refine estimates of program effectiveness;
- To serve as a baseline and ongoing measure of the program's progress; and
- To develop a strategy to evaluate progress toward achieving water quality goals.

Direct measurements of the effectiveness of the SWMP include:

- Expected pollutant load reductions (part 2 application);
- Removal efficiencies of BMPs;
- Reductions in the volume of storm water discharged; and
- Reductions in event mean pollutant concentrations.

Indirect measurements to assess the effectiveness of the SWMP include:

- Gallons of used oil recycled;
- Amount of household hazardous waste collected;
- Number of education brochures distributed;
- Number of reports of illicit discharges or illegal dumping; and
- Number of construction erosion and sediment control plans submitted and approved.

The permit requires the estimation of expected reductions of pollutants from discharges of the MS4 as the result of the municipal storm water management program. This includes identifying known impacts of storm water controls on groundwater quality. It is difficult to quantify the performance of controls, since no reasonable conclusions can be made on monitoring and other programs that have recently been initiated. It is recognized that the measures described in this annual report will provide a better definition of the problems and make a positive impact on Metro's contribution to the quality of the "Waters of the State" and groundwater. As more long-term monitoring information and other types of data become available, assessments of the controls operated or otherwise implemented by the NPDES Section will be conducted.

Generally speaking, the post-development BMP requirements for developments sites since 1998 have served to provide a 70 to 80 percent reduction in Total Suspended Solids (TSS) and other selected runoff pollutant parameters. The amount of acreage served by these measures, which serve to reduce storm water pollutants, will obviously increase as time goes on. In addition, the NPDES Section's increased focus on EP&SC measures on construction sites over the past few years has undoubtedly kept hundreds of thousands (if not millions) of tons of sediment on sites as opposed to being washed into the MS4 and Community Waters. As Metro moves through its second permit cycle, it is anticipated that enhanced storm water modeling capabilities will allow more technical considerations of pollutant load reductions.

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7. Summary of Modifications, Replacements, or Changes

In the first year of the second permit cycle, there have been no major modifications to the permit requirements.

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8. Fiscal Analysis

Currently, the NPDES program is funded through the annual operating budget of MWS. The annual budgets propose that the expenditures be funded from MWS revenues and from ad valorem property taxes on property in the General Services District (countywide). MWS intends to evaluate other funding options during this permit cycle.

This annual report reflects the budget information for permit year 1. Table 8.1 shows the budgets for fiscal years 2004 and 2005.

Figure 8.1 Storm Water Program Budgets

Metro Stormwater Division Expenditures for Fiscal Year 2004 and Projected 2005 (NPDES Permit Cycle 2 Year 1)				
Stormwater Division	**Annual Expenditure FY2004**	**% of Total**	**Annual Expenditure "Projected" FY2005**	**% of Total**
Administration	$ 271,631.29	2%	$ 457,400.00	5%
Engineering and Permits	$ 485,151.68	4%	$ 722,300.00	8%
NPDES Office	$ 898,879.52	8%	$ 901,400.00	10%
Remedial Maint.	$ 1,833,974.53	17%	$ 3,088,100.00	35%
Master Planning	$ 52,601.86	0%	$ 237,200.00	3%
Routine Maint.	$ 2,877,358.66	26%	$ 3,452,000.00	39%
Capital Projects	$ 4,533,046.87	41%	See Note	
Total =	**$ 10,952,644.41**		**$ 8,858,400.00**	
Note: These figures are not known at this time.				

This table shows the program elements and their associated storm water activities. These activities have a direct affect on water quality in Nashville and are further described below:

Administration – manages programs, provides public with information, offers clerical and support staff;

Engineering – reviews plans, serves development community, applies regulations;

NPDES– oversees construction, protects viability of streams, ensures water quality;

Remedial Maintenance – minor construction to restore existing systems without major improvement or upgrades;

Master Planning – capital construction projects that replace segments of the drainage system or improve its capacity;

Routine Maintenance – restores function of the existing system through cleaning and stabilizing without major construction; and

Capital Projects – improvements or upgrades to existing systems or development of needed drainage systems.

Several other Metro entities (not included in the financial information) also benefit water quality in the Nashville area, such as the FOG program, Metro Parks, solid waste disposal, recycling and litter control, so overall Metro expenditures are greater than depicted in this section. Future annual reports will better attempt to quantify these expenditures to the extent possible.

Appendix A

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INDUSTRIAL INSPECTIONS SOP

1. Determine the facility to inspect as specified in the "Inspect By" field on the Industrial Inspection form
2. Before Inspection:
    a. Review Cycle 1 database to reference previous inspections and problems.
    b. Review following links:
        i. OSHA – search for any reported incidents for the site and to find site SIC code.
        ii. TDEC Database – see if site has storm water permit (multisector/individual)
    c. Call ahead and make an appointment to inspect the facility. (within a week of planned inspection)
        i. Ask if they can provide us with a map of the facility upon inspection that shows the following:
            1. Structures
            2. Paved Areas,
            3. Chemical Storage Processing Areas
            4. Storm Water Flow
            5. Facility Outflow locations
            6. Nearest Storm Drain Inlet Locations
        ii. If site refuses to allow inspect or if the site holds an Individual Storm Water Permit, contact TDEC (Bill Duffel - (615) 687-7000) for co-inspection.
    d. Make sure you have the following information:
        i. Metro Identification
        ii. Copy of permit section that requires our inspection, and right of entry from SWMM.
        iii. List of Opening Meeting questions
        iv. "Opening Meeting Questions" and "Inspection Report"
        v. Safety Equipment (hard hat, steel toed shoes, safety glasses, safety vest, and air meter)
    e. Obtain copy of GIS map of site address that illustrates if the site drains into MS4, CSO, etc.

3. During Inspection:
    a. Conduct opening meeting asking the prepared questions.
    b. Obtain map of facility from personnel if indicated would be available during the initial phone call.
    c. Tour facility with the plant personnel
    d. Look for deficiencies some of which include:
        i. Chemical storage (inside vs. outside)
        ii. Spill clean-up and response kits
        iii. Exposed tanks - make sure valve's in secondary containment are closed
        iv. Exposed dumpster – make sure drain plug is shut

v. Drain plumbing – make sure that all drain pipes are connected to the proper destination (sanitary vs. storm sewer)
vi. General illicit discharges

(Note: during inspection pay close attention to loading, cleaning, and storage areas)

e. Determine if sampling would be needed, if so follow sampling guidelines
f. Educate personnel on areas where water quality could be improved.
g. Document through comments/notes on inspection report and discuss comments with the operator. Discuss and try to agree to a timetable for any improvements that may be necessary to be conducted.

4. <u>After inspection</u>:
   a. Within 10 days of the inspection, send a follow-up letter that contains noted deficiencies and suggested remedies. Always include hard deadline in letter. (Copy TDEC designated representative on letter)
   b. Document notes in the database. Link follow-up letter.
      i. If issues remain unresolved leave record active in the database, however, if there are no issues click the archive button.
   c. Follow-up with facility contact until site is in compliance. Coordinate with TDEC if necessary.
   d. If it is noted that storm water runoff issues are on-site and they do not have a TN Multisector Permit (TMSP), then can notify TDEC Division of Water Pollution Control.

Metropolitan Government of Nashville/Davidson County Water Services-Storm Water

Industrial Inspection Report Checklist

Date:_____/Time:_____

Facility Name AEROSTRUCTURES CORP.

Street Address 1431 VULTEE BLVD.

City NASHVILLE

ZIP 372172016

Contact Name TED L. WILKINSON

Contact Phone 6153612008

SIC 3728 Aircraft Parts And Auxiliary Equipment, Not Elsewhere Classified

Watershed Mill Creek

Industrial Type SARA T3

Storage Tanks/Barrels:

Equipment:

Loading

Drains Storm:

Roof:

Floor:

Dumpsters

Outfalls: Odor:

Color:

Foam:

Erosion

Pond

Other

Is Reinspection Necessary? Circle One: Yes No

Wednesday, August 04, 2004

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FATS, OILS, & GREASE CONTROL PERMIT NO. FOG-XXXX

AUTHORIZATION TO DISCHARGE UNDER THE METROPOLITAN CODE OF LAWS TITLE 15.60

In compliance with the provision of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et. seq.; the "Act"), and with the provisions of Metropolitan Code of Laws Chapter 15.60:

FACILITY NAME…… is authorized to discharge Industrial/Commercial Wastewater, from facility's food preparation and kitchen service area, to the Metro Nashville Department of Water & Sewerage Services' Collection System, from the facility located at **FACILITY ADDRESS……** , in accordance with monitoring requirements, maintenance requirements, effluent limitations, and other conditions set forth in this Grease Control Permit.

This permit shall become effective on **DATE……** , and shall expire on **DATE……** .

This permit shall not be reassigned, transferred, or sold to a new owner, new user, or for different premises, without, at a minimum, prior notification to the Department of Water & Sewerage Services and a provision of a copy of the existing control mechanism to the new owner or operator.

A violation of this permit constitutes a violation of Metropolitan Code of Laws Chapter 15.60 and shall subject the permittee to the applicable enforcement proceeding(s).

_____

Hugh T. Garrison,
Environmental Compliance
Department of Water & Sewerage Services

PART I – Limitations on Wastewater Strength

A. Wastewater Pollutant Discharge Concentration Limit

Oil and Grease grab sample limitation of 100 mg/L, and all other wastewater pollutant maximum concentrations as listed under Metro Code of Laws 15.60.070.

B. Prohibited Discharges

1. Solid or viscous pollutants in amounts which cause obstruction to the flow of the sewers, or other interference with the operation of or which cause injury to the POTW, including waxy or other materials which tend to coat and clog a sewer line or other appurtenances thereto;
2. Wastewater containing any element or compound known to act as a lacrimator, known to cause nausea, or known to cause odors constituting a public nuisance;
3. Wastewater causing interference with the effluent or any other product of the treatment process, residues, sludge or scum causing them to be unsuitable for reclamation and reuse or causing interference with the reclamation process;
4. Pollutants which cause a corrosive structural damage to the sewage collection system, but in no case discharges with a pH lower than 5.0 or higher than 10.0;
5. Discharge into any sewer line or other appurtenance of the POTW wastewater with a temperature exceeding 65.5* Celsius (150 * F);
6. Pollutants which could create a fire or explosion hazard in the collection system or POTW;
7. Wastewater causing a discoloration or any other condition in the quality of Metro's treatment works' effluent such that receiving water quality requirements established by law cannot be met;
8. Wastewater causing conditions at or near Metro's treatment works which violate any statute, rule or regulation of any public agency of this state or the United States;
9. In addition, all other prohibitions and specific pollutants identified in Metro Code of Laws 15.60.060, 15.60.070, and 15.60.080.

C. Waste from Garbage Grinders and Food Grinders

As per Metro Code of Laws 15.60.120, waste from garbage grinders used for the grinding of plastic, paper products, inert materials or garden refuse shall not be discharged into a community sewer.
For preparation of food consumed on the premises (food grinder), there is a "food" grinder exception but only where applicable fees are paid, and such grinders must shred the waste to a degree that all particles will be carried freely under normal flow conditions prevailing in the community sewers. At this time, the Department of Water & Sewerage Services is not charging fees for food grinder use. However, the department makes this facility aware that the department can charge these fees.

PART II – Grease Control Equipment, Maintenance, and Records

A. Construction and Maintenance of Grease Control Pretreatment Facilities

In accordance with Metro Code of Laws 15.60.040, this facility shall operate and maintain fats, oils, and grease wastewater pretreatment equipment whenever necessary to reduce or modify the user's wastewater constituency to achieve compliance with the limitations in wastewater strength or prohibition set forth in Sections 15.60.060, 15.60.070 and 15.60.080. The permittee is to be familiar

with all grease control equipment operation and maintenance needs to prevent fats, oils, and grease from entering Metro's collection system.

B. Grease Interceptor Maintenance and Recording Keeping

A Grease Interceptor is an underground containment tank, usually with a capacity from 500 gallons to 2,000 gallons, that is designed to remove fats, oils, and grease. A well maintained grease interceptor is Metro's recommended pretreatment control equipment. The permittee has responsibility to see that the interceptor is maintained and working properly.

1. At a minimum, Metro recommends cleaning the interceptor every 90 days. For some larger facilities or those that generate a lot of grease, the grease interceptor should be cleaned monthly to prevent excess fats, oils & grease being discharged.
2. Approved grease waste haulers from Metro's "Permitted Grease Interceptor/Trap Haulers" list meet requirements for pumping an interceptor.
3. Grease Interceptors, when cleaned or pumped out, should have complete tank contents removed. Partial cleaning is not recommended due to not only the top grease layer impacting efficiency but also the solids in the bottom of the interceptor decrease efficiency. Any waste removed from Grease Interceptor or Trap must be discharged at designated discharge point {as per 40 CFR 403.5 (b) (8)}.
4. The permittee must maintain records of grease interceptor maintenance on the premises. Records include date, time, hauler/company that cleaned and volume removed, and any other repair or maintenance activities related to facility's grease control program.

C. Grease Trap Maintenance and Record Keeping

A Grease Trap is an "under the sink" device, usually with a capacity of 20 gallons to 50 gallons, that is designed to remove fats, oils, and grease. Metro Codes recommends that the minimum grease trap size have a total flow-through rating of 20 gpm and grease retention capacity of 40 pounds.

1. Grease traps should be cleaned at such a frequency to prevent fats, oils, & grease from entering the sewage collection system. Metro recommends cleaning grease traps one time every 2 weeks.
2. Disposal of grease trap waste should be in an approved receptacle. The permittee must maintain records of grease trap maintenance and cleaning, including date, time, individual that cleaned, and volume cleaned; and any other repair or maintenance activities related to the facility's grease control program.

D. Facilities With No Grease Control Equipment
Inspection and monitoring of facility will be conducted. All Food Service Establishments must have Grease Control Equipment installed. Enforcement action will proceed if the facility is found to be in non-compliance with Code of Laws 15.60.

E. Bacteria or Enzyme use. The Dept. of Water & Sewerage Services does not recommend the use of bacteria or enzymes. Bacteria and enzymes may not be used as a substitute for regular maintenance of a grease interceptor if fats, oils and greases are being discharged from the facility.

PART III – Inspections and Monitoring

Inspection and monitoring of facility will be conducted as per Metro Code of Laws 15.60.340. This includes but is not limited to the director requiring permittee to:

1. Establish and maintain Grease Management Program monitoring records for facility. Including cleaning and maintenance activities for grease control equipment.
2. Demonstrate implementation of "Best Management Practices" for control of fats, oils, and grease.
3. Allow right of entry to director or authorized representative, to inspect food preparation and service area for fats, oils & grease discharge potential and sample or monitor any effluents from facility.
4. Sample such effluents, in accordance with such methods, at such locations, at such intervals and in such manner as the director shall prescribe.

PART IV – Accidental Discharge-Safeguards

Permittee shall provide such facilities and institute such procedures as are reasonably necessary to prevent or minimize the potential for accidental discharge of fats, oils, and grease into the sewage collection system. This includes implementation of "Best Management Practices" protocol.

PART V – Violations and Penalties

Any person including, but not limited to industrial/commercial users, who does any of the following acts or omissions shall be subject to a civil penalty of up to ten thousand ($10,000) per day for each day during which the act or omission continues or occurs, in accordance to T.C.A. 69-3-125:

(a) Violates an effluent standard or limitation imposed by a pretreatment program;
(b) Violate the terms and conditions of a permit issued pursuant to a pretreatment program;
(c) Fails to complete a filing requirement of a pretreatment program;
(d) Fails to allow or perform an entry, inspection, monitoring or reporting requirement of a pretreatment program;
(e) Fails to pay user or cost recovery charges imposed by a pretreatment program; or
(f) Violates a final determination or order of the local hearing authority or local administrative officer.

