

TDEC Small MS4 Annual Report
July 1, 2005 – June 30, 2006
Report due September 30, 2006

Permittee Tracking No. TNS 075582

Permittee Name: Knox County MS4, Knox County, Tennessee

This report must be signed by a ranking elected official or by a duly authorized representative of that person. See signatory requirements in part 6.7 of the small MS4 general permit.

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

Signed

Dated

Mike Ragsdale, Knox County Mayor

Printed Name and Title

Send the annual report to the two addresses shown on the next page.

**Submit your annual report to the Environmental Assistance Center
for your county as shown in the map below *and* to the following
address:**

**Chris Moran
Tennessee Division of Water Pollution Control
L&C Annex, 6th Floor
401 Church Street
Nashville, TN 37243-1534**

**Tennessee Department of Environment and Conservation
Environmental Assistance Center Boundaries
1-888-891-TDEC**

Jackson EAC (J)
362 Carriage House Drive
Jackson, TN 38305-2222
fax 731-661-6283

731-512-1300

*WPC Mgr - Pat Patrick
EAC Mgr - Rudy Collins
Env Coord - Vaughn Cassidy
Administrator - Carol Pollan*

Nashville EAC (N)
711 R.S. Gass Boulevard
Nashville, TN 37243
fax 615-687-7078

615-687-7000

*WPC Mgr - Joe Holland
EAC Mgr - Brenda Apple
Env Coord - Charles Jobe
Administrator - Steve Janes*

Cookeville EAC (CK)
1221 South Willow Avenue
Cookeville, TN 38506
fax 931-432-6952

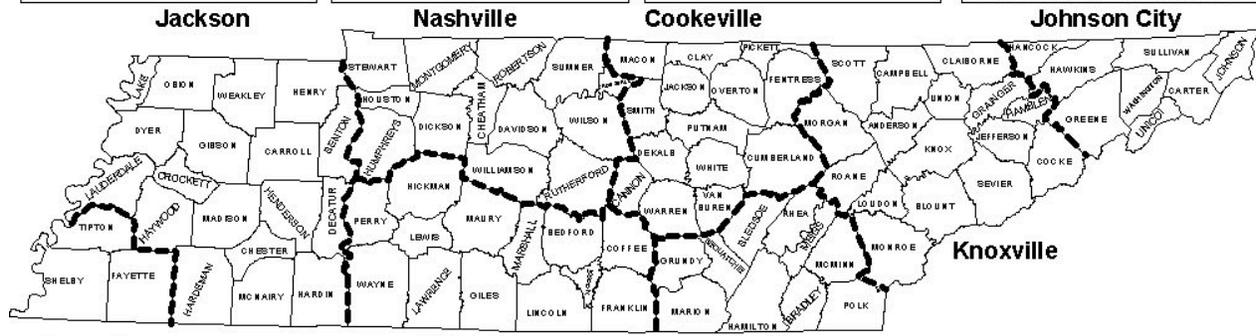
931-432-4015

*WPC Mgr - Fran Baker
EAC Mgr - Jimmy Lee Clark
Env Coord - John Bowers
Administrator - D. Jan Tollett*

Johnson City EAC (JC)
2305 Silverdale Road
Johnson City, TN 37601-2162
fax 423-854-5401

423-854-5400

*WPC Mgr - Andrew Tolley
EAC Mgr - Mark Braswell
Env Coord - Janice Bowers
Administrator - Larna Smith*



Memphis EAC (M)
Suite E-645, Perimeter Park
2510 Mount Moriah Road
Memphis, TN 38115-1520
fax 901-368-7879

901-368-7939

*WPC Mgr - Terry Templeton
EAC Mgr - Jim Chaney
Env Coord - Vaughn Cassidy
Administrator - Bill Relker*

Columbia EAC (CL)
2484 Park Plus Drive
Columbia, TN 38401
fax 931-380-3397

931-380-3371

*WPC Mgr - Tim Wilder
EAC Mgr - Joe Holmes
Env Coord - John Bowers
Administrator - Shelia Woodard*

Chattanooga EAC (CH)
Suite 550, State Office Bldg.
540 McCallie Avenue
Chattanooga, TN 37402
fax 423-634-6389

423-634-5745

*WPC Mgr - Richard Urban
EAC Mgr - Stan Boyd
Env Coord -
Administrator - Andra Kelley*

Knoxville EAC (K)
Suite 220, State Plaza
2700 Middlebrook Pike
Knoxville, TN 37921
fax 865-594-6105

865-594-6035

*WPC Mgr - Paul Schmierbach
EAC Mgr - Phil Chambers
Env Coord - Mark Penland
Administrator - Mark Sweet*

RW M c
1/9/03

Table of Contents

I.	Status of Compliance with Permit Conditions (5.4.1) Six Minimum Measures, BMPs and Milestones	1
	A. Status of Compliance with BMP Milestones	1
	B. Status of compliance for <i>amended and replaced BMPs</i>	3
II.	Assessment of the appropriateness of identified BMPs (5.4.1)	5
III.	Progress with respect to MEP and Measurable Goals (5.4.1).....	7
	A. MEP.....	7
	B. Measurable goals.....	7
IV.	Results of Information Collected and Analyzed (5.4.2).....	8
V.	Planned Activities and Proposed Changes to the Storm Water Management Program (5.4.3 and 5.4.4)	9
	A. Storm water activities planned for next reporting cycle	9
	B. Proposed changes to storm water management program.....	11
VI.	Water Quality Controls for Discharges to Impaired Waterbodies (3.1.2)	13
VII.	Protection of Listed Threatened or Endangered Species (3.2)	20
VIII.	Explanation of Amended or Replaced BMPs (from Part I).....	21
IX.	Tracking of measurable goals	29
	Footnotes	34

Status of Compliance with Permit Conditions (5.4.1) Six Minimum Measures, BMPs and Milestones

A. Status of Compliance with BMP Milestones

The following table is designed for you to report the status of your progress in implementing storm water management BMPs. The table includes a list of BMPs by the code number. These BMP codes refer to the BMPs, and the respective codes, that you submitted to us in your NOI. [Or, in annual reports for years 2-5, these codes refer to amended BMPs as you reported to us in the previous year's annual report]. Add rows if you have more than four BMPs; e.g., 1A, 1B, 1C, 1D, 1E, 1F.

Likewise, the milestone refers to the Year 2 milestone that you included in your NOI. [Or, in subsequent annual reports, the milestone refers to the milestone that you reported to us in the previous year's annual report.]

You must check Yes or No for each of the BMPs that you submitted in your NOI.

- Check **Yes** if the BMP is essentially unchanged and you accomplished the milestone. Indicate a date of completion.
- Check **No** if you did not accomplish the milestone. If you check No, and you are not changing or replacing the BMP or the milestones, indicate the date you expect to complete the milestone.
- Check in one of the **Amended** columns if you wish us to recognize an amended BMP or an amended milestone. If you are amending the BMP, most likely you will also need to amend the milestone, and in that case, check both Amended BMP and Amended Milestone. If the BMP is unchanged, but you are changing milestones in subsequent years, check in the Amended Milestones column.
- If you indicate an amended BMP or milestone, then you should check in last column as well, indicating that you describe the amendment below and provide the necessary analysis in Part 0.