REQUIREMENTS FOR MOBILE FOOD SERVICE ESTABLISHMENTS

REVISED: June 22, 2004

TABLE OF CONTENTS

2. 90-DAY TEMPORARY PERMIT FROM THE FIRE MARSHAL
3. CLEARANCE TO STRUCTURES
4. WATER SUPPLY
5. ELECTRICAL SUPPLY
6. WASTEWATER CONNECTION
7. GREASE TRAP
8. RESTROOM ACCESSIBILITY
9. FAILURE TO OPERATE FROM A SINGLE/FIXED SITE

- ## GENERAL REQUIREMENTS

1. GENERAL

Mobile food units shall comply with the requirements of the Tennessee Department of Health's Food Service Establishment Rules and Regulations, except as otherwise provided in this policy.

2. FLOOR, WALLS, CEILING, AND LIGHTING

The unit must be fully vermin proof by the means of floor, walls, and ceiling. Floor, walls and ceiling must be light-colored, smooth, nonabsorbent and easily cleanable with no exposed utility lines, piping conduits or wiring. Flooring must be constructed of smooth, durable, easily cleanable material. Shielding to protect against broken glass falling onto food shall be provided for all lighting fixtures.

3. COUNTER/SHELVING SURFACES

All surfaces must be easily cleanable, smooth and free of breaks, open seams, cracks, chips, pits and similar imperfections.

4. HAND SINK

A hand sink equipped with a mixing valve faucet must be installed at the same height as the food preparation surface. It must be accessible to the operator(s). The sink can be either a drop-in or a wall-attached style. Provide splashguards separating the sink if within the area of splash (approximately 18 inches) of food preparation, utensil washing, and food equipment areas.

5. WAREWASHING SINK

A three-compartment commercial sink with drain boards at each end is required for the proper washing of food contact utensils. This sink must be seamless with rounded corners and be sized deep and wide enough to accommodate the largest utensil or small ware to be washed.

6. WATER SUPPLY

Potable water must be supplied to each sink by means of a pressurized water system. At least a 30-gallon potable water tank must be installed. This tank is to be made of a food grade material. The tank's size requirement will be dependent on the menu, sink dimension, and operating hours. The tank must be installed at an angle that will permit complete drainage of the tank at the end of each day of operation. Due to the need to drain the tank, a ¾ inch outlet must be installed at the lowest section of the tank. Also this tank must be flushed and sanitized monthly. Log records must be retained in the unit for verification. The tank and water fill pipe must be a closed system, thus free from contamination. A ¾ inch water inlet/valve must be installed that is used for filling the potable water tank. This inlet/valve must be installed on the exterior of the unit at a height of not less than five feet off the ground. The water inlet/valve and outlet must be capped when not in use to protect the water supply from contamination.

7. WATER HEATER

A water heater must be installed that is sized large enough to supply at least 110º F water to the hand sink and three-compartment sink during all periods of operation.

8. ELECTRICAL GENERATOR

An electrical generator must be permanently attached to the outside of the mobile food unit. The generator must be operating whenever the mobile unit is in operation or food is in the refrigerator, freezer, steam table, etc.

9. WASTE WATER TANK

A wastewater tank must be installed and have a 15% larger capacity than the combined capacity of the potable water tank and the water heater. An atmospheric vent must be provided from the top of the wastewater tank. A ¾ inch wastewater outlet/valve must be installed on the exterior of the mobile unit that is equipped with a shut-off value. The tank must be installed in a manner that facilitates proper drainage of the wastewater. **(Size of potable water tank in gallons + capacity of water heater in gallons) x 1.15 = Minimum size requirement for waste water tank**

10. POTABLE WATER SUPPLY HOSE

Must provide an adequately sized food grade water hose, which will be used to fill the potable water tank. The hose must be connected to a supply outlet that is equipped with a back flow prevention device. This hose should be either white or clear in color to differentiate from the wastewater drainage hose. When not connected to the water supply and mobile unit, the hose must be completely drained in a manner that protects the cleanliness of the hose and capped at both ends. The hose must be stored in a sanitary manner within the approved, permitted commissary.

11. WASTEWATER DISPOSAL

The method of disposal of liquid waste from the holding tank of the mobile food unit must be approved by the Metro Public Health Department and Metro Water Services. Metro Water Services requires proof of discharge agreement to be submitted to the Permits Office prior to operation. The wastewater tank must be emptied into an approved sanitary sewer at the end of each day of operation. An approved location, whether the commissary or commercial business must be approved for accepting liquid waste/gray water by both Metro departments. If the operator of the mobile food unit does not own the approved dumpsite, then a receipt of disposal from the owner/operator of the site must be retained in the mobile food unit for at least 30 days.

Note: No material (solid or liquid waste) shall be discharged to the Metro municipal storm sewer system (or to a locale where such material may be washed via storm water runoff into the storm sewer system) as it relates to the operation of a mobile food unit per Metro 15.64.205.

12. WASTEWATER DRAINAGE HOSE

Must provide an adequately sized hose to be used for emptying the wastewater tank at the end of each day of operation. The hose must be distinctly different in color than the potable water supply hose. The hose must be stored in an area that will not contaminate food, or food contact surfaces. Do not store with the potable water supply hose.

13. GREASE TRAP

A 10-gallon per minute/20-pound capacity grease trap must be properly plumbed between the three-compartment sink and the wastewater tank. This trap must be cleaned out on a daily basis. The grease and solids are to be disposed as solid waste or recycled when applicable. Note: If operating from a single sales site, see ADDITIONAL REQUIREMENTS: #7.

14. EXHAUST SYSTEM

Mechanical exhaust hood shall be provided over all cooking equipment, as required, to effectively remove cooking odors, smoke, steam, and grease-laden vapors. The hood must extend at least six inches beyond the front and sides of the cooking equipment, unless hood is installed against the side wall.

15. OUTER OPENINGS

All openings to the outside, including serving windows and entrance doors must be screened, self-closing, or equipped with approved and effective air curtains. Screening material shall not be less than 16 mesh to each inch.

16. SOLID WASTE

Solid waste shall be contained in an easily cleanable, covered trash receptacle.

17. LEFTOVER FOODS

All prepared/cooked potentially hazardous foods (for example; meats, eggs, milk or milk products, rice or potatoes) must be disposed at the end of each day of operation.

18. FOOD SUPPLIES

All food items must be purchased from an approved, permitted food service establishment. See “Commissary” for storage requirements.

19. OPERATION LIMITATIONS

The operation of the mobile food unit is only limited to the interior of the unit. Therefore, the owner/operator can not attach, set up or use any other device or equipment intended to increase the selling, serving or display capacity of the establishment including, but not limited to, counter extensions, tables, ice chests, freezers or refrigerators. The only exception would be covered smokers/grills that is used for batch cooking and operated under the provisions of outdoor cooking in the Tennessee Department of Health’s Food Service Establishment Rules and Regulations. The operator of a mobile food unit shall not provide any seating for the customers, waitresses or carhops.

20. FIRE PREVENTION

No less than 2 2A40BC rated portable fire extinguishers shall be provided in every mobile food service unit. All propane tank use and storage shall comply with NFPA 1 and 58.

21. COMMISSARY

All foods and single service articles must be stored at an approved, permitted commissary. For a proposed commissary, its owner must submit floor plans to the Metro Code Administration and the Metro Public Health Department before operation of the commissary and mobile food unit operates. The owner/operator of the commissary must submit a notarized **“Mobile Unit/Commissary Agreement”** letter to the Food Protection Services Division. For the items that are purchased daily, the mobile food unit’s operator must retain receipts that identify the type of food or single service article purchased, amount, and the date received. Each receipt must be retained in the mobile food unit for a minimum of seven days for verification purposes.

22. OPERATING FROM A SINGLE SITE

The operator/person-in-charge of the mobile food unit shall be required to physically move the unit from the sales site property at the end of each day of operation. The unit shall not return to the property until the next day of operation. It is the responsibility of the site's property owner to bring the site in compliance with paragraphs 1. Site Plan Layout/Permit Required, 3. Clearance to Structures, and 7. Restroom Accessibility, which are listed in section, ADDITIONAL REQUIREMENTS. If the mobile food service establishment is found to be operating from a single location and not moved daily, then the unit will have to meet all the requirements for a "single sales site".

23. PRE-OPENING REQUIREMENTS

A. Submittal of a floor plan, equipment layout, and equipment specifications is required before construction and/or pre-inspection of the mobile food unit is initiated.

B. Pre-inspection and permitting for **conventional mobile food units** can be conducted between 8:30 a.m. and 10:00 a.m. Monday through Friday. The mobile food unit, commissary letter (if applicable) and waste water dumping letter (if applicable) must be brought to the Metro Public Health Department's Food Protection Services Division. For mobile food units that will operate from a single site, all pre-inspections will be conducted at the sales site.

- **ADDITIONAL REQUIREMENTS: MOBILE FOOD UNITS THAT OPERATES FROM A SINGLE SALES SITE:**

1. SITE PLAN LAYOUT/PERMIT REQUIRED

A Use Permit for the site location must be obtained by the property owner from the Department of Codes Administration. A site plan must be submitted by the owner of the property to the Metro Codes Administration, Metro Public Health Department, Metro Water and Services and the Metro Fire Marshal's office prior to operating the mobile food unit. The plan must show available parking, signs, and the relationship of the mobile food unit to any structures and the property lines. The location to be used for food unit placement must be marked off on the property and must comply with zoning and the Fire Marshal set-back requirements.

2. 90-DAY TEMPORARY PERMIT FROM FIRE MARSHAL

Permits will be required from the Fire Marshal's office for mobile food units that operate from a single sales site. This permit allows the unit to sell from a designated site for up to 90 days. Further, the unit must be removed from the site for at least 7 days before re-applying for another 90-Day Temporary Permit. Units that are stationary for more than 90 days are considered permanent and shall meet the requirements of NFPA 1 and the Life Safety Code.

3. CLEARANCE TO STRUCTURES

The Fire Marshal's office requires a minimum of 20 feet clearance from any part of a mobile concession food unit to any structure built of combustible construction. There shall be a minimum of 10 feet clearance between any part of the mobile food unit and any structure built of non-combustible construction. This shall include any overhang, awning or projection from the building.

4. WATER SUPPLY

The mobile food unit must be connected to the public water supply. A plumbing permit must be obtained from the Department of Codes Administration and the connections must comply with the requirements of the Metro Water Services. The connection to the unit must be a quick connect system. Hoses and faucets

equipped with these quick connections shall be deemed to meet the requirements of the Metro Codes Administration and the Metro Water and Sewerage Services. A water meter and backflow preventer must be in place prior to the mobile food unit's water service connection.

5. ELECTRICAL SUPPLY

The electrical supply is limited to a quick connect electrical service. An electrical permit must be obtained from the Department of Codes Administration. The electrical line from the mobile food unit must be ran overhead (at least five feet) to the electrical outlet. The use of a generator for electrical service is not approved.

The following is the list of requirements from the Codes Administration:

A. Disconnecting means: each unit shall be provided with a fused or circuit breaker disconnect switch located within sight and within 6 feet of each portable unit to be plugged into.

B. The disconnect shall not be less than 30 ampere rating at 125/230 volts and must be listed and approved for outside locations.

C. Feeder conductors supplying power to this 30 ampere disconnect means shall originate from an approved distribution or branch circuit panel board located on the same property that the mobile unit is to be parked.

D. The supply line or feeder assembly from the portable unit to the receptacle mounted at the disconnect shall not have more than one listed 30 ampere power supply cord with an integrally molded or securely attached cord cap.

E. Cords with adapters and pigtail ends and standard extension cords shall not be permitted.

F. All cords shall be listed type with three wire 120 volt or four wire 120/240 volt conductors one of which shall be identified by a continuous green color or a continuous green color with one or more yellow stripes for use as the grounded conductor.

G. The attach plug on the cord from the unit shall plug into an approved 30 ampere 125/230 volt 3 wire grounding type receptacle mounted at the disconnecting means provided on location.

H. Where the flexible cords are used as means of supplying power from the units to the disconnect shall be listed for extra hard usage and cannot be subjected to physical damage.

I. All 125/230 volt 15, 20 & 30 ampere receptacle outlets mounted at the disconnect shall have a listed ground fault circuit-interrupter protection for personnel.

J. All these disconnects that are provided for mobile food units shall be installed by a licensed electrician and shall have proper permits and inspections made on both the disconnect and the power supply at each unit location.

6. WASTEWATER CONNECTION

On-site sewer connections complying with the requirements of Metro Water Services must be provided at the property site. All wastewater connections must connect to the public sewerage system and has a backflow protection devise, such as a "swing check value". The pipe connection must be of a quick connect type that meets the requirements of the Metro Codes Administration and the Metro Water Services. A dedicated 20-gallon per minute/40 pound grease trap must be located within the service connection prior to introduction of sanitary waste. The maintenance of the grease trap, in a manner consistent with applicable codes, will be the responsibility of the property owner.

7. GREASE TRAP

A dedicated 20-gallon per minute/40-pound capacity grease trap must be properly plumbed between the three-compartment sink and the wastewater tank. This trap must be cleaned out on a weekly basis.

8. RESTROOM ACCESSIBILITY

The owner of the unit must obtained a signed agreement with the owner a building on the parcel, or an adjoining parcel, stating that employees have access to the restroom facilities during all periods of operations. The building in which the restroom for employees is provided must not be more than 500 feet, door to door, from the unit.

9. FAILURE TO OPERATE FROM A FIXED SITE

If for any reason this "single/fixed site mobile food unit" ceases to operate from a single site and begins to move from site to site, then the unit will have to meet the requirements for a **conventional mobile food service establishment.**

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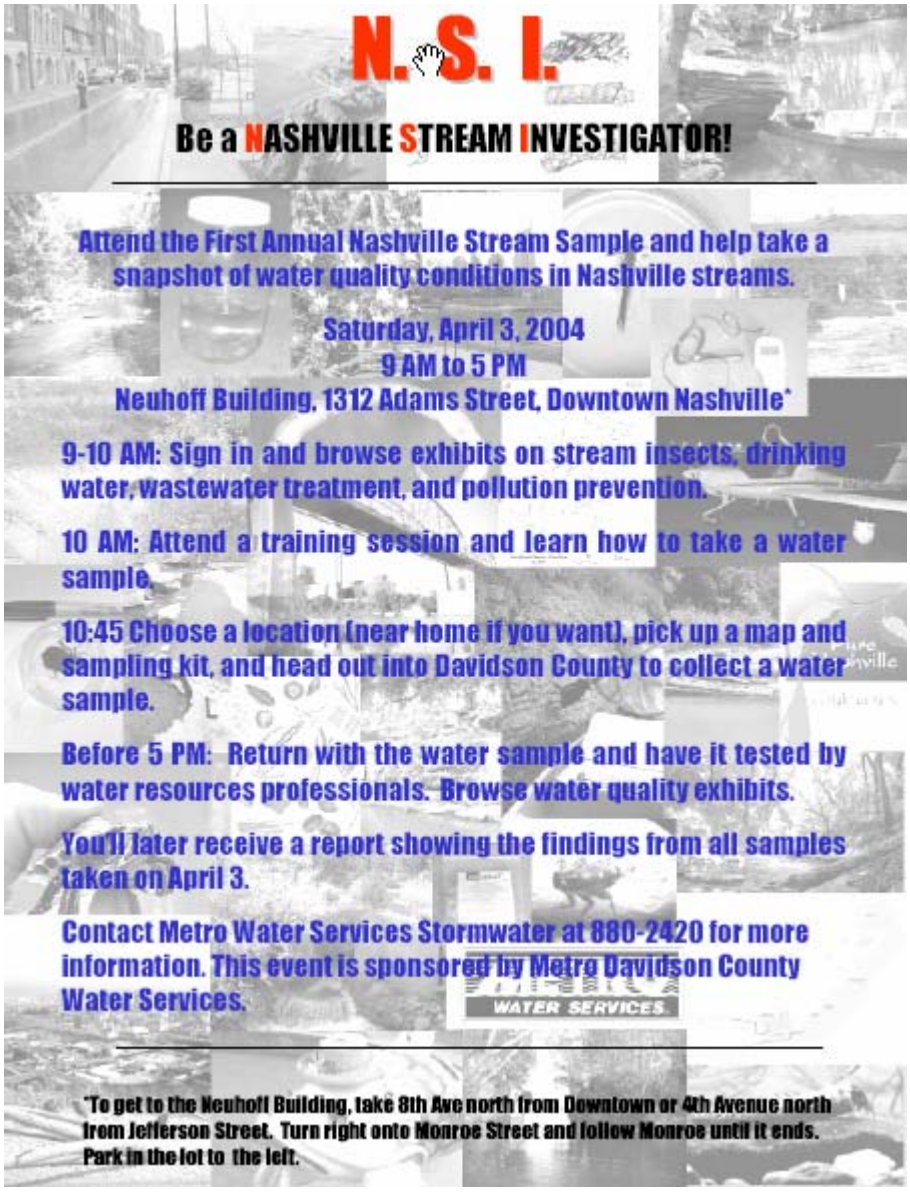
Nashville Stream Investigator Flyer: Public Stream Sampling Workshop



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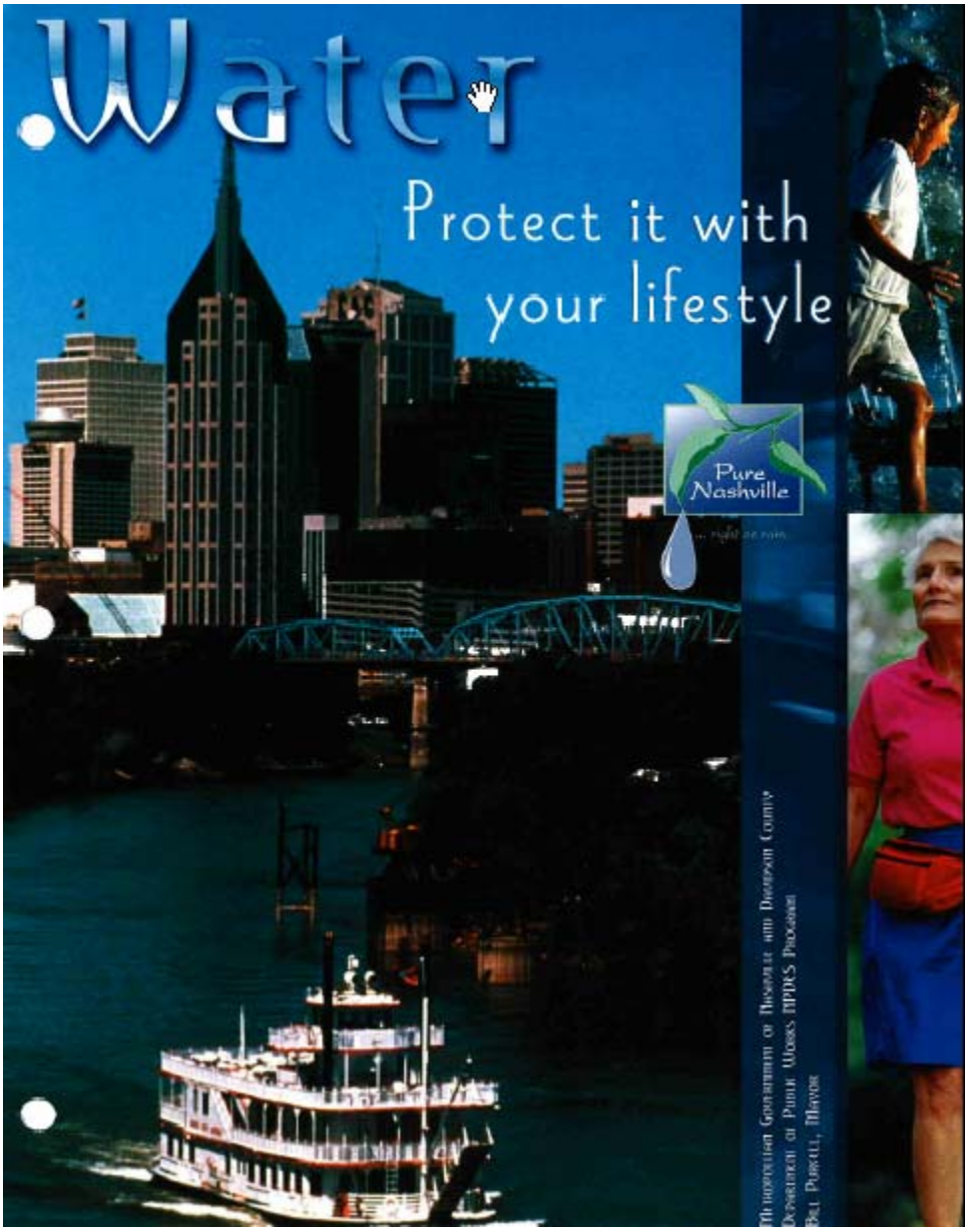
Appendix B

Metro NPDES Presentations and Distributions			
Date	**At**	**Title**	**Presenter**
06/22/2004	Lorman Professional Seminar	Current Issues in SW Regulations in TN	Michael Hunt - NPDES
5/24/2004	TDEC Fundamentals of Erosion Prevention and Sediment Control Workshop	Metro Construction Permit Requirements	Tom Palko-Metro NPDES Program
2/10/2004	TDEC Fundamentals of Erosion Prevention and Sediment Control Workshop	Metro Construction Permit Requirements	Tom Palko-Metro NPDES Program
2/9/2004	Overton High School, 12th grade Ecology class	Water quality, sampling/monitoring projects, use of benthic invertebrates in determining water quality.	Sonia Harvatt and Steve Winesett
11/01/2003	Channel 3, every 20 minutes, November 2003 February 2004	Grading Permit Information PSA	Slides on Metro Channel 3
10/29/2003	Public buses and benches throughout Davidson County, 3 months	MTA Public Relations Campaign	Metro NPDES
10/22/2003	NPDES Office	NPDES Presentation for the City of Bowling Green, KY	Michael Hunt, Tom Palko, and Sonia Harvat-MWS
10/01/2003	Donelson Christian Academy	Stormwater & Its Relation to Stream Ecology	Ann Morbitt - NPDES
09/30/2003	TDEC Fundamentals of Erosion Prevention and Sediment Control Workshop	Metro Construction Permit Requirements	Tom Palko-Metro NPDES Program
09/20/2003	CRC Catfish Rodeo-Centennial Park	Booth	Dale and Rebecca-NPDES
08/25/2003	Community around Ben Allen Road 37216, door to door with flyers (10)	Stormwater Pollution Found in Your Area	Dale Binder - NPDES
08/22/2003	Community around Cross Timbers Drive 37221, door to door with flyers (20)	Stormwater Pollution Found in Your Area	Dale Binder - NPDES
08/18/2003	Mayor's Office of Neighborhood-Storm Water 101 Class	Mayor's Office Storm Water 101 Class	Michael Hunt/Tom Palko - NPDES
08/12/2003	Mayor's Office of Neighborhood-Storm Water 101 Class	Mayor's Office Storm Water 101 Class	Michael Hunt/Tom Palko - NPDES

MWS NPDES Presentations By Public Information Officer		
DATE	**GROUP/EVENT**	**SUBJECT**
2004		
7/28	Storm Water Regulations Presentation	Storm Water Regulations
7/17 – 7/18	Water Week – Zoo at Grassmere	Storm water pollution and bioassessments
7/10 – 7/11	Water Week – Zoo at Grassmere	Storm water pollution and Enviroscapes
4/26	Neighborhood Training Institute	SW 101
4/21	Nashville State Tech's Earth Day	Water
4/17	Earth Day	Water
4/03	MWS Stream Sampling Event	Storm water
3/20	Whites Creek Clean-up	Storm water
3/04 - 3/07	Lawn and Garden Show	Storm water pollution
3/04	Council District 29 Storm Water Meeting	Storm water issues
3/02	Master Composter Class	Storm water pollution
2/28	TN Environmental Educators Assoc. Conference	Storm water pollution
1/29	Horticulture Society	Storm water pollution
2003		
12/10 – 12/11	National League of Cities	Reforming Storm Water Management
11/22	Celebrating Neighborhoods Conference	Storm water pollution
11/15	Warner Park Nature Center	Pollution Prevention
10/28	Grease Management Seminar	Grease Management Program
10/17	Croft School	Catch basin labeling
10/16	Mill Creek Thank you	Slide show of clean up
10/10	Napier Elementary	Watersheds
10/09	Hill Road Community Meeting	Storm water
9/27	Harpeth Hall	Catch basin labeling
9/27	Mill Creek Clean Up	Volunteer clean-up
9/20	Harpeth Hall	Catch basin labeling
9/20	Catfish Rodeo (done for Sonia by Dale Binder and Rebecca Dohn)	Storm water
9/17	Harpeth Hall	Storm water
09/08	Haynes Manor Community Meeting	Storm water
09/09	Murfreesboro Storm Water Advisory Committee	Enviroscape
08/18	Storm Water 101	Storm water
08/13	Cumberland River Compact	Catch basin labeling
08/12	Storm Water 101	Storm water
07/26	TN Board of P&P Community Fair	Water treatment and storm water pollution
07/21	Cumberland River Compact – WQAC	Enviroscape
07/19 – 07/21	Water Weekend - Zoo at Grassmere	Water treatment and storm water pollution
07/15	Cumberland River Compact	Catch Basin labeling
07/12 – 07/13	Water Weekend - Zoo at Grassmere	Water treatment and storm water pollution

Brochure: Water – Protect it with your Lifestyle



Article 1: The City Paper, July 21, 2003

MONDAY
JULY 21, 2003
THE City Paper
www.nashvillecitypaper.com
NASHVILLE'S NEWSPAPER

Photo by Mike Strasinger

Watershed moment

Sonia Harvat, left, public information officer for Metro Water Services, explains to Kyle Wyttenbach, 9, and Aron Wyttenbach, 4, of Nashville the details of a watershed, a region or area draining to a particular watercourse or body of water during the Nashville Zoo's Water Weekend. Zoo-goers learned how animals benefit from the earth's most precious resource.

Article 2: The Tennessean, August 28,2003

GROWTH & DEVELOPMENT

Need for grading permits delays construction of Kroger, center

By REBECCA DENTON
Staff Writer

GLENCLIFF — Metro Water Services stopped construction on a Kroger-anchored retail center this week while the developer applies for required grading permits, said Sonia Harvat, spokeswoman for the water department.

Midland Development Group., with offices in Jacksonville, Fla., and St. Louis, was relocating 11 houses from its property at Thompson Lane and Briley Parkway when it moved into an off-limits buffer zone near a creek and disturbed more than 10,000 square feet of soil.

Grading permits generally aren't required to move homes unless a significant amount of soil is disturbed, Harvat said.

The Metro Stormwater Management Committee granted the company a variance to move into the buffer zone, but physical work can't continue on the site until the grading permit is granted, Harvat said.

Permits and approvals from several agencies — including the Metro Planning Department and the Tennessee Department of Environment and Conservation — must be granted before that can happen, she said.

The time line can vary depending on the different application and approval processes.

Mark Momberg of Midland Development Group said the company hopes to break ground on the site within 60 days.

"The city has asked us to stop until we get a few things ironed out with them," he said. "We're in regular contact with them trying to work out some minor issues, but the project is moving forward."

He said the work stoppage shouldn't affect the company's overall goal to complete the retail center by next summer.

The center, to be called the Willow Brook Market Place, will be anchored by a 58,000-square-foot Kroger grocery store. An additional 38,000 square feet of retail shops will be part of the center, Momberg said. ■

Article 3: The Tennessean, October 20,2003

Autumn Oaks expansion set to enter third phase

By NATALIA MIELCZAREK
Staff Writer

After some turbulent stages with Metro government, expansion of Autumn Oaks subdivision is proceeding with phase three, adding 49 more lots near Mill Creek.

In the past couple of years, Metro Water Services has put three stop-work orders on the project, citing several violations, said Michael Hunt, environmental compliance officer with the water department's storm-water division.

The developer, Corinthian Custom Homes, says it's working with Metro to comply with laws and avoid future problems.

Recent inspection of the construction site didn't turn up any violations, Hunt

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Article 3: The Tennessean, October 20,2003 (continued)

said.

"The main problem was not having appropriate mechanisms in place to keep sediment from running off from the site to local creeks," he said.

"We had to work with them to improve those controls. They have been moving in the right direction."

In addition to the three stop-work orders, the project also was cited with one administrative penalty of $1,000 for draining a sediment pond into a creek, Hunt said.

Hunt explained that with any major development project such as this, the applicant has to provide engineering plans that address potential storm-water runoff and erosion problems.

Autumn Oaks plans had to be revised to accommodate the requirements, Hunt said.

"It's a difficult site, given the logistics of the area," Hunt said. "It's a rolling-hilled area. The more slope there is, the more difficult it is to stop the sediment runoff."

Todd Sneed with Corinthian Custom Homes acknowledged the problems with runoff water but didn't go into detail about violations.

"Metro sent some people to the construction site for inspection," he said. "We're working with Metro to comply with all the requirements and approved plans."

The original plan for Autumn Oaks subdivision was approved in 1988 and called for 354 lots on 110 acres, said Kathryn Fuller with the Metro Planning

Article 3: The Tennessean, October 20,2003 (continued)

Department.

Construction of phase three is scheduled to begin in two months, Sneed said.

Article 4: October 6, 2003

THE City Paper online

Residents cry foul over 'pond' project

By Craig Boerner, cboerner@nashvillecitypaper.com
October 06, 2003

Metro Councilwoman Brenda Gilmore calls it a case verging on "environmental racism."

Some Metro officials call it a case of a lack of regulation involving ponds or lakes.

All the neighbors in Bordeaux know is that a developer is trucking thousands of cubic yards of dirt off a 45-acre tract and selling it with the pretense, they believe, that he is going to create a huge pond in front of one 3,000-square-foot house he plans to build.

Neighbors fear this property in Bordeaux could be a haven for stagnat water. Photo by Craig Boerner.

Some of the dirt is being sold by the developer, C.J.R.T., Inc., to Metro to cover an ash landfill.

"This is kind of hinging, to me, on environmental racism," Gilmore said. "I really think it is bigger than just the carting out of dirt.

"But clearly Metro has to know that, in a residential section, if somebody applies for a permit to have a 45-acre pond in front of a house that there is something up with that."

Officials from C.J.R.T., Inc. did not return phone calls.

Most of the property in question is wetlands on which no housing can be constructed.

Last spring, the developer told residents that he wanted to turn the property into a wetland conservation area and that he wanted to truck the dirt out and sell it to help recoup his costs.

Gilmore sponsored a Metro Council request last spring for a dirt farm on the property at 4225 Ashland City Highway. But after several neighborhood meetings at which residents protested, she withdrew the bill at the developer's request.

Now she says the developer has found a loophole. Ponds and lakes are not currently regulated, according to Metro Codes Zoning Administrator Sonny West.

When C.J.R.T., Inc. presented its plan for the giant pond and one house, Metro departments including Codes, Public Works, and Water all approved the idea.