BMP Code	Milestone	Yes	No	Date completed or If "No," Date to be completed	Amended/Replaced		An "Amended" response is described below and in Part 0.
					BMP	Milestones	Yes/No
1A	Year 1-5	X		June 2004 (on-going)			
1B	Year 1-5	X		June 2004 (on-going)			
1C	Year 1-5	X		June 2004 (on-going)			
1D	Year 1-5	X		June 2004 (on-going)			
1E	Year 1-5	X		June 2004 (on-going)			
1F	Year 1-5	X		June 2004 (on-going)			
2A	Year 1-5	X		June 2004 (on-going)			

2B	Year 1-5	X	June 2004 (on-going)		
2C	Year 1-5	X	June 2004 (on-going)		
2D	Year 1-5	X	June 2004 (on-going)		
2E	Year 1-5	X	June 2004 (on-going)		
3A	Year 1	X	June 2004 (on-going)		
3A	Year 2	X	June 2005		
3A	Year 3	X	June 2006		
3B	Year 1	X	June 2004 (on-going)		
3B	Year 2	X	June 2005		
3B	Year 3	X	June 2006		
3C	Year 1	X	June 2004 (on-going)		
3C	Year 2	X	June 2005		
3C	Year 3	X	June 2006		
3D	Year 2	X	June 2005	X	Yes
3E	Year 1-4 (on-going)	X	December 2004	X	Yes
4A	Year 1-5	X	June 2004 (on-going)		
4B	Year 1-5	X	June 2004 (on-going)		
4C	Year 2	X	June 2005		
4D	Year 2	X	May 2006		
4E	Year 2	X	June 2005	X	Yes
4F	Year 1-5	X	June 2004 (on-going)	X	Yes
4G	Year 2	X	May 2005		
4G	Year 3	X	June 2006		
4H	Year 1-5	X	June 2004 (on-going)		
5A	Year 1	X	September 2002		
5A	Year 2	X	November 2003		
5A	Year 3	X	November 2004		
5A	Year 4	X	January 2005		

5A	Year 5	X	January 2006			
5B	Year 1-5	X	June 2004 (on-going)			
6A	Year 1	X	February 2004	X	Yes	
6B	Year 1	X	July 2003			
6C	Year 1	X	July 2003			
6D	Year 1	X	December 2004 (on-going)			
6D	Year 2-4	X	July 2006 (on-going)			

B. Status of compliance for amended and replaced BMPs

For every amended/replaced BMP and/or milestone above, provide the compliance status with respect to the new milestone for this year. The new milestones must be detailed in Part VIII.

BMP Code	Milestone	Milestone Description	Yes	No	Date completed or If "No," Date to be completed
1D	Year 1	Promote Tennessee Growth Readiness program, make or facilitate presentations and/or speaker training programs offered in the Knox County area. Continue to aid in TGR program development and refinement as needed.	X		September 2004
3E	Year 1-5	Use information gathered through watershed initiatives (analysis and sampling , BMP 2E), Illicit Discharge Database (BMP 3A), to prioritize and scope an outfall mapping procedure.	X		February 2005 – present (on-going process)
6A	Year 2-5	Knox County will expand and continue Pollution Prevention training for staff	X		June 2005 (on-going)

Explanation for "No" Responses in either table above

BMP Code	Explanation for "No" Response
1D	Although the Tennessee Growth Readiness material has been used in many presentations given during the year, formal presentations and training of presenters has been done by others and was not clearly documented. Knox County has continued to work on fine-tuning and promoting the program.

Go to next page.

Assessment of the appropriateness of identified BMPs (5.4.1)

For every BMP or amended BMP, assess the appropriateness of the BMP in the following table. For the first year annual report, assume “Good” unless you have evidence to support an inappropriate, minimal or superior assessment.

BMP Code	Short title	We consider the listed BMP appropriate to the following degree:			
		Inappropriate	Minimal	Good	Superior
1A	Grading Permit Brochure			X	
1B	Adopt-a-Watershed Program			X	
1C	Water Quality Forum World Wide Web Site			X	
1D	Tennessee Growth Readiness			X	
1E	Grab Bag Programs/Events			X	
1F	Erosion/Sediment Control Training			X	
2A	Water Quality Forum			X	
2B	Adopt-a-Stream			X	
2C	Environmental Stewardship Program			X	
2D	River/Stream Clean-Up (and Awareness) Days			X	
2E	Watershed Initiatives				X
3A	Illicit Discharge Complaint Tracking Database			X	
3B	Non-Stormwater Screening Area Prioritization Map			X	
3C	Illicit Discharge Education for Citizens			X	
3D	Stormwater Ordinance Amendments			X	
3E	Outfall Mapping			X	
4A	Pre-Construction Meetings for Site Development and Capital Improvement Projects			X	
4B	Construction Site Inspections			X	
4C	Buffer Zone Protection			X	
4D	Erosion and Sediment Control Note Required on Design Plans			X	
4E	Stormwater Ordinance Amendments			X	
4F	Erosion and Sediment Control Design Education			X	
4G	Grading Permit Requirements – Tracking Responsible Parties			X	
4H	Complaint Receipt			X	

5A	Knox County Site Planning Roundtable			X		
5B	Environmental Stewardship Program			X		
5C	Stormwater Management Ordinance			X		
6A	Pollution Prevention Training			X		
6B	Salt Storage Facility			X		
6C	Truck Wash Rack			X		
6D	Pollution Prevention Policy			X		

Progress with respect to MEP and Measurable Goals (5.4.1)

Element 5.4.1 requires you to report progress towards achieving the statutory goal of reducing the discharge of pollutants to the maximum extent practicable (MEP)¹, and the measurable goals for each of the minimum control measures.

A. MEP

*Of the [23]² BMPs that comprise our storm water management program in the six minimum measures, we have accomplished Year 3 milestones for [23 of 23]³. This **does** represent substantial progress in achieving the statutory goal of reducing the discharge of pollutants to the MEP.*

B. Measurable goals

Of the [23] BMPs shown above, we have accomplished Year 3 milestones for [23 of 23]. This represents progress toward achieving the measurable goals identified in our original NOI and in this annual report. For the measurable parameters/goals we have been able to track for this past year, the measurements are recorded in Part IX.

Signed

Dated

Mike Ragsdale, Knox County Mayor
Printed Name and Title

Go to next page.

Results of Information Collected and Analyzed (5.4.2)

Element 5.4.2 of the permit requires you to report results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP

A brief summary of information, including analytical and/or non-analytical monitoring results, is listed below. Detailed information is collected and available at the offices of the MS4.

Parameter	Relevant BMP, or Purpose of Information	Conclusions
N/A	N/A	N/A

Go to next page.

Planned Activities and Proposed Changes to the Storm Water Management Program (5.4.3 and 5.4.4)

A. Storm water activities planned for next reporting cycle

Element 5.4.3 requires a summary of the storm water activities you plan to undertake during the next reporting cycle (including an implementation schedule).

The storm water activities planned for the next reporting cycle are the BMPs as reflected in our NOI and as amended (if any) in subsequent annual reports, including this annual report, and are as follows:

BMP Code	Title/Name of BMP	Milestone for next reporting cycle
1A	Grading Permit Brochure	Continue to distribute the brochure
1B	Adopt-a-Watershed Program	Provide financial support equal to or exceeding \$15,000
1C	Water Quality Forum World Wide Web Site	Funding and support of Web site development. A project activity log documenting time, content and financial contributions will be developed.
1D	Tennessee Growth Readiness	Provide support and promotion of the Tennessee Growth Readiness Program. As best as possible, maintain a log of TGR presentations.
1E	Grab Bag Programs/Events	Knox County will document support for the activities listed (in the BMP) or any additional activities.
1F	Erosion/Sediment Control Training	Maintain documentation of staff training and monitor attendance of local offerings of the TDEC ESC class.
2A	Water Quality Forum	Continuation of involvement in Water Quality Forum activities. These activities will be documented by Knox County.
2B	Adopt-a-Stream	Continued support of Adopt-a-Stream by Knox County. The support will be documented in terms of time and financial contributions. Printed and digital media with information about the Adopt-a-Stream program will be maintained by Knox County.
2C	Environmental Stewardship Program	Knox County will continue financial and staff support and make public presentations. Documentation will be made of activities.
2D	River/Stream Clean-Up (and Awareness) Days	Continued support with documentation by Knox County.
2E	Watershed Initiatives	Knox County support of watershed initiatives in one or more Knox County watersheds. Activities and contributions will be documented.
3A	Illicit Discharge Complaint Tracking Database	Provide training for Knox County staff.
3B	Non-Stormwater Screening Area	Maintain map.

	Prioritization Map	
3C	Illicit Discharge Education for Citizens	Implement education tools for citizens on detection and hazards of illicit discharges to stormwater systems.
3D	Stormwater Ordinance Amendments	Verify illicit discharge detection & elimination requirements are met fully in upcoming Stormwater Ordinance revisions.
3E	Outfall Mapping	Continue mapping existing and new outfalls in the Knox County jurisdictional area, with at least 60% coverage complete.
3F	Illicit Discharge Detection	Develop illicit discharge detection program utilizing current field resources (such as Health Dept., & out fall mapping efforts) to locate non-stormwater discharges through the MS4
4A	Pre-Construction Meetings for Site Development and Capital Improvement Projects	Knox County will document pre-construction meetings.
4B	Construction Site Inspections	Continue inspection and maintain documentation in the form of site inspection logs, file memos, or work order files
4C	Buffer Zone Protection	There is no milestone requirement for 2006-2007.
4D	Erosion and Sediment Control Note Required on Design Plans	There is no milestone requirement for 2006-2007.
4E	Stormwater Ordinance Amendments	Verify Stormwater Ordinance revisions recommended following the 2006 audit are fully addressed.
4F	Erosion and Sediment Control Design Education	All Knox County inspection and plans review staff will complete TDEC training (inspectors not required to take Level II) and Knox County will advertise course and coordinate scheduling with TDEC.
4G	Grading Permit Requirements – Tracking Responsible Parties	There is no milestone requirement for 2006-2007.
4H	Complaint Receipt	Knox County will use a database to track and keep records of complaints received from the public. Also, develop and implement a protocol for receiving complaints, inspections, and enforcement.
5A	Knox County Site Planning Roundtable	Knox County will look at ordinance revisions pursuant to Roundtable recommendations.
5B	Environmental Stewardship Program	Knox County will continue financial and staff support and make public presentations. Documentation will be made of activities.
5C	Stormwater Management Ordinance	There is no milestone requirement for 2006-2007.
6A	Pollution Prevention Training	Continue Year 1 milestone.
6B	Salt Storage Facility	There is no milestone requirement for 2006-2007.
6C	Truck Wash Rack	There is no milestone requirement for 2006-2007.
6D	Pollution Prevention Policy	Implement and document a policy to be applied by all departments outlining pollution prevention practices and training protocols.

Additional, significant activities planned for the next reporting cycle are noted below.

Activity	Summary Description	Purpose
N/A	N/A	N/A

B. Proposed changes to storm water management program

Element 5.4.4 requires a report on proposed changes to your storm water management program, including changes to any BMPs or any identified measurable goals that apply to the program elements.

Amended and replacement BMPs (if any) are reflected in Part I.A. and Part VIII, and in the above table and will not be repeated here. Additional, proposed changes are noted below.

Change to Program	Summary Description	Rationale
3D – Stormwater Ordinance Amendments – Yr 4	Verify illicit discharge detection & elimination requirements are met fully in upcoming Stormwater Ordinance revisions.	To ensure all illicit discharge & elimination requirements are met by the upcoming Stormwater Ordinance.
3E - Outfall Mapping – Yr 4	Continue mapping existing and new outfalls in the Knox County jurisdictional area, with at least 60% coverage complete.	The timing and sequence for implementation of this BMP was not clearly delineated in the NOI. This amendment clarifies the process, provides clear milestones and addresses the suggestions made in the 2006 program audit.
3E – Outfall Mapping – Yr 5	Continue mapping existing and new outfalls and obtain complete mapping coverage of the Knox County jurisdictional area.	The timing and sequence for implementation of this BMP was not clearly delineated in the NOI. This amendment clarifies the process, provides clear milestones and addresses the suggestions made in the 2006 program audit.

3F – Illicit Discharge Detection – Yr 4	Continue development and begin implementation of the illicit discharge detection program utilizing current field resources (such as Health Dept., & out fall mapping efforts) and partner agencies (such as local utility districts) to locate non-stormwater discharges through the MS4.	To ensure Knox Co. is using all current field resources to locate and assess non-stormwater discharges through the MS4 and to address suggestions made in the 2006 program audit.
3F – Illicit Discharge Detection- Yr 5	Implement Detection Program.	To ensure Knox Co. is using all current field resources to locate non-stormwater discharges through the MS4 and to address suggestions made in the 2006 program audit.
4E – Stormwater Ordinance Amendments – Yr 4	Verify Stormwater Ordinance revisions recommended following the 2006 audit are fully addressed.	To ensure that Stormwater Ordinance revisions recommended by the 2006 audit are met.
4F – Erosion & Sediment Control Design Education – Yr 4 & 5	All Knox County inspection and plans review staff will complete TDEC training (inspectors are only required to take Level I) and Knox County will advertise course and coordinate scheduling with TDEC.	To clarify that inspectors are only required to take the Level I TDEC class.
6A – Pollution Prevention Training – Yr 4	Continue Yr. 1 milestone- Knox Co. will continue training appropriate staff on procedures, technology, & practices. Knox Co. will document training.	To ensure that appropriate staff are trained on procedures, technology, & practices required for pollution prevention.

Water Quality Controls for Discharges to Impaired Waterbodies (3.1.2)

The table below lists impaired waterbodies affected by discharges from this MS4, the pollutants of concern, and the two BMPs we believe to be the most significant in controlling discharges of these pollutants.