"They were granted permission [to dig up all of the dirt], saying if they build one house on that 45 acres then they can have a huge pond in front of that house," Gilmore said.

"As a matter of fact, they are doing what they wanted to do all along, which is take the dirt out of that area. The neighbors, of course, were concerned because of the truck traffic."

Article 4: October 6, 2003 (continued)

West said he understands the concerns but the development plan is in accordance with local laws.

"I can understand because we went through all of that and now they are going to accomplish the same thing," West said. "I don't know. My guess is that this will generate some legislation that requires permits for lakes or ponds from now on."

Gilmore said she has received complaints for the last few weeks that anywhere from 75-100 truckloads of dirt per day are being hauled from the property from 5:30 a.m. to 4 p.m., Monday through Saturday at 12- to 20-minute intervals.

Northwest Nashville Civic Association President Johniene Thomas wrote a letter to Metro Codes, asking for a cease and desist order "of this unlawful activity at the earliest possible time."

West said the permit issued by Codes is to construct a 3,000-square-foot house. Developers had previously explored approvals for a rezoning to build a subdivision of two-acre lots, about 20 lots, he said.

"They kind of changed direction and brought us in a development plan," West said. "The whole property is in the floodplain. They showed one house built up out of the floodplain on a pad and a private lake to be stocked with fish for the owner of the house.

"We could not find any reason to turn it down. The property is zoned for a house. There is no prohibition, there is no mention of a lake, in the zoning ordinance. A lot of people have lakes or farm ponds."

Thomas sees a pattern in some zoning approvals in Bordeaux.

"It is a shame that our neighborhood is environmentally discriminated against time and time again while the city turns a blind eye," Thomas said, referring to a similar situation that occurred with the "problem of mining" on the opposite side of Ashland City Highway.

"We view the mining operation as a nuisance and with fear and trepidation due to the unknown but anticipated negative impact of an undrained water basin/pond/lake," Thomas said, "And the subsequent negative assaults of redirecting the waterway, infestation of stagnant waters by insects, vermin and snakes."

Metro Water Services Assistant Director Tom Palko said Metro Water officials visited the project site Friday and found no wrongdoing.

Article 5: The City Paper, August 26, 2004

Metro Water halts $9M project

By William Williams, wwilliams@nashvillecitypaper.com
August 26, 2003

Despite facing a recently issued stop work order, the developer of a Kroger-anchored retail center in South Nashville said the roughly $9 million project is smoothly moving forward with no delays.

A few days ago, the Metro Water Services Stormwater Division — citing soil erosion concerns and the need for the developer to secure a grading permit — placed the stop work notice on Midland Development Group Inc.'s Willowbrook Market Place project.

Mark Momberg, Midland's manager for the development, said the stop work notice will not cause any delays to the official start of the project, ground for which is slated to broken in about 60 days. The project site is near the Thompson Lane/Briley Parkway fork near Interstate 24.

The grading permit is required due, in part, to the movement of about 11 homes, for which Midland has hired a company.

"We are in the process of getting the grading permit," Momberg said. "Moving the homes does cause disturbance to the soil. We will continue to address the concerns of the city."

Sonia Harvat, Metro Water Services spokeswoman, said the grading permit is needed because Midland is going to deal with more than 10,000 square feet of land. In addition, the project has seen the disturbance of a buffer zone, concerns for which have since been addressed, she said.

"We run into quite a bit of this with various construction sites," Harvat said, adding that Midland must now go before Water Services's Stormwater Management Committee so as to move forward. "We're optimistic this will be fine."

Metro Water Services, more than ever, can better control matters of this type, Harvat said.

"With our National Pollutant Discharge Elimination System program, we now have a tool in place to enforce issues involving erosion prevention and sediment control," she said.

Tom White, the Nashville-based lawyer who represented Midland in its efforts to amend a planned unit development component attached to the property, said Midland has been fully cooperative with Metro during the process.

"I can't imagine anybody having any reservations about Midland doing the project correctly," White said.

When finished in late third-quarter 2004, Willowbrook Market Place should have a mix of tenants, according to Will Parham, Midland president.

"We've got a lot of letters of intent from a combination of both local and national businesses," he said.

In addition to Kroger, which will occupy about 58,000 square feet of the masonry and stucco center, Hollywood Video has signed a letter of intent to operate in the facility, Parham said.

The project, the general contractor for which is Nashville-based J.E. Crain & Sons Inc., has received

Article 5: The City Paper, August 26, 2004 (continued)

favorable support from District 16 Metro Councilwoman Amanda McClendon.

“I do think this will be a quality project,” she said.

McClendon said the nearest Kroger, locate near the Thompson Place/Murfreesboro Road T-intersection, is outdated and in need of replacement.

The councilwoman added that she has talked to Ken Sheesley of Hampshire Investments LLC, which is helping secure tenants to the approximately 96,000-square-foot complex.

McClendon said she is hopeful of a sit-down restaurant in the center.

Community Rating System Homeowner Mailing, Outside

Dear Resident, 09/10/2004

In 19[illegible], the Metropolitan Government of Nashville and Davidson County joined the Community Rating System which is a program administered by the National Flood Insurance Program (NFIP). Under this program, communities that exceed the minimum requirements of the Federal Emergency Management Agency (FEMA) with respect to floodplain management are rewarded with lower flood insurance rates. Flood insurance policy holders in Davidson County have been receiving a 5% discount on their rates since we entered the program. This represents a combined savings of approximately $50,000 each year.

As part of the NFIP program, floodplains and floodways on many local streams have been established and regulated by FEMA. The most recent Flood Insurance Study (FIS) for Metro Nashville was published by FEMA in 2001. The FIS includes Flood Insurance Rate Maps (FIRM) that present the adopted floodplains, floodways, and flood profiles for streams in Davidson County. This brochure has been delivered to properties located in or adjacent to the 100-year floodplain of Browns Creek. If you have received this brochure, then your property is located in or near the flood hazard area.

All streams within Metro Nashville are subject to flooding and backwater flooding may be significant. Flood-related Presidential Disaster Declarations have been declared for Davidson County as recently as March 1997 and May 2003 for flood damage countywide. During the regional 1997 storm event, six people were killed by tornadoes and subsequent flooding. Additionally, historical flood events of record have repeatedly occurred on the Cumberland River (1937 and 1975), Mill Creek and Sevenmile Creek ([illegible]), Richland Creek and [illegible] Creeks (1979).

The primary effect of flooding on these streams appears to be inundation, although velocities will become significant to persons and structures under extreme flooding situations. Calculated floodplain velocities range from 1.8 to 5.8 feet per second, which is considered to be of dangerous magnitude. This brochure is intended to educate residents on such topics as flood hazards and flood safety.

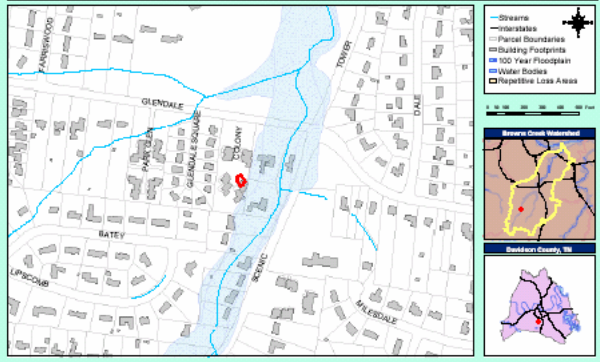
If you have any questions concerning this brochure, please call the Stormwater Division of Metro Water Services at [illegible].

Elevation Certificate Information

Address:	109 Colony Ct NASHVILLE, TN 37204	Parcel Number:	131080C00300CO
		NFIP Community Name:	470040 - Nashville
		Map and Panel Number:	47037C0333
100 Year Flood Elevation (base flood elevation):	559 feet	Suffix:	F
Top of Bottom Floor (including basement or enclosure) Elevation:	560.6 feet	FIRM Panel Date:	April 20, 2001
Lowest Adjacent (finished) Grade Elevation:	561.9 feet		

If you have any questions concerning the Elevation Certificate Information, please call 862-6038.

109 Colony Ct - Flood Hazard Area



METRO WATER SERVICES
Contact Information

http://www.nashville.gov/stormwater/

METRO WATER SERVICES .... [illegible]
To inquire whether a property is in the floodplain .... [illegible]
To report a stormwater / water quality concern .... [illegible]
To report a "new" drainage-related concern .... [illegible]
To inquire on the status of an "existing" drainage-related concern .... [illegible]
To inquire about the status of a grading permit application .... [illegible]

[illegible]

Flood Protection Information

Current Resident
109 Colony Ct
NASHVILLE, TN
37204

RETURN SERVICE REQUESTED

Metro Water Services
NPDES Section
1607 County Hospital Road
Nashville, TN 37218

Community Rating System Homeowner Mailing, Page 2

FLOOD INFORMATION

FLOOD HAZARD AREAS

The individualized map, presented on the previous page, shows the limits of the 100-year floodplain in your area. The 100-year floodplain is the area that will be flooded on the average of once every 100 years. It has a 1% chance of occurring in any given year. In other words, you have about a 30% chance of experiencing a 100-year flood during the life of a 30-year mortgage. Less severe floods have a greater chance of occurring in any year, but can still create a significant hazard to people and property.

Flood insurance rate maps provide more detailed information on the 100-year floodplain and are available at the Codes Administration Office. For assistance and information, please call 862-6038.

FLOOD WARNING

The National Weather Service will post flash flood warnings or watches when the conditions are present. Know the terms used to describe flooding: Flood Watch = flooding is possible; Flood Warning = flooding is occurring or will occur soon. Keep alert to rising waters in the streams in your area.

NOAA weather radios offer the best method of warning. They can be programmed to sound an alert tone whenever severe weather is approaching your area. This eliminates the need to listen to the radio, and the tones can wake you up if you are sleeping. The cost is minimal and the radios can be purchased at any store selling electronic equipment.

During periods of rain, tune to local television and radio stations, for example:

WKRN – TV channel 2 WSM – Radio station AM 650
WSMV – TV channel 4
WTVF – TV channel 5
WZTV – TV channel 17

FLOOD INSURANCE

Floods cause more damage in the United States than any other natural hazard. Each year, floods cause $4 billion dollars in damage and kill 150 people. Many people do not realize that flood damage is **NOT** covered by standard homeowners insurance policies.

Since 1968, the National Flood Insurance Program (NFIP) has provided federally backed flood insurance to communities participating in the NFIP. Metropolitan Nashville and Davidson County joined the program in 1982, therefore, **insurance is available** for all properties in Davidson County. Flood insurance can be purchased through any licensed property insurance agent or broker. All agents must charge the same rates. Your rates will not change if you file a damage claim; the rates are set on a national basis. The purchase of flood insurance is mandatory as a condition of receiving any federally related financial assistance such as loans through the Federal Housing Administration, the Veterans Administration, or the Small Business Administration for properties in the floodplain.

It has been estimated that only one out of four properties susceptible to flooding is insured. Therefore, a large number of homes and businesses in Davidson County are not protected from the financially devastating effects of a flood. Just because your property has not flooded in the past does not mean that it will not flood in the future.

Don't wait for the next flood to buy insurance protection. Because you are in the 100-year floodplain, we encourage you to obtain flood insurance coverage for both your structure and its contents. There is a thirty (30) day waiting period before National Flood Insurance coverage takes effect. Contact your insurance agent for more information on rates and coverage.

FLOOD SAFETY

The following common sense guidelines can help protect you and your property from the dangers associated with flooding:

- Do not drive through a flooded area. More people drown in their cars than any where else. This happened in 1984 in downtown Nashville. Do not drive around road barriers.

Do not drive through a flooded area.

- Do not walk through flowing water. Currents can be deceptive. Six inches of flowing water can knock you off your feet.
- Stay away from power lines and electrical wires. Electrocution is second to drowning in flood related deaths. Electrical current can travel through water. Report downed power lines to the Nashville Electrical Service at 736-6900.
- If your house is about to be flooded, turn off the power at the fuse box, if you can do so safely.
- Keep children away from the flood waters, ditches, and storm drains. Children have drowned in Davidson County by being swept away by flowing water.
- Monitor the level of floodwaters in the drainage way, especially at night. Be prepared to evacuate. Move your vehicles to high ground before it is too late.
- Do not use electrical appliances that have been wet without first getting them checked by a licensed electrician.
- Be alert to gas leaks. If you smell gas, report it to Nashville Gas at 734-1400. Do not use candles, lanterns, or open flames unless you are certain that the gas has been shut off and your house has been ventilated.
- Do not use gas engines, such as generators, or charcoal fires indoors during power outages. Carbon monoxide exhaust could pose health hazards.
- Clean everything that has been wet. Flood waters will be contaminated with sewage and possibly other chemicals which could pose health hazards.
- Look out for animals, especially snakes. Small animals that may have been flooded out of their homes may seek shelter in yours.
- Look before you step. After a flood, the ground and floors are covered with debris that may include broken glass and nails. Floors and stairs that have been covered with mud can be very slippery.

PROPERTY PROTECTION MEASURES

If your property is susceptible to flooding, there are many flood damage reduction measures that can be used to protect yourself.

- Watertight seals can be applied to brick and block walls to keep out low level flooding.
- Doors and windows can be retrofitted with permanent or manually installed closures.
- Utilities such as heating and air conditioning systems, water heaters, and other major appliances can be elevated to higher floors in the structure or on platforms on lower levels or outside.
- Elevating or relocating the entire structure may also be a feasible option.
- Temporary measures such as moving furniture and other valuables to higher floors or sandbagging exterior openings can also be employed in the event of a flood.

For more information on floodproofing or retrofitting structures visit the reference section of the Main Public Library, located at 615 Church Street, or your local branch library. For assistance and information, please call 862-6038.

FLOODPLAIN DEVELOPMENT PERMIT REQUIREMENTS

All developments in the 100-year floodplain (not just construction of buildings) require local permits.

- A grading permit issued by Metro Water Services is required for all land disturbing activities such as filling or excavating soil, the installation of pipes or digging ditches, and alterations to drainage channels.
- Building permits issued by the Codes Administration are required for all improvements or additions to existing structures as well as for any new structures.

Applications for grading and building permits must be made prior to the start of construction.

Metro's Stormwater Management Regulations require that all residential structures built in the floodplain must be constructed with the lowest finished floor elevation located four feet above the 100-year flood elevation. Commercial structures must be built one foot above the 100-year flood elevation. Additionally, any fill placed in the floodplain must be offset with an equal volume of cut removed from the floodplain.

We encourage you to contact the Stormwater Division of Metro Water Services at 862-4506 to inquire about permit requirements or to report any ongoing activity in the floodplain that may not be permitted. Improper development in the floodplain will make flooding worse and must be controlled.

CUMULATIVE SUBSTANTIAL IMPROVEMENT POLICY

The NFIP requires that if the cost of improvements to a building or the cost to repair damages to a building exceeds 50% of the market value of the building (excluding land value), the building must be brought up to current floodplain management standards, as described in the previous section "Floodplain Development Permit Requirements." Building improvement projects include remodeling, rehabilitation, building additions, and repair and reconstruction projects.

Additionally, the cost of currently planned improvements will be added to the cost of previously made improvements and compared to the existing market value to determine if the improvements exceed 50% of the structure value. For more information on this policy, call 862-4506.

DRAINAGE SYSTEM MAINTENANCE

Natural stream channels are typically large enough to contain only the most frequent flooding events. Larger storms which occur on the average of once every 2 or 5 years will most likely cause the streams to flow out of their banks. For this reason, it is critical that the stream channels be kept clear of trash and debris. Do not dump trash, leaves, branches, Christmas trees, or other yard waste into or adjacent to a stream or drainage ditch. These materials will be washed away during rain events and will most likely be deposited in front of downstream culverts or bridges. Blocked or partially blocked culverts increase the potential for property flooding and may cause water to flow across roadways endangering motorists. Metro has a curbside chipper service for collection of yard waste. Call 880-1000 for the collection schedule in your neighborhood or 862-4600 to report blocked culverts.