Stream Name	Pollutants	Priority BMP 1	Priority BMP 2
<i>Beaver Creek and Tributaries (Grassy Creek, Meadow Creek, Knob Fork, Hines Branch, etc.)</i>	<i>Siltation, habitat alterations, pathogens, nutrients</i>	4B, Construction Site Inspections	2E, Watershed Initiatives (includes partnerships with Utilities, TVA, USDA and others to address habitat restoration, wastewater system repair or retrofit, and agricultural BMPs)
<i>Stock Creek and Tributaries (Twin Branch, Grandview Branch, McCall Branch, High Bluff Branch, Gun Hollow Branch, Casteel Branch)</i>	<i>Siltation, habitat alterations, pathogen</i>	4B, Construction Site Inspections	2E, Watershed Initiatives (includes partnerships with Utilities, TVA, USDA and others to address habitat restoration, wastewater system repair or retrofit, and agricultural BMPs)
<i>Bullrun Creek and Tributaries (Williams Branch, Foster Branch, North Fork Bullrun Creek)</i>	<i>Siltation, habitat alteration, pathogens</i>	4B, Construction Site Inspections	2E, Watershed Initiatives (includes partnerships with Utilities, TVA, USDA and others to address habitat restoration, wastewater system repair or retrofit, and agricultural BMPs)
<i>Roseberry Creek</i>	<i>Pathogens</i>	2E, Watershed Initiatives (includes partnerships with Utilities, TVA, USDA and others to address habitat restoration, wastewater system repair or retrofit, and agricultural BMPs)	3A, Illicit Discharge Complaint Tracking Database
<i>Swanpond Creek</i>	<i>Siltation, habitat alterations</i>	4B, Construction Site Inspections	2B, Adopt-a-Stream
<i>Little Flat Creek</i>	<i>Pathogens</i>	2E, Watershed Initiatives (includes partnerships with Utilities, TVA, USDA and others to address habitat restoration, wastewater system repair or retrofit, and agricultural BMPs)	3A, Illicit Discharge Complaint Tracking Database
<i>Flat Creek</i>	<i>Siltation, habitat alterations</i>	4B, Construction Site Inspections	2C, Environmental Stewardship Program

<i>Whites Creek</i>	<i>Habitat alterations, siltation</i>	4B, Construction Site Inspections	2E, Watershed Initiatives (includes partnerships with Utilities, TVA, USDA and others to address habitat restoration, wastewater system repair or retrofit, and agricultural BMPs)
<i>Sinking Creek</i>	<i>Siltation, habitat alterations, pathogens</i>	4B, Construction Site Inspections	2E, Watershed Initiatives (includes partnerships with Utilities, TVA, USDA and others to address habitat restoration, wastewater system repair or retrofit, and agricultural BMPs)
<i>Grable Branch</i>	<i>Oil & Grease, siltation, habitat alterations</i>	4B, Construction Site Inspections	3A, Illicit Discharge Complaint Tracking Database
<i>Roddy Branch</i>	<i>Siltation, habitat alterations, pathogens</i>	4B, Construction Site Inspections	2E, Watershed Initiatives (includes partnerships with Utilities, TVA, USDA and others to address habitat restoration, wastewater system repair or retrofit, and agricultural BMPs)
<i>Ft. Loudon Reservoir</i>	<i>PCBs</i>	No current sources for PCBs in MS4	

The table below lists impaired waterbodies for which the state has promulgated a TMDL. For the waterbodies indicated, we have complied with the requirements of the permit as noted by the check marks. [The table below includes two columns for two TMDLs. If additional space is needed, add additional table(s).]

	Waterbody Name/ Pollutant of Concern	Waterbody Name/ Pollutant of Concern
Permit Requirement	First, Second, Third, and Goose Creeks / Fecal Coliform	Baker, Williams, and Fourth Creeks/ Fecal Coliform
3.1.3.1 Is the pollutant likely to be found in storm water discharges from the MS4?	Yes	Yes
3.1.3.2 Does the TMDL include a pollutant wasteload allocation, implementation recommendations, or other performance requirements specifically for storm water discharges from your MS4?	Yes	Yes
3.1.3.3 Does the TMDL address a flow regime likely to occur during periods of storm water discharge?	Yes	Yes
3.1.3.4 If the above three questions are true, does implementation of existing storm water control measures meet the TMDL provisions?	Yes	Yes
3.1.3.4-Or are additional control measures necessary?	No, but others may be recommended and become apparent either through watershed initiatives or from monitoring data.	No, but others may be recommended and become apparent either through watershed initiatives or from monitoring data.
3.1.3.5 Current and planned control measures are documented.	Yes	Yes
3.1.3.6 Describe method to evaluate whether storm water controls are adequate to meet the requirements of the TMDL.	See Below	See Below
3.1.3.7 If additional or modified controls are necessary, describe the type and schedule for the control additions/revisions.	There are none planned at present.	There are none planned at present.

	Waterbody Name/ Pollutant of Concern	Waterbody Name/ Pollutant of Concern
Permit Requirement	Stock, Grand View Branch, High Bluff Branch, Gun Hollow Branch / Pathogens	Beaver and Bullrun Creeks/ Pathogens
3.1.3.1 Is the pollutant likely to be found in storm water discharges from the MS4?	Yes	Yes
3.1.3.2 Does the <u>TMDL</u> include a pollutant wasteload allocation, implementation recommendations, or other performance requirements specifically for storm water discharges from your MS4?	Yes	Yes
3.1.3.3 Does the TMDL address a flow regime likely to occur during periods of storm water discharge?	Yes	Yes
3.1.3.4 If the above three questions are true, does implementation of existing storm water control measures meet the TMDL provisions?	Yes	Yes
3.1.3.4-Or are additional control measures necessary?	No, but others may be recommended and become apparent either through watershed initiatives or from monitoring data.	No, but others may be recommended and become apparent either through watershed initiatives or from monitoring data.
3.1.3.5 Current and planned control measures are documented.	Yes	Yes
3.1.3.6 Describe method to evaluate whether storm water controls are adequate to meet the requirements of the TMDL.	See Below	See Below
3.1.3.7 If additional or modified controls are necessary, describe the type and schedule for the control additions/revisions.	There are none planned at present.	There are none planned at present.

	Waterbody Name/ Pollutant of Concern	Waterbody Name/ Pollutant of Concern
Permit Requirement	Whites, First, Second, Third, Fourth, Sinking, Williams, Baker, Goose, Twin Branch, Casteel Branch, McCall Branch, Stock, Roddy Branch, Turkey, Little Turkey Creeks / Siltation & Habitat Alterations	Grable Branch, Williams Branch, Foster Branch, Bullrun, Hines Branch, Knob Fork, Grassy, Meadow, BeaverCreeks/ Siltation & Habitat Alterations
3.1.3.1 Is the pollutant likely to be found in storm water discharges from the MS4?	Yes	Yes
3.1.3.2 Does the TMDL include a pollutant wasteload allocation, implementation recommendations, or other performance requirements specifically for storm water discharges from your MS4?	Yes	Yes
3.1.3.3 Does the TMDL address a flow regime likely to occur during periods of storm water discharge?	Yes	Yes
3.1.3.4 If the above three questions are true, does implementation of existing storm water control measures meet the TMDL provisions?	No (see 3.1.3.5 below)	No (see 3.1.3.5 below)
3.1.3.4-Or are additional control measures necessary?	Yes, a monitoring program will be included in the TMDL implementation plan to be proposed to TDEC by January 2007 by Knox County	Yes, a monitoring program will be included in the TMDL implementation plan to be proposed to TDEC by March 2007 by Knox County
3.1.3.5 Current and planned control measures are documented.	Yes (additional monitoring requirements will be presented to by January 2007.)	Yes (additional monitoring requirements will be presented to by January 2007.)
3.1.3.6 Describe method to evaluate whether storm water controls are adequate to meet the requirements of the TMDL.	See Below	See Below
3.1.3.7 If additional or modified controls are necessary, describe the type and schedule for the control additions/revisions.	Please see the notes below regarding 3.1.3.6	Please see the notes below regarding 3.1.3.6