Example of landscape waste deposited in front of a driveway culvert.

NATURAL AND BENEFICIAL FUNCTIONS

Floodplains play a valuable role in providing natural and beneficial functions to the Metro area. Floodplains that are relatively undisturbed, or have been restored to a nearly natural state, provide a wide range of benefits to both human and natural systems. These benefits provide aesthetic pleasure as well as function to provide active processes such as filtering nutrients. Several of our floodplain areas are used for recreational purposes such as greenways and parks along the stream (Shelby Bottoms Park, for example). Natural and beneficial functions include:

- Provide flood water storage and conveyance
- Filter nutrients and impurities from runoff
- Provide open space for aesthetic pleasure
- Maintain bio-diversity and the integrity of ecosystem
- Contain historic and archaeological sites that provide opportunities for study
- Provide natural flood and erosion control and reduce flood velocities and peaks
- Create and enhance waterfowl, fish, and other wildlife habitats and provide breeding and feeding grounds.
- Enhance agricultural lands for the harvest of wild and cultivated products

ILLICIT DISCHARGES

Areas that routinely flood or where creeks and streams flow after rain events are very susceptible to the water pollution impacts caused by illegal dumping activities. Trash, Tires, Batteries, Cut Trees/Brush, Yard Clippings/Leaves, Chemicals, Washwater, etc. should **NOT** be dumped into or near storm sewers, catch basins, ditches, or streams. It is a violation of Metro Code §15.64.205 to dump or discharge these materials into either the storm sewer system or streams. Please call the Metro Storm Water Quality Office at (615) 880-2420 to report any such dumping or discharging activities.

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Appendix C
Wet Weather Monitoring
Cycle 2, Permit Year 1

Incident #	Date	Watershed	Site ID	Background (pre-rain event) or Rain Event:	Time	Personnel	Total Time of Event	Velocity	Rainfall	Visual Observations	Temp	pH	TSS	TDS	Total Ammonia Nitrogen	TKN	Total Phosphorus	Dissolved Phosphorus	Chromium	Copper	Lead	Nickel	Zinc	Fecal Coliform	BOD5	COD	Fluoride	Nitrate+Nitrite Nitrogen	Fecal Strep	Oil & Grease	Total Nitrogen	E Coli
40	11/6/2000	Richland Creek	Sugartree	Background	13:45	PS	3	0			17.1	7.8	60	154	0	1.43	1.67	0.69	0	0.045	0.056	0.012	0.14	40000	22	82	0.28	1.27	14000	0	2.7	
41	11/6/2000	Richland Creek	Sugartree	Rain Event	13:45	PS	3	0			17.3	7.9	32	185	0.46	0	1	1	0	0.042	0.011	0.017	0.098		10	77	0.27	1.44			1.44	
48	1/29/2001	Whites Creek	Ewing	Background	20:00	PS	3	0	.1		9.3	8	20	438	1.2	1.2	0.52	0.31	0	0.015	0	0	0	60	0	0	0.32	1.03	350	0	2.23	
51	1/29/2001	Richland Creek	Sugartree	Rain Event	20:45	PS	3	0	.1		11.2	8	45	345	0.67	1.01	0.65	0.47	0	0.021	0	0	0.036		7	30	0.36	1.502		0	2.512	
49	1/29/2001	Whites Creek	Ewing	Rain Event	20:00	PS	3	0	.1		9.6	7.9	12	386	0.47	0	0.47	0.28	0	0.016	0	0	0.008		3	0	0.29	1.34		0	1.34	
50	1/29/2001	Richland Creek	Sugartree	Background	20:45	PS	3	0	.1		11.1	8	57	325	0.61	0	0.76	0.44	0	0.017	0	0.011	0.019	3800	4	0	0.41	1.34	9000	0	1.34	
52	4/24/2001	Whites Creek	Ewing	Background	12:11	Phil Saad	3	0			20	8	0.076	353	0	1.21	0.17	0.076	0	0.013	0	0	0	16500	0	0	0.32	0.16	300	0	1.37	
58	4/24/2001	Mill Creek	7-Mile	Rain Event	13:00	Phil Saad	3	0			18	7.8	59	255	0	0.47	0.56	0.47	0	0.01	0	0	0.021		3	21	0.38	0.756		0	1.226	
56	4/24/2001	Richland Creek	Sugartree	Rain Event	12:01	Phil Saad	3	0			20	7.6	8	248	0.4	2.08	0.32	0.32	0	0.019	0	0	0.032		16	40	0.35	0.694		0	3.174	
53	4/24/2001	Whites Creek	Ewing	Rain Event	12:11	Phil Saad	3	0			20	7.9	12	308	0	0	0.21	0.09	0	0	0	0	0.007		5	12	0	0.161		0	0.161	
57	4/24/2001	Mill Creek	7-Mile	Background	13:00	Phil Saad	3	0			18	7.9	9	306	0	0	0.29	0.29	0	0.01	0	0	0	84000	7	12	0	0.652	9000	0	0.652	
55	4/24/2001	Richland Creek	Sugartree	Background	12:01	Phil Saad	3	0			20	7.4	131	360	0	0	0.9	0.4	0	0.017	0	0	0.033	266000	49	79	0.39	1.22	2800	0	1.22	
61	2/26/2002	Whites Creek	Ewing	Background	5:30	Steve Wall	3	0					3	394	0.49	0	0.02	0	0	0	0	0	0.045		6	0	0.32	2.21		0	2.21	
60	2/26/2002	Richland Creek	Sugartree	Rain Event	6:30	Steve Wall	3	0					22	243	0.35	0	0.15	0	0	0	0	0	0.036		7	19	0.36	0.515		0	0.55	
59	2/26/2002	Richland Creek	Sugartree	Background	6:30	Steve Wall	3	0					84	286	0	0	0.59	0.04	0	0	0	0	0.051		6	45	0.43	0.33		0	0.33	
62	2/26/2002	Whites Creek	Ewing	Rain Event	5:30	Steve Wall	3	0					3	356	0	0	0.02	0	0	0	0	0	0.021		2	0	0.3	0.16		0	0.16	
63	3/29/2004	Richland Creek	Sugartree	Rain Event	9:45	MS/JH	3	0		Sugartree South (upstream of wet weather site): FC=300, EC=300 Sugartree (downstream of wet weather): FC=190, EC=120			54	130	0	1.8	0.63	0.14	0	0.012	0	0	0.056	2600	15	48	0	0.49		0	2.3	3000
64	3/29/2004	Whites Creek	Ewing	Background	8:43	SM/PW	3	0					100	340	0	1.1	0.63	0.19	0	0	0	0	0.058	500	7	33	0	0.12		0	1.2	400
54	3/29/2004	Richland Creek	Sugartree	Background	9:30	MS/JH	3	0		Ambient Data from 4/7/04 Sugartree South (upstream of wet weather site): FC=300, EC=300 Sugartree (downstream of wet weather): FC=190, EC=120			160	310	0	5.2	1.6	0.22	0	0	0	0	0.071	9100	42	110	0	0.56		0	5.8	8200
66	3/29/2004	Mill Creek	7-Mile	Background	8:50	RD/DB	3	0					4	310	0	0	0.28	0.29	0	0	0	0	0	1000	0	0	0	0.68		0	0.68	200
65	3/29/2004	Whites Creek	Ewing	Rain Event	8:58	SM/PW	3	0					21	340	0	0.58	0.26	0.18	0	0	0	0	0	700	0	0	0	0		0	0.58	1300
67	3/29/2004	Mill Creek	7-Mile	Rain Event	9:05	RD/DB	3	0					86	220	0	1.7	0.79	0.31	0	0	0	0	0.074	2900	12	34	0	0.72		0	2.4	2700

Appendix D
Ambient Monitoring
November 1, 2000 - June 30, 2003

Incident No.	Date	Watershed	Site ID	Personnel	Visual Observations	Time	Velocity	pH	Temp	TSS (mg/L)	TDS (mg/L)	BOD5 (mg/L)	COD (mg/L)	Nitrate+Nitrite Nitrogen (mg/L)	Fluoride (mg/L)
139	12/6/2000	Richland Creek	Sugartree	PS	some fish, no rain in at least 72hrs, 1' depth, ecoli-300,enterococcus-<10	12:15	0.01	7.2	9.6	20	328	270	0	1.28	0.42
140	12/6/2000	Richland Creek	Sugatree south	PS	6" depth no rain in at least 72hrs, snails & algae, ecoli-850, enterococcus-<10	12:35	0.1	7.7	7.7	9	523	0	0	0.78	0.45
141	12/13/2000	Whites Creek	Ewing	SW/PS	very cold, depth 1.67', e-coli-50, enterococcus-310	9:42	0.01	7.84	2.3	3	445	0	20	0.05	0.36
142	12/13/2000	Whites Creek	Ewing north	SW/PS	very cold, depth 1', e-coli-800, enterococcus-<10	9:42	0.2	7.97	2.5	2	458	0	27	0.06	0.3
143	12/13/2000	Whites Creek	Ewing south	SW/PS	very cold, depth 1', e-coli-1700, enterococcus-<10	9:42	0.2	7.93	3.4	1	505	0	24	0.21	0.46
144	12/20/2000	Mill Creek	Sevenmile	SW/MS	16" depth, ecoli-300, enterococcus-260	9:40	1.2	7.68	5.1	1	367	0	41	2.72	0.42
145	12/20/2000	Mill Creek	Sevenmile east	SW/MS	16" depth, ecoli-800,enterococcus- 9	9:10	4	7.67	5.8	3	376	0	24	3.1	0.35
146	12/20/2000	Mill Creek	Sevenmile w.(Brentwood branch)	SW/PS	16" depth, ecoli-500,enterococcus- 54	9:20	2	7.66	4.3	1	418	0	6	3.03	0.43
147	2/7/2001	Richland Creek	Sugartree	PS	Some fish, no algea present	11:40	0.01	7.7	11.2	0	360	0	0	2.36	0.4
148	2/7/2001	Richland Creek	Sugatree south	PS	Lots of brown algea, some fish	11:20	1	8.1	10.9	0	474	0	0	1.65	0.42
149	2/14/2001	Whites Creek	Ewing north	PS/MS/SH	72 hrs of rain , muddy, no visability, no rain at the time of sampling	9:51	1	7.84	11.7	65	370	0	0	0.85	0.26
150	2/14/2001	Whites Creek	Ewing south	PS/MS/SH	72 hrs of rain , muddy, no visability, no rain at the time of sampling	9:56	3	7.9	11.9	213	340	3	20	1	0.3
151	2/14/2001	Whites Creek	Ewing	PS/MS/SH	72 hrs of rain , muddy, no visability, no rain at the time of sampling	9:35	0.4	7.3	12.1	362	416	3	49	0.65	0.26
152	2/21/2001	Mill Creek	Sevenmile	PS	clear, fish present	9:45	3	8.3	11	6	320	5	0	2.69	0.37
153	2/21/2001	Mill Creek	Sevenmile east	PS	clear, fish present	10:45	3	8.1	11	10	340	0	0	2.65	0.31
154	2/21/2001	Mill Creek	Sevenmile w.(Brentwood branch)	PS	clear, fish present & some algae	10:30	3.5	8.2	11	5	359	0	0	2.75	0.38
155	4/3/2001	Richland Creek	Sugartree	PS		9:50	0.2	8	14.1	3	335	3	8	0.482	0.42
156	4/3/2001	Richland Creek	Sugatree south	PS		9:30	1	7.91	13.6	2	446	12	0	1.031	0.39
157	4/10/2001	Whites Creek	Ewing	ps	lots of brown/green algae, plenty of fish no rain in>72 hrs	11:30	0.1	7.5	22	9	365	4	17	0.11	0.31
158	4/10/2001	Whites Creek	Ewing south	PS	lots of brown/green algae, plenty of fish no rain in>72 hrs	11:45	0.2	8	22	0	490	3	34	0.11	0.4
159	4/10/2001	Whites Creek	Ewing north		lots of brown/green algae, plenty of fish no rain in>72 hrs	11:59	0.2	7.9	22	1	341	0	12	0.057	0.3
160	4/17/2001	Mill Creek	Sevenmile	PS	some fish not much other aquatic life, sediment	11:00	3	8.1	12.5	44	321	6	15	1.46	0.43
161	4/17/2001	Mill Creek	Sevenmile east	PS	some fish not much other aquatic life, sediment	11:40	2	8	12.7	2	342	0	0	1.04	0.35
162	4/17/2001	Mill Creek	Sevenmile w.(Brentwood branch)	PS	some fish not much other aquatic life, sediment	11:50	2	8	12	2	349	0	8	1.56	0.43
163	6/6/2001	Richland Creek	Sugatree south	SW		10:10	0.2	7.7	20.8	2	443	0	0	1.2	0.47
164	6/6/2001	Richland Creek	Sugartree	SW		10:35	0.1	7.3	19.6	3	334	0	0	1.68	0.43
165	6/13/2001	Whites Creek	Ewing north	SW		8:45	0.2	7.9	22.1	5	422	0	4	0.49	0.35
166	6/13/2001	Whites Creek	Ewing south			9:00	0.2	7.9	21.2	4	571	0	0	0.59	0.41
167	6/13/2001	Whites Creek	Ewing			9:20	1	7.7	22.8	15	487	0	7	0.47	0.36
168	6/20/2001	Mill Creek	Sevenmile east	SW		9:10	1	7.9	22	9	378	1	0	1.18	0.4
170	6/20/2001	Mill Creek	Sevenmile w.(Brentwood branch)	SW		9:10	0.4	7.9	23	7	371	2	4	1.52	0.46
171	6/20/2001	Mill Creek	Sevenmile	SW		10:10	4	8	23	13	338	1	19	1.49	0.49
173	8/1/2001	Richland Creek	Sugatree south	Steve Wall		11:10	0	7.8	25	1	528	4	0	0.36	0.57
174	8/1/2001	Richland Creek	Sugartree	Steve Wall		11:30	0	7.4	24	0	368	2	0	1.23	0.5
175	8/8/2001	Whites Creek	Ewing	MS & SH		9:06	0	8.25	26.4	7	537	5	0	0.39	0
176	8/8/2001	Whites Creek	Ewing south	SH & MS	Suds in creek and quite a bit of sediment. 9/10/01 MS submitted a resample due to the high fecal in Ewing North. Results were 665 col/100mL fecal coliform.	9:26	0	8.11	25.5	6	473	4	0	0.23	0.37
177	8/8/2001	Whites Creek	Ewing north	MS & SH	9/6/01-MH sent inquiry to rr asking if they had had any sewer overflows on or just before this date. RR reply-Michael, I'm not aware of any problems at this time, we do have a manhole under heavy rainfall conditi	9:30	0	8.3	26.4	38	636	6	0	0.5	0.39
180	8/15/2001	Mill Creek	Sevenmile east	Steve Wall		10:30	1.2	7.9	22.4	5	397	0	0	1.14	0.4
181	8/15/2001	Mill Creek	Sevenmile w.(Brentwood branch)	Steve wall		10:35	1	7.9	23.3	7	328	1	0	0.87	0.45
182	8/15/2001	Mill Creek	Sevenmile			11:00	0.1	8	22.5	5	361	0	0	1.59	0.47
183	10/3/2001	Richland Creek	Sugatree south	Steve Wall		10:00	0	7.8	18.5	0	487	2	0	0.14	0.6
184	10/3/2001	Richland Creek	Sugartree	Steve Wall		10:00	0	7.2	16.2	5	374	0	0	0.42	0.41
185	10/10/2001	Whites Creek	Ewing north	Steve Wall		9:45	0.1	8	14.8	1	469	0	0	0.388	0.34
186	10/10/2001	Whites Creek	Ewing south	Steve Wall		9:55	0.1	8.1	15.2	3	636	0	0	0.23	0.45
187	10/10/2001	Whites Creek	Ewing	Steve Wall		10:15	0.1	8	14.9	6	534	1	0	0.48	0.39
188	10/17/2001	Mill Creek	Sevenmile east	Steve Wall		9:30	2	7.9	12	0	373	6	0	0.74	0.43
189	10/17/2001	Mill Creek	Sevenmile w.(Brentwood branch)	Steve Wall		9:40	1	7.7	11.8	0	374	4	0	1.02	0.53
190	10/17/2001	Mill Creek	Sevenmile	Steve Wall		9:40	1	8.1	12.1	0	349	0	0	1.13	0.52
194	12/5/2001	Richland Creek	Sugatree south	Steve Wall	Dissolved Oxygen 88.6	9:55	0.5	7.84	14.6	4	522	0	0	1.05	0.5
195	12/5/2001	Richland Creek	Sugartree	Steve Wall	Dissolved Oxygen 81.2	10:20	0.5	7.35	15.6	3	399	0	0	1.59	0.46
196	12/12/2001	Whites Creek	Ewing north	Steve Wall	Dissolved Oxygen 103.7	9:40	1	8.14	12.8	3	451	0	0	0.77	0.3
197	12/12/2001	Whites Creek	Ewing south	Steve Wall	Dissolved Oxygen 115.4	9:55	0.5	8.1	13.8	0	729	1	0	1.32	0.35
198	12/12/2001	Whites Creek	Ewing	Steve Wall	Dissolved Oxygen 104.8	10:15	0	8.1	13.2	2	534	3	0	0.96	0.29
191	12/19/2001	Mill Creek	Sevenmile east	Steve Wall	Dissolved Oxygen 106.5	8:30	3	7.75	11.1	6	387	0	0	2.02	0.3
192	12/19/2001	Mill Creek	Sevenmile w.(Brentwood branch)	Steve Wall	Dissolved Oxygen 98.9	8:30	2	7.47	10.3	6	384	1	0	2.1	0.41
193	12/19/2001	Mill Creek	Sevenmile	Steve Wall	Dissolved Oxygen 98.8	8:55	0	8.34	10.5	5	356	2	0	1.9	0.38
199	2/6/2002	Richland Creek	Sugatree south	Steve Wall	D.O. 89.9	9:00	0	7.87	7.1	7	432	0	0	1.56	0.2
200	2/6/2002	Richland Creek	Sugartree	Steve Wall	D.O. 81.2	9:15	0	7.56	8.1	4	426	1	0	3.94	0.14

Appendix D
Ambient Monitoring
November 1, 2000 - June 30, 2003

Incident No.	Date	Fecal Strep (mg/L)	Fecal Coliform Colonies/100ml	Total Phosphorus (mg/L)	Dissolved Phosphorus (mg/L)	Total Ammonia Nitrogen (mg/L)	TKN (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Nickel (mg/L)	Zinc (mg/L)	Total Nitrogen (mg/L)
139	12/6/2000	270	160	0.95	0.57	0	0	0	0	0	0.01	0	1.28
140	12/6/2000	140	220	0.42	0.23	0	2.89	0	0	0	0	0	3.76
141	12/13/2000	70	100	0.14	0.14	0.4	0	0	0	0	0	0	0.05
142	12/13/2000	80	340	0.15	0.15	0	3.9	0	0	0	0	0	3.96
143	12/13/2000	700	290	0.11	0.11	0	0	0	0	0	0	0	0.21
144	12/20/2000	1100	370	0.38	0.34	0	0	0	0	0	0	0	2.72
145	12/20/2000	300	45	0.36	0.3	0	0	0	0	0	0	0	3.1
146	12/20/2000	800	90	0.34	0.32	0	0	0	0	0	0	0	3.03
147	2/7/2001	110	0	0.25	0.23	0.54	0	0	0	0	0	0	2.36
148	2/7/2001	700	140	0.29	0.24	0.34	0	0	0	0	0	0	1.65
149	2/14/2001	5000	3100	0.85	0.18	0.47	0	0	0	0	0.018	0.014	0.85
150	2/14/2001	130000	3300	2.01	0.51	0.4	1.21	0.017	0.014	0	0.022	0.057	2.21
151	2/14/2001	90000	6760	2.51	0.45	0.54	2.08	0.013	0.011	0	0.02	0.039	2.73
152	2/21/2001	1700	310	0.24	0.13	0.34	0	0	0	0	0	0	2.69
153	2/21/2001	240	117	0.25	0.15	0	0	0	0	0	0.01	0	2.65
154	2/21/2001	300	144	0.28	0.13	0	0	0	0	0	0	0	2.75
155	4/3/2001	23	19	0.42	0.3	0	0	0	0	0	0	0	0.482
156	4/3/2001	170	130	0.45	0	0.47	0	0	0	0	0	0	1.031
157	4/10/2001	80	50	0.8	0	0.54	0	0	0	0	0	0	0.11
158	4/10/2001	110	150	0.61	0.053	0	0	0	0	0	0	0	0.11
159	4/10/2001	170	18	0.62	0.15	0	0	0	0	0	0	0	0.057
160	4/17/2001	350	840	1.37	0	0	0	0	0.012	0	0.011	0.038	1.46
161	4/17/2001	220	540	0.67	0.02	0	1	0	0.015	0	0	0	1.04
162	4/17/2001	280	820	0.63	0.32	0	0	0	0.013	0	0.011	0	1.56
163	6/6/2001	1600	5800	0.25	0.12	0.47	0	0	0	0	0	0	1.2
164	6/6/2001	1600	354	0.4	0.33	0.34	0	0	0.012	0	0	0	1.68
165	6/13/2001	237	242	0.32	0.2	0	0	0	0.011	0	0	0	0.49
166	6/13/2001	880	800	0.22	0.16	0	0	0	0.01	0	0	0	0.59
167	6/13/2001	268	1020	0.4	0.16	0	0	0	0	0	0	0	0.47
168	6/20/2001	1910	3570	0.49	0.49	0	0	0	0.012	0	0	0	1.18
170	6/20/2001	1360	1530	0.5	0.5	0	0	0	0	0	0	0	1.52
171	6/20/2001	900	1900	0.64	0.49	0	0	0	0	0	0	0	1.49
173	8/1/2001	5000	860	0.27	0.27	0.61	0	0.026	0.021	0	0	0.024	0.36
174	8/1/2001	600	2000	0.54	0.43	0.67	0	0.028	0.018	0	0	0.027	0
175	8/8/2001	880	1130	0.12	0.03	0	0	0.028	0.015	0	0	0.026	0.39
176	8/8/2001	460	1180	0.084	0.027	0	0	0.028	0.015	0	0	0.024	0.23
177	8/8/2001	9800	85000	0.15	0.027	0	0	0.028	0.015	0	0	0.032	0.5
180	8/15/2001	800	4100	0.15	0.13	0	0	0	0.011	0.015	0	0.024	1.14
181	8/15/2001	580	1020	0.2	0.2	0	0	0	0	0.014	0	0.027	0.87
182	8/15/2001	520	2530	0.18	0.18	0	0	0	0	0.014	0	0.026	1.59
183	10/3/2001	600	960	0.024	0	0.34	0	0	0	0	0	0.013	0.14
184	10/3/2001	411	280	0.059	0.015	0.54	0	0	0	0	0	0.008	0.42
185	10/10/2001	240	110	0.097	0.052	0.34	0	0	0	0	0.01	0.013	0.388
186	10/10/2001	480	900	0.099	0.022	0.34	0	0	0	0	0	0.008	0.23
187	10/10/2001	143	500	0.088	0.063	0.34	0	0	0	0	0	0	0.48
188	10/17/2001	255	319	0.089	0.056	0	0	0	0.042	0	0	0.008	0.74
189	10/17/2001	460	800	0.037	0.037	0	0	0	0.013	0	0	0.009	1.02
190	10/17/2001	600	520	0.048	0.034	0	0	0	0.01	0	0	0.01	1.13
194	12/5/2001	500	540	0.04	0.04	0	0	0	0.029	0.028	0	0.05	1.05
195	12/5/2001	1300	105	0.02	0.02	0	0	0	0.023	0.012	0	0.04	1.59
196	12/12/2001	900	460	0	0	0	0	0	0.019	0.018	0.016	0.056	0.77
197	12/12/2001	1700	5300	0.01	0.01	0	0	0	0.011	0.012	0	0.053	1.32
198	12/12/2001	5000	1170	0	0	0	0	0	0.01	0	0	0.049	0.96
191	12/19/2001	1400	264	0	0	0	0	0.012	0	0	0	0.021	2.02
192	12/19/2001	1700	420	0	0	0.49	0	0.01	0	0	0	0.018	2.59
193	12/19/2001	1300	170	0	0	0	0	0.012	0	0	0	0.036	1.9
199	2/6/2002	84	103	0.01	0	0	0	0.06	0.025	0	0	0.012	1.56
200	2/6/2002	110	185	0.04	0	1.19	0	0.056	0.019	0	0	0.018	3.94

Appendix D
Ambient Monitoring
November 1, 2000 - June 30, 2003

Incident No.	Date	Watershed	Site ID	Personnel	Visual Observations	Time	Velocity	pH	Temp	TSS (mg/L)	TDS (mg/L)	BOD5 (mg/L)	COD (mg/L)	Nitrate+Nitrite Nitrogen (mg/L)	Fluoride (mg/L)
201	2/13/2002	Whites Creek	Ewing north	Steve Wall	D.O. 108.8	9:00	0.75	8.3	6.8	2	411	1	0	0.42	0.13
202	2/13/2002	Whites Creek	Ewing south	Steve Wall	D.O. 130	9:15	0.5	8.5	7.7	2	655	1	0	1.14	0.13
203	2/13/2002	Whites Creek	Ewing	Steve Wall	D.O. 97	9:30	0.1	8.4	6.5	5	465	3	0	0.59	0.12
204	2/20/2002	Mill Creek	Sevenmile	Steve Wall	D.O. 9.6	9:30	0	8	12.9	19	236	3	0	1.19	0.28
205	2/20/2002	Mill Creek	Sevenmile east	Steve Wall	D.O. 10	9:00	2	7.75	11.9	15	256	1	0	1.27	0.28
206	2/20/2002	Mill Creek	Sevenmile w.(Brentwood branch)	Steve Wall	D.O. 10.8	9:15	1	8	11.9	169	319	2	0	1.07	0.34
209	4/10/2002	Whites Creek	Ewing north	Steve Wall		11:00	1	8.6	13.9	0	399	0	0	0.18	0.3
210	4/10/2002	Whites Creek	Ewing south	Steve Wall		11:10	0.5	8.5	16.2	1	594	0	5	0.23	0.37
211	4/10/2002	Whites Creek	Ewing	Steve Wall		11:30	0.13	8.5	14.9	4	356	6	9	0.088	0.31
212	4/17/2002	Mill Creek	Sevenmile east	Steve Wall		1:10	3	8.18	22.8	4	304	4	10	0.59	0.34
213	4/17/2002	Mill Creek	Sevenmile w.(Brentwood branch)	Steve Wall		1:20	1	8.52	23.5	1	353	0	4	0.86	0.41
214	4/17/2002	Mill Creek	Sevenmile	Steve Wall		1:35	0.3	8.85	24.6	3	290	2	19	0.91	0.42
207	4/30/2002	Richland Creek	Sugartree	Sonia Harvat	Clear & cool, rained previous night D.O. 12.2	9:30	0	8.12	12.6	0	319	0	0	1.97	0.37
208	4/30/2002	Richland Creek	Sugatree south	Sonia Harvat	Clear & cool Rained previous night D.O. 11.87	9:40	0	8.01	13.6	4	394	1	0	1.5	0.33
215	8/7/2002	Richland Creek	Sugatree south	SW		9:40	0.1	8.13	22.7	5	461	2.2	0	0.28	0.57
216	8/7/2002	Richland Creek	Sugartree	SW		10:05	0.1	7.6	21.5	1	433	0	69	0.93	0.4
217	8/14/2002	Whites Creek	Ewing north	SW		13:30	0.1	8.49	26.2	9	418	0	0	0.13	0.35
218	8/14/2002	Whites Creek	Ewing south	SW		13:20	0.1	8.35	25.9	16	589	0	0	0.09	0.43
219	8/14/2002	Whites Creek	Ewing	SW		13:40	0.1	7.99	28.1	13	416	2	0	0.08	0.36
220	8/21/2002	Mill Creek	Sevenmile east	SW		10:25	0.4	8.1	25.4	3	388	0	0	0.38	0.44
221	8/21/2002	Mill Creek	Sevenmile w.(Brentwood branch)	SW		10:50	0.4	8.1	25.2	1	353	2	0	0.48	0.51
222	8/21/2002	Mill Creek	Sevenmile	SW		11:00	0.2	8	25.6	1	353	2	0	1.27	0.53
226	10/2/2002	Richland Creek	Sugatree south	SW		9:20	1	7.8	22.6	4	447	4	0	0.2	0.44
227	10/2/2002	Richland Creek	Sugartree	SW		9:40	0.75	7.54	21	1	405	3	0	1.6	0.38
228	10/9/2002	Whites Creek	Ewing north			9:00		8.12	18.4	2	469	0	0	0.2	0.34
229	10/9/2002	Whites Creek	Ewing south			9:10	0	8.17	18.2	2	665	0	0	0.49	0.4
230	10/9/2002	Whites Creek	Ewing	SW		9:30	0	8.06	18.2	6	529	0	0	0.17	0.34
223	10/16/2002	Mill Creek	Sevenmile east	SW		8:30	3	8.06	15.6	6	370	0	11	1.4	0.42
224	10/16/2002	Mill Creek	Sevenmile w.(Brentwood branch)	SW		8:40	2	8.09	15.2	1	380	2	9	1.7	0.35
225	10/16/2002	Mill Creek	Sevenmile	SW		9:10	0.8	8	14.2	14	309	3	5	1.6	0.45
231	12/4/2002	Richland Creek	Sugatree south	SW		10:50	0			28	198	5		0.4	0.23
232	12/4/2002	Richland Creek	Sugartree	SW		11:10	0			14	127	6		0.51	0.18
233	12/11/2002	Whites Creek	Ewing	SM/RD/MS		9:35	0	7.62	8.3	17	310	3		0.77	0.29
235	12/11/2002	Whites Creek	Ewing north	SM/RD/MS		10:05	0	7.7	8.1	10	285	3		0.89	0.29
236	12/19/2002	Mill Creek	Sevenmile	SM		8:55	0	7.84	13	3	346	0		1.7	0.39
237	12/19/2002	Mill Creek	Sevenmile w.(Brentwood branch)	SM		9:50	0	7.87	12.6	0	389	0		1.6	0.42
238	12/19/2002	Mill Creek	Sevenmile east	SM		10:05	0	8.01	12.06	4	377	0		1.6	0.32
239	2/5/2003	Richland Creek	Sugatree south	SM/SW		10:00	0	8.3		7	415	4		1.2	0.36
240	2/5/2003	Richland Creek	Sugartree	SW		10:30	0	8.2		0	380	3		1.1	0.41
241	2/12/2003	Whites Creek	Ewing	SM & SW		10:45	0	8.09	7.2	0	494	2		0.5	0.3
242	2/12/2003	Whites Creek	Ewing south	SM & SW		10:30	0	8.03	8.2	5	693	2		0.5	0.38
243	2/12/2003	Whites Creek	Ewing north	SM & SW		10:20	0	8.12	6.8	0	448	0		1.2	0.3
244	2/19/2003	Mill Creek	Sevenmile east	SM & SW		10:20	0	7	11.1	16	321	0		2.3	0.32
245	2/19/2003	Mill Creek	Sevenmile w.(Brentwood branch)	SM & SW		10:30	0	7	11	3	349	2		2.3	0.4
246	2/19/2003	Mill Creek	Sevenmile	SM & SW		11:00	0	7.3	11.5	1	310	0		2.9	0.4
247	4/9/2003	Richland Creek	Sugatree south	SM & VW		10:00	0	7.82	12.6	4	388	4		1.4	0.36
248	4/9/2003	Richland Creek	Sugartree	SM & VW		10:20	0	7.71	12.5	3	347	3		1.2	0.41
250	4/9/2003	Whites Creek	Ewing	SM & VW		10:58	0	7.82	11.7	4	395	4		0.7	0.34
251	4/9/2003	Whites Creek	Ewing north	SM & VM		11:14	0	7.81	11.7	3	384	3		0.8	0.32
252	4/9/2003	Whites Creek	Ewing south	SM & VW		11:20	0	7.89	12.1	1	566	1		0.9	0.43
253	4/16/2003	Mill Creek	Sevenmile	SM & VW		8:29	0	7.3	11.5	0	353	0		1.2	0.4
254	4/16/2003	Mill Creek	Sevenmile east	SM & VW		9:03	0	7.5	17	0	361	0		0.9	0.35
255	4/16/2003	Mill Creek	Sevenmile w.(Brentwood branch)	SM & VW		9:10	0	7.7	17.3	0	382	0		1.2	0.42
256	6/4/2003	Richland Creek	Sugatree south	SM/KM/DB		7:55	0	7.7	18.4	0	469	0		0.6	0.47
257	6/4/2003	Richland Creek	Sugartree	SM/KM/DB		8:18	0	7.2	18.8	0	365	0		1.1	0.44
258	6/11/2003	Whites Creek	Ewing north	SM / RD		8:05	0	7.7	20.6	1	351	0		0.5	0.28
259	6/11/2003	Whites Creek	Ewing south	SM /RD		8:15	0	7.8	20.6	7	553	0		0.6	0.4
260	6/11/2003	Whites Creek	Ewing	SM / RD		8:30	0	7.7	20.7	10	439	2		0.5	0.32
261	6/18/2003	Mill Creek	Sevenmile	SM / DB		9:28	0	8	22.4	6	334	0		1.2	0.38
262	6/18/2003	Mill Creek	Sevenmile w.(Brentwood branch)	SM / DB		10:00	0	7.7	21.9	6	354	0		0.9	0.33
263	6/18/2003	Mill Creek	Sevenmile east	SM / DB		10:10	0	7.7	22.8	3	397	0		1.2	0.42
256	6/4/2003	Richland Creek	Sugatree south	SM/KM/DB		7:55	0	7.7	18.4	0	469	0		0.6	0.47