3.1.3.6 Additional Data

TMDL for Pathogens in the Fort Loudoun Lake & Little River Watershed

1. Knox County began and is currently in an active, leadership role with the Stock Creek Watershed Initiative. This activity has been cited in the TMDL as an example of the approach desired on the part of MS4s. More information on the Stock Creek Initiative is available upon request.
2. The longevity (ie, funding, partnership participation, etc.) of the watershed initiative is assessed. A watershed management plan is being developed with continuing support from the main project partners (Knox County, TVA, UT, Knox-Chapman Utility District).
3. The potential for expansion of the watershed initiative's scope is considered. In areas beyond the geographical scope of the current initiatives, it is likely new partnerships will be needed.
4. Improvements, standardization and continued development of Knox County's illicit discharge detection and elimination program will provide key tools for watershed management. At present, existing resources through watershed initiatives, the Health Department, Stormwater staff, and outfall mapping efforts are likely adequate. This facet of the MS4 program should be re-evaluated as inventorying is completed in order to determine if additional staff resources are needed.
5. Knox County requests specific guidance from TDEC on what actions with respect to analysis and management tools should be initiated by the MS4 under this permit. A work group with representatives from TDEC and neighboring MS4s has been discussed to address this matter.

TMDL for Pathogens in the Lower Clinch River Watershed

1. Knox County was the catalyst for the formation of the Beaver Creek Watershed Initiative (BCWI) and has taken an active leadership role in the Bullrun Creek watershed project. The BCWI has been cited in the TMDL as an example of the approach desired on the part of MS4s.
2. The longevity (ie, funding, partnership participation, etc.) of the watershed initiative is assessed. Currently, sampling plans, education efforts, restoration projects are all planned for the next several years. The Knox County Health Department and Hallsdale-Powell Utility District are committed partners in implementing BMPs, engaging in monitoring, and investigating potential illicit discharges.
3. The potential for expansion of the watershed initiative's scope is considered. In areas beyond the geographical scope of the current initiatives, it is likely new partnerships will be needed.
4. Improvements, standardization and continued development of Knox County's illicit discharge detection and elimination program will provide key tools for watershed management. At present, existing resources through watershed initiatives, the Health Department, Stormwater staff, and outfall mapping efforts are likely adequate. This facet of the MS4 program should be re-evaluated as inventorying is completed in order to determine if additional staff resources are needed.
5. Knox County requests specific guidance from TDEC on what actions with respect to analysis and management tools should be initiated by the MS4 under this permit. A work group with representatives from TDEC and neighboring MS4s has been discussed to address this matter.

TMDL for Fecal Coliform in the Fort Loudoun Lake Watershed (First, Second, Third, Goose, Baker, Fourth, and Williams Creek)

1. In these watersheds, areas outside the City of Knoxville MS4 (ie, within the Knox County MS4) are identified for potential for public contact with impaired waters.
2. If public contact areas are identified, sites will be identified for signs to be posted. (NOTE: currently, no areas of public contact within the Knox County MS4s are found. Maps of the watershed were generated for this analysis.)
3. Improvements, standardization and continued development of Knox County's illicit discharge detection and elimination program will provide key tools for watershed management. At present, existing resources through watershed initiatives, the Health Department, Stormwater staff, and outfall mapping efforts are likely

adequate. This facet of the MS4 program should be re-evaluated as inventorying is completed in order to determine if additional staff resources are needed.

4. Knox County requests specific guidance from TDEC on what actions with respect to analysis and management tools should be initiated by the MS4 under this permit. A work group with representatives from TDEC and neighboring MS4s has been discussed to address this matter

TMDL for Siltation and Habitat Alteration in the Fort Loudoun Watershed

1. A joint effort between Knox County and neighboring MS4s should be initiated to best coordinate efforts and share resources for education, monitoring, policy and BMP implementation.
2. Staffing resources and support materials (data management, standard operating procedures, etc.) are considered for increased site inspection procedures by County staff.
3. Tracking of permitting and enforcement/administrative actions will be evaluated yearly.
4. A monitoring plan will be developed. The plan will help evaluate BMP effectiveness by allowing monitoring before and following BMP installations. The plan may also help to identify key land use types by providing data associated with particular land uses and/or application of BMPs. The plan will also provide baseline sampling data help determine baseline conditions.
5. Areas of streambank erosion may be identified and inventoried as a means to locate impacting areas and track watershed changes.

TMDL for Siltation and Habitat Alteration in the Lower Clinch River Watershed

1. Current education and monitoring resources available through the Beaver Creek and Bullrun Creek watershed initiatives will be considered. Knox County will continue to take a leadership role in both efforts to best align efforts between partnering agencies.
2. Staffing resources and support materials (data management, standard operating procedures, etc.) are considered for increased site inspection procedures by County staff.
3. Tracking of permitting and enforcement/administrative actions will be evaluated yearly.
4. A monitoring plan will be developed. The plan will help evaluate BMP effectiveness by allowing monitoring before and following BMP installations. The plan may also help to identify key land use types by providing data associated with particular land uses and/or application of BMPs. The plan will also provide baseline sampling data help determine baseline conditions.
5. Areas of streambank erosion may be identified and inventoried as a means to locate impacting areas and track watershed changes.

Protection of Listed Threatened or Endangered Species (3.2)

We have followed the procedures given in section 3.2 of the Tennessee small MS4 general permit to ascertain whether or not storm water discharges from the MS4 are likely to jeopardize the continued existence of any species that are listed as endangered or threatened under the ESA, or result in the adverse modification or destruction of habitat that is designated as critical under the ESA (“critical habitat”). Below is a table indicating the procedures we have followed. We retain documentation of the evaluations and decisions reached through the evaluation.

[See the permit at section 3.2 for more detailed list of evaluation criteria.]

Evaluation criteria	Yes/No	Notes
3.2.1.2.1 Criteria A: No endangered or threatened species or critical habitat in proximity to MS4 or the point where discharges reach the receiving water		
3.2.1.2.2 Criteria B: Formal or informal consultation with the Fish and Wildlife Service under Section 7 of the Endangered Species Act (ESA) has been concluded and that consultation addressed effects of storm water activities or resulted in a no jeopardy or not-likely-to-affect opinion.		
3.2.1.2.3 Criteria C: Activities are authorized under Section 10 of the ESA		
3.2.1.2.4 Criteria D: Evaluated the effects of storm water discharges; we do not have reason to believe the discharge and discharge-related activities will jeopardize species or cause adverse modification or destruction of critical habitat.	Yes	Through coordination with US Fish and Wildlife, Knox County has revised policies and procedures to ensure compliance with Endangered Species requirements of the MS4 permit.
3.2.1.2.5 Criteria E: Our storm water discharges and related activities are already addressed in another operator’s certification of eligibility. We agree to comply with conditions of that eligibility.		

Signed _____

Dated _____

Mike Ragsdale, Knox County Mayor

Printed Name and Title

Explanation of Amended or Replaced BMPs (from Part I)

The following table provides description(s) of BMPs and/or milestones we wish to amend this reporting year and subsequent years, as indicated. [Add tables as necessary.]

For every BMP that is being amended or replaced, provide the following information and analysis. The BMPs you describe here should match the ones you indicated as “Amended/Replaced” in Part I.A. of this annual report.

BMP Code: <u> 1D </u>	BMP: Tennessee Growth Readiness
New BMP short title:	same
New BMP description:	same
BMP is being amended/replaced as:	Ineffective <input type="checkbox"/> Infeasible <input type="checkbox"/> See narrative. <input checked="" type="checkbox"/>
Expected effectiveness of new BMP:	Good
Why is the replacement BMP expected to achieve goals:	Purpose of BMP is the same. The amendment is only in the method of delivery.
BMP Milestone Year 1	Provide support and promotion of the Tennessee Growth Readiness Program. As best as possible, maintain a log of TGR-based presentations made in the Knox County area.
BMP Milestone Year 2	Provide support and promotion of the Tennessee Growth Readiness Program. As best as possible, maintain a log of TGR-based presentations made in the Knox County area.
BMP Milestone Year 3	Provide support and promotion of the Tennessee Growth Readiness Program. As best as possible, maintain a log of TGR-based presentations made in the Knox County area.
BMP Milestone Year 4	Provide support and promotion of the Tennessee Growth Readiness Program. As best as possible, maintain a log of TGR-based presentations made in the Knox County area.
BMP Milestone Year 5	Provide support and promotion of the Tennessee Growth Readiness Program. As best as possible, maintain a log of TGR-based presentations made in the Knox County area.
Narrative:	This BMP should be changed to allow support of the program to be considered and to allow consideration for other parties making Tennessee Growth Readiness presentations. The purpose of the Tennessee Growth Readiness program is to train individuals who may not be government officials to make educational presentations.

BMP Code: <u>3D</u>	BMP: Stormwater Ordinance Amendments
New BMP short title:	same
New BMP description:	same
BMP is being amended/replaced as:	Ineffective <input type="checkbox"/> Infeasible <input type="checkbox"/> See narrative. <input checked="" type="checkbox"/>
Expected effectiveness of new BMP:	Good
Why is the replacement BMP expected to achieve goals:	Purpose of BMP is the same. The amendment is only to ensure full compliance.
BMP Milestone Year 1	
BMP Milestone Year 2	Review and amend Knox County Stormwater Ordinance, if necessary.
BMP Milestone Year 3	
BMP Milestone Year 4	Verify illicit discharge detection & elimination requirements are met fully in upcoming Stormwater Ordinance revisions.
BMP Milestone Year 5	
Narrative:	This BMP should be changed to ensure illicit discharge & elimination requirements are met by the upcoming Stormwater Ordinance.

BMP Code: <u>3E</u>	BMP: Outfall Mapping
New BMP short title:	same
New BMP description:	same
BMP is being amended/replaced as:	Ineffective <input type="checkbox"/> Infeasible <input type="checkbox"/> See narrative. <input checked="" type="checkbox"/>
Expected effectiveness of new BMP:	Good
Why is the replacement BMP expected to achieve goals:	The BMP purpose remains the same. The amendment clarifies that the time will be needed to plan mapping efficiently to better meet the suggestions made in the 2006 program audit for Knox County.
BMP Milestone Year 1	Scope method and equipment needed to establish digital mapping of outfalls to “waters of the US” in Knox County.
BMP Milestone Year 2	Finalize a stream (“waters of the US”) digital map for Knox County
BMP Milestone Year 3	Begin outfall mapping effort and establish mechanism for updating to reflect changes in outfalls due to new construction.
BMP Milestone Year 4	Continue mapping existing and new outfalls in the Knox County jurisdictional area, with at least 60% coverage complete.
BMP Milestone Year 5	Continue mapping existing and new outfalls and obtain complete mapping coverage of the Knox County jurisdictional area.

Narrative:	The timing and sequence for implementation of this BMP was not clearly delineated in the NOI. This amendment clarifies the process, provides clear milestones and addresses the suggestions made in the 2006 program audit.
------------	---

BMP Code: <u> 3F </u>	BMP: Illicit Discharge Detection
New BMP short title:	same
New BMP description:	same
BMP is being amended/replaced as:	Ineffective <input type="checkbox"/> Infeasible <input type="checkbox"/> See narrative. <input checked="" type="checkbox"/>
Expected effectiveness of new BMP:	Good
Why is the replacement BMP expected to achieve goals:	This BMP is being added to ensure that all available resources in Knox County are being fully utilized for illicit discharge detection in the MS4.
BMP Milestone Year 1	
BMP Milestone Year 2	
BMP Milestone Year 3	
BMP Milestone Year 4	Develop illicit discharge detection program utilizing current field resources (such as Health Dept. & outfall mapping efforts) to locate non-stormwater discharges through the MS4.
BMP Milestone Year 5	Implement Detection Program.
Narrative:	This BMP is being added to ensure that Knox County is using all current available resources to detect and locate non-stormwater discharges through the MS4 and to address suggestions made in the 2006 program audit.

BMP Code: <u>4B</u>	BMP: Construction Site Inspections
New BMP short title:	same
New BMP description:	same
BMP is being amended/replaced as:	Ineffective <input type="checkbox"/> Infeasible <input type="checkbox"/> See narrative. <input checked="" type="checkbox"/>
Expected effectiveness of new BMP:	Good
Why is the replacement BMP expected to achieve goals:	Purpose of BMP is the same. The amendment is only in the method of documentation.
BMP Milestone Year 1	Continue inspection and maintain documentation in the form of site inspection logs
BMP Milestone Year 2	Continue inspection and maintain documentation in the form of site inspection logs
BMP Milestone Year 3	Continue inspection and maintain documentation in the form of site inspection logs
BMP Milestone Year 4	Continue inspection and maintain documentation in the form of site inspection logs
BMP Milestone Year 5	Continue inspection and maintain documentation in the form of site inspection logs
Narrative:	This BMP should be changed to allow more flexible documentation on the part of construction inspectors. Inspection journals proved to be very time-consuming to keep up-to-date and staff believes that complaint database logs combined with file memos for construction sites are a suitable substitute if journals are not always practical to maintain.