Appendix D
Ambient Monitoring
November 1, 2000 - June 30, 2003

Incident No.	Date	Fecal Strep (mg/L)	Fecal Coliform Colonies/100ml	Total Phosphorus (mg/L)	Dissolved Phosphorus (mg/L)	Total Ammonia Nitrogen (mg/L)	TKN (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Nickel (mg/L)	Zinc (mg/L)	Total Nitrogen (mg/L)
201	2/13/2002	110	339	0	0	0	0	0.052	0.015	0	0	0.03	0.42
202	2/13/2002	54	170	0	0	0	0	0.054	0.013	0	0	0.032	1.14
203	2/13/2002	105	118	0	0	0	0	0.054	0.011	0	0	0.031	0.59
204	2/20/2002	1500	2100	0.06	0.06	0	0	0.062	0	0	0	0.025	1.19
205	2/20/2002	1733	520	0.14	0.14	0	0	0.054	0.012	0	0	0.027	1.27
206	2/20/2002	840	900	0.08	0.08	0	0	0.06	0	0	0	0.016	1.07
209	4/10/2002	38	125	0.01	0.01	0	0	0.03	0.026	0	0.04	0.045	0.18
210	4/10/2002	88	175	0.07	0.07	0	0	0.018	0.018	0	0.023	0.039	0.23
211	4/10/2002	54	57	0	0	0	0	0.01	0.016	0	0.027	0.036	0.088
212	4/17/2002	105	155	0.03	0.01	0	0	0	0.016	0	0	0.028	0.59
213	4/17/2002	115	103	0	0	0	0	0	0.015	0	0	0.029	0.86
214	4/17/2002	81	210	0.06	0	0	0	0	0.014	0	0	0.026	0.91
207	4/30/2002	108	80	0	0	0	0	0.029	0.036	0	0.055	0	1.97
208	4/30/2002	105	110	0	0	0	0	0.026	0.022	0	0.041	0	1.5
215	8/7/2002	840	450	0.21	0.2	0.03	0	0.001	0.002	0.007	0	0.014	
216	8/7/2002	1300	280	0.33	0.29	0.06	0	0	0.001	0.006	0	0.014	
217	8/14/2002	760	150	0.21	0.22	0.02	0	0	0.001	0.006	0.003	0.001	
218	8/14/2002	3900	1300	0.18	0.18	0	0	0	0.001	0.005	0.005	0.001	
219	8/14/2002	140	80	0.22	0.22	0.03	0	0	0.001	0.005	0.002	0.016	
220	8/21/2002	720	640	0.4	0.4	0	0	0	0.001	0.004	0.002	0.002	
221	8/21/2002	1000	870	0.39	0.39	0	0	0	0.001	0.004	0.002	0.007	
222	8/21/2002	870	1300	0.32	0.31	0	0	0	0.001	0.004	0.002	0.003	
226	10/2/2002		2600	0.6	0.6	0		0	0	0.018	0.003	0.017	
227	10/2/2002		3800	0.7	0.7	0		0	0	0.016	0.02	0.005	
228	10/9/2002	240	40	0.6	0.6	0		0	0	0.02	0.004	0.002	
229	10/9/2002	860	450	0.5	0.5	0		0	0	0.026	0.008	0.008	
230	10/9/2002	320	310	0.6	0.6	0		0.0005	0	0.023	0.012	0.006	
223	10/16/2002	620	51	1	1	0.02	0	0	0.006	0.006	0	0.01	
224	10/16/2002	730	33	1	1	0.02	0	0	0.007	0.007	0	0.011	
225	10/16/2002	590	54	1	1	0	0	0	0.005	0.007	0	0.001	
231	12/4/2002	18000	5000	0.9	0.9			0.0012	0.01	0.007	0	0.016	
232	12/4/2002	6300	2000	0.9	0.9			0	0.006	0.001	0	0.009	
233	12/11/2002	5700	1500	1.2	1.1			0	0.002	0.013	0.002	0.012	
235	12/11/2002	7500	4500	1.3	1.2			0	0.005	0.018	0.003	0.009	
236	12/19/2002	390	310	0.9	0.9			0	0.01	0.011	0	0.013	
237	12/19/2002	130	1.6	0.9	0.9			0.01	0.011	0.012	0	0.013	
238	12/19/2002	310	45	0.9	0.9			0.001	0.013	0.013	0	0.015	
239	2/5/2003	100	30	0.6	0.6	0		0	0.002	0.011	0	0.018	
240	2/5/2003	99	45	0.6	0.6	0		0	0.001	0.006	0	0.012	
241	2/12/2003	45	55	0.6	0.6	0.2		0	0.004	0.015	0.004	0.022	
242	2/12/2003	36	110	0.6	0.6	0		0	0.004	0.022	0.005	0.018	
243	2/12/2003	18	140	0.6	0.6	0		0	0.004	0.015	0.002	0.012	
244	2/19/2003	82	90	1.1	1.1	0		0.0004	0	0.007	0	0.01	
245	2/19/2003	770	3200	1	1	0		0.0004	0	0.008	0	0.005	
246	2/19/2003	180	470	1.1	1.1	0		0.0004	0.001	0.009	0	0.005	
247	4/9/2003	140	100	0.7	0.7	0		0	0	0.009	0.002	0.015	
248	4/9/2003	500	150	0.8	0.8	0		0	0	0.003	0.002	0.023	
250	4/9/2003	410	250	0.74	0.76	0		0	0	0.003	0.002	0.02	
251	4/9/2003	490	320	0.8	0.8	0		0	0	0.004	0.002	0	
252	4/9/2003	450	170	0.65	0.65	0		0	0	0.013	0.003	0.009	
253	4/16/2003	620	240	1	1	0		0	0.001	0.007	0	0.001	
254	4/16/2003	630	1200	0.9	0.9	0		0	0.001	0.01	0	0.006	
255	4/16/2003	780	140	1	1	0		0	0.004	0.013	0	0.002	
256	6/4/2003	4000	600	0.6	0.6	0		0	0.01	0.013	0	0.001	
257	6/4/2003	1900	2100	0.9	0.9	0		0	0	0.007	0	0.001	
258	6/11/2003	6100	2000	1	1	0.02		0	0.008	0.014	0	0.013	
259	6/11/2003	8600	2500	0.8	0.8	0.02		0	0.008	0.023	0	0.012	
260	6/11/2003	8500	3200	1	1	0		0	0.008	0.02	0	0.021	
261	6/18/2003	2100	2700	0.9	0.9	0.03		0	0	0	0	0	
262	6/18/2003	960	430	0.9	0.9	0.02		0	0	0	0	0	
263	6/18/2003	2500	360	0.9	0.9	0.02		0	0	0	0	0	
256	6/4/2003	4000	600	0.6	0.6	0		0	0.01	0.013	0	0.001	

Appendix D
Ambient Monitoring
November 1, 2000 - June 30, 2003

Incident No.	Date	Watershed	Site ID	Personnel	Visual Observations	Time	Velocity	pH	Temp	TSS (mg/L)	TDS (mg/L)	BOD5 (mg/L)	COD (mg/L)	Nitrate+Nitrite Nitrogen (mg/L)	Fluoride (mg/L)
257	6/4/2003	Richland Creek	Sugartree	SM/KM/DB		8:18	0	7.2	18.8	0	365	0		1.1	0.44
258	6/11/2003	Whites Creek	Ewing north	SM / RD		8:05	0	7.7	20.6	1	351	0		0.5	0.28
259	6/11/2003	Whites Creek	Ewing south	SM /RD		8:15	0	7.8	20.6	7	553	0		0.6	0.4
260	6/11/2003	Whites Creek	Ewing	SM / RD		8:30	0	7.7	20.7	10	439	2		0.5	0.32
261	6/18/2003	Mill Creek	Sevenmile	SM / DB		9:28	0	8	22.4	6	334	0		1.2	0.38
262	6/18/2003	Mill Creek	Sevenmile w.(Brentwood branch)	SM / DB		10:00	0	7.7	21.9	6	354	0		0.9	0.33
263	6/18/2003	Mill Creek	Sevenmile east	SM / DB		10:10	0	7.7	22.8	3	397	0		1.2	0.42
264	8/6/2003	Richland Creek	Sugatree south	SM		8:45	0	7.8	24.8	0	441	0		0.39	0.53
265	8/6/2003	Richland Creek	Sugartree	SM		9:00	0	7.3	23.3	0	358	0		0.84	0.72
266	8/13/2003	Whites Creek	Ewing north	RD/SM		8:52	0	8	24.7	4	357	0		0.19	0.3
267	8/13/2003	Whites Creek	Ewing south	RD/SM		9:00	0	7.9	24.3	0	663	0		0.38	0.32
268	8/13/2003	Whites Creek	Ewing	RD/SM		9:15	0	7.9	24.6	7	503	0		0.26	0.34
269	8/20/2003	Mill Creek	Sevenmile	SM/DB		9:30	0	7.9	25.8	6	524	2		0.47	0.34
270	8/20/2003	Mill Creek	Sevenmile w.(Brentwood branch)	SM/DB		9:40	0	7.9	25.8	2	494	2		0.53	0.47
271	8/20/2003	Mill Creek	Sevenmile east	SM/DB		10:10	0	7.9	26.4	4	388	3		0.63	0.43
272	10/1/2003	Richland Creek	Sugartree	RD/MS		9:15	0	7.04	19.4	6	381	0		1.6	0.36
273	10/1/2003	Richland Creek	Sugatree south	RD/MS		9:30	0	7.42	18.2	0	443	0		0.46	0.48
274	10/8/2003	Whites Creek	Ewing	RD/MS		8:30	0	7.7	18.6	6	535	2		0.02	0.37
275	10/8/2003	Whites Creek	Ewing south	RD/MS		8:15	0	7.9	18.9	4	622	3		0.2	0.44
276	10/8/2003	Whites Creek	Ewing north	RD/MS		8:00	0	7.8	19.7	6	560	4		0.12	0.35
277	10/15/2003	Mill Creek	Sevenmile	RD/MS		8:30	0	7.6	15.8	0	313	0		0.71	0.38
278	10/15/2003	Mill Creek	Sevenmile east	RD/MS		9:00	0	7.5	16.1	0	359	0		0.46	0.36
279	10/15/2003	Mill Creek	Sevenmile w.(Brentwood branch)			9:15	0	7.6	15.8	0	414	0		0.6	0.43
280	12/3/2004	Richland Creek	Sugatree south	RD/MS		9:30	0	7.53	11.7	0	464	0		0.58	0.38
281	12/3/2003	Richland Creek	Sugartree	RD/MS		9:44	0	7.22	13.7	0	351	0		1.42	0.34
282	12/10/2003	Whites Creek	Ewing	RD/MS		9:30	0	8.32	12.6	26	347	2		0.38	0.28
283	12/10/2003	Whites Creek	Ewing north	RD/MS		9:45	0	8.41	12.8	48	397	2		0.68	0.33
284	12/10/2003	Whites Creek	Ewing south	RD/MS		10:00	0	8.41	12.3	56	416	2		0.36	0.31
285	12/17/2003	Mill Creek	Sevenmile w.(Brentwood branch)	RD/DB		9:20	0	7.87	7.5	1	411	0		0.94	0.47
286	12/17/2003	Mill Creek	Sevenmile east	RD/DB		9:15	0	8.5	8.1	0	404	0		1.03	0.37
287	12/17/2003	Mill Creek	Sevenmile	RD/DB		10:00	0	8.48	7.4	1	361	0		1.31	0.42
288	2/4/2004	Richland Creek	Sugartree	RD/PW		9:00	0	8.3	6.7	0	327	0		1.16	0.44
289	2/4/2004	Richland Creek	Sugatree south	RD/PW		9:30	0	9.5	6.6	1	365	0		0.82	0.37
290	2/11/2004	Whites Creek	Ewing north	RD/PW		9:00	0	8.8	8.6	0	382	0		0.98	0.33
291	2/11/2004	Whites Creek	Ewing south	RD/PW		9:15	0	8.2	7.3	0	569	0		0.68	0.42
292	2/11/2004	Whites Creek	Ewing	RD/PW		9:30	0	7.7	6.9	0	415	0		0.75	0.31
293	2/18/2004	Mill Creek	Sevenmile east	RD/PW		8:45	0	9.3	8	1	340	0		1.3	0.32
294	2/18/2004	Mill Creek	Sevenmile w.(Brentwood branch)	RD/PW		9:00	0	8.8	6.5	0	381	0		1.4	0.4
295	2/18/2004	Mill Creek	Sevenmile	RD/PW		9:15	0	8	8	4	340	0		1.4	0.38
296	4/7/2004	Richland Creek	Sugartree	RD	E. coli:120	9:45	0	8.01	15.8	2	320	0		0.93	0.34
297	4/7/2004	Richland Creek	Sugatree south	RD	E.coli: 300	10:00	0	8.34	14.7	0	361	0		0.09	0.39
298	4/14/2004	Whites Creek	Ewing	RD/MS	E.coli: 380	9:45	0	8.8	9.6	4	354	0		0.71	0.3
299	4/14/2004	Whites Creek	Ewing south		E.coli: 900	9:30	0	8.5	9.6	4	526	0		0.85	0.4
300	4/14/2004	Whites Creek	Ewing north	RD/MS	E.coli: 900	9:15	0	8.9	8.4	4	359	0		0.84	0.84
302	4/21/2004	Mill Creek	Sevenmile	RD/MS	E.coli: 390	10:00	0	8	19.4	1	346	0		1.2	0.34
303	4/21/2004	Mill Creek	Sevenmile east	RD/MS	E.coli: 290	10:30	0	7.9	18.5	1	350	0		0.9	0.32
304	4/21/2004	Mill Creek	Sevenmile w.(Brentwood branch)	RD/MS	E.coli: 360	10:35	0	7.9	17	2	364	0		0.9	0.37
305	6/2/2004	Richland Creek	Sugartree	RD/PW	E. coli: 1500	9:00	0	7.02	20.4	1	420	0		1.37	0.37
306	6/2/2004	Richland Creek	Sugatree south	RD/PW	E. coli: 1300	9:15	0	7.56	20.6	1	420	0		0.87	0.35
307	6/9/2004	Whites Creek	Ewing	RD/JH	E.coli: 380	9:30	0	7.7	22.5	2	459	0		0.21	0.33
308	6/9/2004	Whites Creek	Ewing north	RD/JH	E.coli: 1700	9:16	0	7.8	22.2	4	456	0		0.29	0.32
309	6/9/2004	Whites Creek	Ewing south	RD/JH	E.coli: 540	9:09	0	7.8	22.3	0	546	0		0.3	0.44
310	6/16/2004	Mill Creek	Sevenmile east	RD/JH	E.coli: 1100	9:15	0	7.6	22.6	6	388	0		1.05	0.35
311	6/16/2004	Mill Creek	Sevenmile w.(Brentwood branch)	RD/JH	E.coli: 450	9:20	0	7.6	22.4	2	379	0		1.44	0.4
312	6/16/2004	Mill Creek	Sevenmile	RD/JH	E.coli: 500	9:45	0	7.9	23	3	356	0		1.11	0.42
313	8/4/2004	Richland Creek	Sugartree	JH/PW	E.coli:270	10:15	0	7	24.7	4	374	0		0.55	0.5
314	8/4/2004	Richland Creek	Sugatree south	JH/PW	E.coli:950	10:45	0	7.4	25.3	2	490	0		0.31	0.65
315	8/11/2004	Whites Creek	Ewing	JH/MS	E.coli: 210	8:57	0	7.8	21.5	3	517	0		0.16	0.41
316	8/11/2004	Whites Creek	Ewing north	JH/MS	E.coli: 81	8:40	0	7.8	23.2	1	487	0		0.22	0.38
317	8/11/2004	Whites Creek	Ewing south	JH/MS	E.coli: 450	8:47	0	7.9	21.7	1	551	0		0.37	0.49
318	8/18/2004	Mill Creek	Sevenmile	JH/DB	E.coli: 640	9:40	0	8	19.6	0	356	0		0.91	0.47
319	8/18/2004	Mill Creek	Sevenmile east	JH/DB	E.coli: 570	9:15	0	8	19.6	1	371	0		0.66	0.39
320	8/14/2004	Mill Creek	Sevenmile w.(Brentwood branch)	JH/DB	E.coli: 3800	10:16	0	8.1	19.3	3	380	0		0.66	0.44