BMP Code: <u>4E</u>	BMP: Stormwater Ordinance Amendments
New BMP short title:	same
New BMP description:	same
BMP is being amended/replaced as:	Ineffective <input type="checkbox"/> Infeasible <input type="checkbox"/> See narrative. <input checked="" type="checkbox"/>
Expected effectiveness of new BMP:	Good
Why is the replacement BMP expected to achieve goals:	Purpose of BMP is the same. The amendment is only to ensure full compliance.
BMP Milestone Year 1	
BMP Milestone Year 2	Amend Knox County Stormwater Management Ordinance to meet local needs and NPDES Phase II requirements.
BMP Milestone Year 3	
BMP Milestone Year 4	Verify Stormwater Ordinance revisions recommended following the 2006 audit are fully addressed.
BMP Milestone Year 5	
Narrative:	This BMP should be changed to ensure that Stormwater Ordinance revisions recommended by the 2006 audit are met.

BMP Code: <u>4F</u>	BMP: Erosion & Sediment Control Design Education
New BMP short title:	same
New BMP description:	same
BMP is being amended/replaced as:	Ineffective <input type="checkbox"/> Infeasible <input type="checkbox"/> See narrative. <input checked="" type="checkbox"/>
Expected effectiveness of new BMP:	Good
Why is the replacement BMP expected to achieve goals:	Purpose of BMP is the same. The amendment is to clarify that inspectors only have to take the TDEC Level I class.
BMP Milestone Year 1	All Knox County inspection and plans review staff will complete TDEC training and Knox County will advertise course and coordinate scheduling with TDEC.
BMP Milestone Year 2	All Knox County inspection and plans review staff will complete TDEC training and Knox County will advertise course and coordinate scheduling with TDEC.
BMP Milestone Year 3	All Knox County inspection and plans review staff will complete TDEC training and Knox County will advertise course and coordinate scheduling with TDEC.
BMP Milestone Year 4	All Knox County inspection and plans review staff will complete TDEC training (inspectors are only required to take Level I) and Knox County will advertise course and coordinate scheduling with TDEC.
BMP Milestone Year 5	All Knox County inspection and plans review staff will complete TDEC training (inspectors are only required to take Level I) and Knox County will advertise course and coordinate scheduling with TDEC.
Narrative:	This BMP should be changed to clarify that inspectors are only required to take the Level I TDEC class.

BMP Code: <u>6A</u>	BMP: Pollution Prevention Training
New BMP short title:	same
New BMP description:	same
BMP is being amended/replaced as:	Ineffective <input type="checkbox"/> Infeasible <input type="checkbox"/> See narrative. <input checked="" type="checkbox"/>
Expected effectiveness of new BMP:	Good
Why is the replacement BMP expected to achieve goals:	Purpose of BMP is the same. The amendment is to ensure that appropriate staff are trained on procedures, technology, & practices required for pollution prevention.
BMP Milestone Year 1	Knox County will train appropriate staff on procedures, technology, and practices. Knox County will document training.
BMP Milestone Year 2	
BMP Milestone Year 3	
BMP Milestone Year 4	Knox County will continue training appropriate staff on procedures, technology, and practices. Knox County will document training.
BMP Milestone Year 5	
Narrative:	This BMP should be changed to ensure that appropriate staff are trained on procedures, technology, and practices required for pollution prevention.

Go to next page.

Tracking of measurable goals

For each of your BMPs, you should have established a measurable parameter, and goal in terms of that measurable parameter. Measurable parameters are ways to measure activities or effects of a BMP. The goal is the parameter value established as a target. If you are not yet measuring the parameter for a given BMP, indicate Not Applicable Yet (NAY) in the Result column.

BMP Code	BMP Title	Measurable parameter	Result	Goal
1A	Grading Permit Brochure	Number of Grading Permits Issued	Brochure provided with grading permits and at public information events.	Distribute brochure with grading permits
1B	Adopt-a-Watershed Program	Support of Adopt-a-Watershed	\$30+K support dedicated for AAW program for 2005-2006	Support equal or exceeding \$15,000
1C	Water Quality Forum World Wide Web Site	Funding and support of the WWW site, progress logged	Continued support of Web site	Continued support of Web site
1D	Tennessee Growth Readiness	Support Tennessee Growth Readiness program presentations in Knox County area	Tennessee Growth Readiness presentation has been included in Knox County watershed education presentations by Watershed Coordinator	Support /promotion of the Tennessee Growth Readiness Program. As best as possible, maintain a log of TGR presentations.
1E	Grab Bag Programs/Events	Document support of various public education activities	Support of Activities Documented (CPR, River Rescue, etc.)	Support of Activities Documented
1F	Erosion/Sediment Control Training	Completion of Erosion and Sediment Control Training by Knox County staff	Training of all key staff completed	Training of all key staff completed
2A	Water Quality Forum	Documented participation in Water Quality Forum activities by Knox County	Activities have been documented though WQF Web site, executive committee	Documented participation in Water Quality Forum activities.

			meeting minutes, etc.	
2B	Adopt-a-Stream	Continued financial and logistical support of Adopt-a-Stream	Support has been provided and documented, three AAS training sessions given in 2005-2006.	Continued financial and logistical support of Adopt-a-Stream
2C	Environmental Stewardship Program	Continued financial and logistical support of Environmental Stewardship Program	Support in excess of \$5,000 in project costs, and staff time for management has been provided and documented	Continued financial and logistical support of Environmental Stewardship Program
2D	River/Stream Clean-Up (and Awareness) Days	Continued support by participation, promotion, material or financial support	Knox County support has been provided and logged in an activity journal.	Continued support by participation, promotion, material or financial support
2E	Watershed Initiatives	Leadership in watershed planning initiatives.	Watershed planning initiative activities have been logged through meeting minutes and record of financial support of related projects (For example, the Beaver Creek Green Infrastructure Plan)	Documentation of leadership in watershed planning initiatives
3A	Illicit Discharge Complaint Tracking Database	Implement illicit discharge complaint tracking database	Current work order requests database has been modified to accept illicit discharge complaints.	Develop Standard Operating Procedures
3B	Non-Stormwater Screening Area Prioritization Map	Identify priority land uses for potential non-stormwater screening sites	Land use maps have been created and (in some cases)	Field check and maintain

			enhanced to illustrate priority areas.	
3C	Illicit Discharge Education for Citizens	Education materials have been developed through watershed initiatives	Programs developed and used by other MS4s have been researched.	Develop tools for identified illicit discharge hazards.
3E	Outfall Mapping	Develop a map showing location of stormwater outfalls to waters of the US.	A GIS data layer of stream locations in Knox County currently exists. This data will be enhanced soon to ease modeling and planning efforts.	Finalize a stream (“waters of the US”) digital map for Knox County
4A	Pre-Construction Meetings for Site Development and Capital Improvement Projects	Number of pre-construction meetings held.	Documentation of pre-construction meetings collected.	Pre-construction meetings held for new construction permitting.
4B	Construction Site Inspections	Continue construction site inspection.	Some documentation of construction site inspections and work order history showing construction-related inspections	Documentation of construction site inspections maintained by Knox County.
4D	Erosion and Sediment Control Note Required on Design Plans	Require note on design plans.	This requirement is to be included in the Stormwater Ordinance revisions to be presented to County Commission in January 2006, but is currently being practiced now.	Require a note to be included in design plans stating the owner is responsible for installation and maintenance of construction site pollution prevention controls.
4E	Stormwater Ordinance Amendments	Amendments to Stormwater Management Ordinance	The Ordinance was amended in April 2005. Additional	Amend Knox County Stormwater