Appendix D
Ambient Monitoring
November 1, 2000 - June 30, 2003

Incident No.	Date	Fecal Strep (mg/L)	Fecal Coliform Colonies/100ml	Total Phosphorus (mg/L)	Dissolved Phosphorus (mg/L)	Total Ammonia Nitrogen (mg/L)	TKN (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Nickel (mg/L)	Zinc (mg/L)	Total Nitrogen (mg/L)
257	6/4/2003	1900	2100	0.9	0.9	0		0	0	0.007	0	0.001	
258	6/11/2003	6100	2000	1	1	0.02		0	0.008	0.014	0	0.013	
259	6/11/2003	8600	2500	0.8	0.8	0.02		0	0.008	0.023	0	0.012	
260	6/11/2003	8500	3200	1	1	0		0	0.008	0.02	0	0.021	
261	6/18/2003	2100	2700	0.9	0.9	0.03		0	0	0	0	0	
262	6/18/2003	960	430	0.9	0.9	0.02		0	0	0	0	0	
263	6/18/2003	2500	360	0.9	0.9	0.02		0	0	0	0	0	
264	8/6/2003	2500	820	1	1	0		0.0008	0.002	0	0.001	0	
265	8/6/2003	730	820	0.6	0.6	0		0	0.001	0.001	0.001	0	
266	8/13/2003	320	140	0.8	0.8	0		0	0	0.001	0	0	
267	8/13/2003	2600	1200	0.7	0.7	0		0.0004	0	0.001	0.001	0	
268	8/13/2003	960	730	0.8	0.8	0		0	0	0.001	0.002	0	
269	8/20/2003	1100	240	1.1	1.1	0		0	0.006	0.001	0.001	0.003	
270	8/20/2003	830	300	1.1	1.1	0		0	0.012	0.001	0.002	0.005	
271	8/20/2003	500	320	1	1	0		0	0.008	0.001	0.001	0.007	
272	10/1/2003	820	1200	0.9	0.9	0		0	0.005	0	0	0.006	
273	10/1/2003	760	1500	0.6	0.6	0		0	0.005	0	0	0.009	
274	10/8/2003	250	140	0.7	0.7	0		0	0	0	0	0	
275	10/8/2003	260	120	0.6	0.6	0		0	0	0	0	0	
276	10/8/2003	140	63	0.7	0.7	0		0	0	0	0	0	
277	10/15/2003	3500	1500	1	1	0		0	0	0	0	0	
278	10/15/2003	2000	600	1	1	0		0	0	0	0	0	
279	10/15/2003	4300	1100	1	1	0		0	0	0	0	0	
280	12/3/2004	210	91	0.6	0.6	0		0	0	0	0	0.004	
281	12/3/2003	230	1200	1	1	0		0	0	0	0	0.003	
282	12/10/2003	5600	1600	1.2	1.2	0		0	0	0.002	0	0.002	
283	12/10/2003	6700	1300	1.6	1.6	0		0	0	0.002	0	0.001	
284	12/10/2003	6500	2000	1.4	1.4	0		0	0	0.002	0	0.002	
285	12/17/2003	240	240	0.9	0.9	0		0	0.002	0	0	0.001	
286	12/17/2003	110	80	0.8	0.8	0		0	0	0	0	0.001	
287	12/17/2003	220	200	1	1	0		0	0	0	0	0.001	
288	2/4/2004	170	54	0.6	0.6	0		0	0.003	0.001	0	0.004	
289	2/4/2004	500	99	0.6	0.6	0		0	0.004	0.001	0	0.006	
290	2/11/2004	210	100	0.7	0.7	0		0	0.001	0	0	0.008	
291	2/11/2004	72	90	0.5	0.5	0		0	0.001	0	0	0.004	
292	2/11/2004	99	73	0.5	0.5	0		0	0.001	0	0	0.016	
293	2/18/2004	110	60	1	1	0		0	0.001	0	0	0.006	
294	2/18/2004	77	150	0.7	0.7	0		0	0.002	0	0	0.012	
295	2/18/2004	54	90	1.1	1.1	0		0	0.001	0	0	0.008	
296	4/7/2004	310	190	0.8	0.8	0.04		0	0	0	0	0.023	
297	4/7/2004	230	300	0.4	0.4	0.04		0	0.002	0.001	0	0	
298	4/14/2004	1000	590	0.8	0.8	0		0	0.001	0.001	0	0.004	
299	4/14/2004	2100	1200	0.7	0.7	0		0	0	0.002	0.001	0.006	
300	4/14/2004	1200	900	0.8	0.7	0		0	0	0.002	0	0.01	
302	4/21/2004	910	390	1	1	0.03		0	0	0	0	0.004	
303	4/21/2004	340	290	0.8	0.8	0.02		0	0	0	0	0.004	
304	4/21/2004	630	360	0.9	0.9	0.02		0	0	0	0	0.006	
305	6/2/2004	2800	1500	0.9	0.9	0		0	0.001	0	0	0	0
306	6/2/2004	1700	1300	0.9	0.9	0		0	0.001	0	0	0	
307	6/9/2004	700	380	0.8	0.8	0		0	0.001	0	0	0.002	
308	6/9/2004	2100	1700	1	1	0		0	0.014	0.003	0	0	
309	6/9/2004	540	540	0.9	0.9	0		0	0	0	0	0.002	
310	6/16/2004	3500	1400	0.9	0.9	0		0	0	0	0	0	
311	6/16/2004	2600	700	0.9	0.9	0		0	0	0	0	0	
312	6/16/2004	1700	820	0.9	0.9	0		0	0	0	0	0.003	
313	8/4/2004	4500	410	0.8	0.8	0.06		0	0.002	0	0.002	0.004	
314	8/4/2004	1200	1300	0.5	0.5	0.06		0	0.004	0.001	0	0.002	
315	8/11/2004	670	310	0.6	0.6	0		0	0	0	0	0.003	
316	8/11/2004	380	140	0.6	0.6	0		0	0	0	0	0.004	
317	8/11/2004	2500	580	0.5	0.5	0		0	0	0	0	0.005	
318	8/18/2004	2500	640	0.8	0.8	0		0	0.002	0	0.002	0.01	
319	8/18/2004	2600	680	0.9	0.9	0		0	0.004	0	0.002	0.008	
320	8/14/2004	2800	3800	0.7	0.7	0		0	0.002	0	0.002	0.006	

Appendix E
Industrial Inspections
November 1, 2000 - June 30, 2003

Facility Name	Industrial Type	Primary SIC Description	Date of Inspection	Priority
AEROSTRUCTURES CORP.	SARA T3	Aircraft Parts And Auxiliary Equipment, Not Elsewhere Classified		
AFL WIRE PRODS. NASHVILLE	SARA T3	Drawing And Insulating Of Nonferrous Wire	9/22/04	
AFL WIRE PRODS. NASHVILLE	SARA T3	Drawing And Insulating Of Nonferrous Wire	9/22/04	
ALADDIN TEMP-RITE	SARA T3	Plastics Products, Not Elsewhere Classified		
BP NASHVILLE TERMINAL	SARA T3	Petroleum Bulk Stations And Terminals		
BRUCE HARDWOOD FLOORING L.P. NASHVILLE PLANT	SARA T3/Sust. Loader	Hardwood Dimension And Flooring Mills		
CONE SOLVENTS INC.	SARA T3	Chemicals And Allied Products, Not Elsewhere Classified		
A. SCHULMAN INC. NASHVILLE PLANT	SARA T3	Custom Compounding Of Purchased Plastics Resins		
CUMBERLAND TERMINALS INC.	SARA T3	Petroleum Bulk Stations And Terminals		
DU PONT OLD HICKORY PLANT	SARA T3	Non-woven Fabrics		
ERGON TERMINALING INC. NASHVILLE	SARA T3	Asphalt Paving Mixtures And Blocks		
EXXON MOBIL CORP. NASHVILLE TERMINAL	SARA T3	Petroleum Bulk Stations And Terminals		
FERRO CORP.	SARA T3	Paints, Varnishes, Lacquers, Enamels, And Allied Products		
HARCROS CHEMICALS INC.	SARA T3	Chemicals And Allied Products, Not Elsewhere Classified		
IBP INC. GOOGLETTSVILLE	SARA T3	Sausages And Other Prepared Meat Products		
IMPERIAL ADHESIVES INC.	SARA T3	Adhesives And Sealants		
KEY OIL CO.	SARA T3	Petroleum Bulk Stations And Terminals		
MARATHON ASHLAND PETROLEUM L.L.C.	SARA T3	Petroleum Bulk Stations And Terminals	08/26/04	09/30/04
MARCUS PAINT CO.	SARA T3	Paints, Varnishes, Lacquers, Enamels, And Allied Products	07/26/04	08/30/04
MEGUIAR'S INC.	SARA T3	Specialty Cleaning, Polishing, And Sanitation Preparations		
MID SOUTH WIRE	SARA T3	Coating, Engraving, And Allied Services, Not Elsewhere Classified		
NASHVILLE CHEMICAL & EQUIPMENT CO. INC.	SARA T3	Inorganic Pigments		
NASHVILLE WIRE PRODS.	SARA T3	Electroplating, Plating, Polishing, Anodizing, And Coloring		
NORTH AMERICAN COMPOSITES	SARA T3	Chemicals And Allied Products, Not Elsewhere Classified		
NORTH AMERICAN GALVANIZING CO. NASHVILLE	SARA T3	Coating, Engraving, And Allied Services, Not Elsewhere Classified	07/26/04	09/01/04
ODOM'S TENNESSEE PRIDE SAUSAGE INC.	SARA T3	Meat Packing Plants		
OUIMET CORP.	SARA T3	Coated Fabrics, Not Rubberized		
PERFECTION MOULDERS INC.	SARA T3	Aluminum Foundries		
PETERBILT MOTORS CO.	SARA T3	Motor Vehicles And Passenger Car Bodies		
PURINA MILLS L.L.C.	SARA T3	Prepared Feeds And Feed Ingredients For Animals And Fowls, Except		
PURITY DAIRIES INC.	SARA T3	Ice Cream And Frozen Desserts		
QUEBECOR WORLD RETAIL GROUP	SARA T3	Commercial Printing, Lithographic		
RHODIA INC.	SARA T3	Industrial Inorganic Chemicals, Not Elsewhere Classified		
SAFETY-KLEEN (WT) INC./CLEAN HARBORS	SARA T3/TSD	Refuse Systems		
SPRINGS INDS. INC. BATH FASHIONS DIV.	SARA T3	Carpets And Rugs	6/03/04	12/30/04
U.S. SMOKELESS TOBACCO MFG. L.P.	SARA T3	Chewing And Smoking Tobacco And Snuff		
VISTEON CORP. NASHVILLE GLASS PLANT	SARA T3	Flat Glass		
WARREN PAINT & COLOR CO.	SARA T3	Paints, Varnishes, Lacquers, Enamels, And Allied Products		
WHIRLPOOL CORP.	SARA T3	Air-conditioning And Warm Air Heating Equipment And Commercial		
SAFETY-KLEEN CORP. 3-109-01	TSD	Refuse Systems		
THERMAL ASH PHASE 3	Landfill			
APAC NASHVILLE CITY ASPHALT PLANT	SARA T3	Asphalt Paving Mixtures And Blocks		
ASHLAND DISTRIBUTION CO.	SARA T3	Chemicals And Allied Products, Not Elsewhere Classified		
IKG INDS	SARA T3	Architectural And Ornamental Metal Work		
KOHL & MADDEN	SARA T3	Printing Ink		
NASHVILLE TN TERMINAL	SARA T3			
REDDY ICE NASHVILLE	SARA T3	Manufactured Ice	7/14/04	07/30/04
NATIONAL PAINT & COATINGS CO.	SARA T3	Paints, Varnishes, Lacquers, Enamels, And Allied Products		
SERVICE PAINT & COATINGS CO. INC.	SARA T3	Paints, Varnishes, Lacquers, Enamels, And Allied Products		
THOMAS NELSON INC.	SARA T3	Books: Publishing, Or Publishing And Printing		