			amendments additions and updates to reflect the full breadth of the Knox County Stormwater Management program will be presented to County Commission in January 2007.	Management Ordinance to meet local needs and NPDES II requirements.
4F	Erosion and Sediment Control Design Education	County staff to complete ESC training and promote courses to contractors and other potential clients	All inspection and management staff have completed TDEC ESC training.	Maintained documentation showing staff is trained in Erosion and Sediment control using TDEC courses.
4G	Grading Permit Requirements – Tracking Responsible Parties	Implement client tracking for the Grading Permit process	Two permit tracking databases are currently used. Additionally, a database for complaints is also used. TDEC NOC is required for permit & Knox Co. receives SWPPPs	Using recommendations from the Knox County Site Planning Roundtable, implement a process to streamline permitting while better tracking responsible parties.
4H	Complaint Receipt	Use of database to track erosion and sediment control complaints received from the public	Erosion and sediment control complaint tracking has been added to Knox County 'work order' database	Documented use of database to track erosion and sediment control complaints.
5A	Knox County Site Planning Roundtable	Report on the site planning roundtable's findings	Site planning roundtable meetings and findings. Meeting minutes, notes or attendee lists are on file.	Documentation of the Site Planning Roundtable process in Knox County
5B	Environmental Stewardship Program	Financial support of ESP program.	Knox County has financial support of ESP	Continued financial support and promotion of

			projects in addition to staff time in support of the ESP program. The ESP program has been presented in public presentations as well.	the ESP program
5C	Stormwater Management Ordinance	Update to Stormwater Management Ordinance	NAY	NAY
6A	Pollution Prevention Training	Training of Knox County staff	County service center, highway maintenance division, and school administrators have been trained in the basics of pollution prevention	On-going training with documentation
6B	Salt Storage Facility	Installation of a facility to protect the on-site storm sewer system from runoff from stored road salt	New salt storage shed constructed.	New salt storage shed constructed.
6C	Truck Wash Rack	Installation of a facility to protect the on-site storm sewer system from runoff from truck and vehicle washing	Truck wash constructed.	Truck wash constructed.
6D	Pollution Prevention Policy	Implementation of pollution prevention policy	A policy has been developed by individual departments within Knox County, with guidance and support from the Stormwater Management Division.	Develop and document pollution prevention policy to be used by all departments of Knox County government.

Footnotes

¹ *Maximum extent practicable* (MEP) is the statutory standard that establishes the level of pollutant reductions that operators of regulated MS4s must achieve. The CWA requires that NPDES permits for discharges from MS4s “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods.” CWA 402(p)(3)(B)(iii).

² Insert the number of BMPs listed in your NOI, as updated by subsequent annual reports. Example: if each minimum measure has five BMPs associated with it, you would insert [30] as the number of BMPs. [6 X 5]

³ Insert the number of Year 2 milestones accomplished. For example, if 27 Year 2 milestones are accomplished at the end of Year 2, then you would insert [27 of 30] in these brackets.

A. Proposed changes to storm water management program

Element 5.4.4 requires a report on proposed changes to your storm water management program, including changes to any BMPs or any identified measurable goals that apply to the program elements.

Amended and replacement BMPs (if any) are reflected in Part I.A. and Part VIII, and in the above table and will not be repeated here. Additional, proposed changes are noted below.

Change to Program	Summary Description	Rationale
3D – Stormwater Ordinance Amendments – Yr 4	Verify illicit discharge detection & elimination requirements are met fully in upcoming Stormwater Ordinance revisions.	To ensure all illicit discharge & elimination requirements are met by the upcoming Stormwater Ordinance.
3E - Outfall Mapping – Yr 4	Continue mapping existing and new outfalls in the Knox County jurisdictional area, with at least 60% coverage complete.	The timing and sequence for implementation of this BMP was not clearly delineated in the NOI. This amendment clarifies the process, provides clear milestones and addresses the suggestions made in the 2006 program audit.
3E – Outfall Mapping – Yr 5	Continue mapping existing and new outfalls and obtain complete mapping coverage of the Knox County jurisdictional area.	The timing and sequence for implementation of this BMP was not clearly delineated in the NOI. This amendment clarifies the process, provides clear milestones and addresses the suggestions made in the 2006 program audit.
3F – Illicit Discharge Detection – Yr 4	Continue development and begin implementation of the illicit discharge detection program utilizing current field resources (such as Health Dept., & out fall mapping efforts) and partner agencies (such as local utility districts) to locate non-stormwater discharges through the MS4.	To ensure Knox Co. is using all current field resources to locate and assess non-stormwater discharges through the MS4 and to address suggestions made in the 2006 program audit.

3F – Illicit Discharge Detection- Yr 5	Implement Detection Program.	To ensure Knox Co. is using all current field resources to locate non-stormwater discharges through the MS4 and to address suggestions made in the 2006 program audit.
4E – Stormwater Ordinance Amendments – Yr 4	Verify Stormwater Ordinance revisions recommended following the 2006 audit are fully addressed.	To ensure that Stormwater Ordinance revisions recommended by the 2006 audit are met.
4F – Erosion & Sediment Control Design Education – Yr 4 & 5	All Knox County inspection and plans review staff will complete TDEC training (inspectors are only required to take Level I) and Knox County will advertise course and coordinate scheduling with TDEC.	To clarify that inspectors are only required to take the Level I TDEC class.
6A – Pollution Prevention Training – Yr 4	Continue Yr. 1 milestone- Knox Co. will continue training appropriate staff on procedures, technology, & practices. Knox Co. will document training.	To ensure that appropriate staff are trained on procedures, technology, & practices required for pollution prevention.

The table below lists impaired waterbodies for which the state has promulgated a TMDL. For the waterbodies indicated, we have complied with the requirements of the permit as noted by the check marks. [The table below includes two columns for two TMDLs. If additional space is needed, add additional table(s).]

	Waterbody Name/ Pollutant of Concern	Waterbody Name/ Pollutant of Concern
Permit Requirement	First, Second, Third, and Goose Creeks / Fecal Coliform	Baker, Williams, and Fourth Creeks/ Fecal Coliform
3.1.3.1 Is the pollutant likely to be found in storm water discharges from the MS4?	Yes	Yes
3.1.3.2 Does the <u>TMDL</u> include a pollutant wasteload allocation, implementation recommendations, or other performance requirements specifically for storm water discharges from your MS4?	Yes	Yes
3.1.3.3 Does the TMDL address a flow regime likely to occur during periods of storm water discharge?	Yes	Yes

3.1.3.4 If the above three questions are true, does implementation of existing storm water control measures meet the TMDL provisions?	Yes	Yes
3.1.3.4-Or are additional control measures necessary?	No, but others may be recommended and become apparent either through watershed initiatives or from monitoring data.	No, but others may be recommended and become apparent either through watershed initiatives or from monitoring data.
3.1.3.5 Current and planned control measures are documented.	Yes	Yes
3.1.3.6 Describe method to evaluate whether storm water controls are adequate to meet the requirements of the TMDL.	See Below	See Below
3.1.3.7 If additional or modified controls are necessary, describe the type and schedule for the control additions/revisions.	There are none planned at present.	There are none planned at present.

	Waterbody Name/ Pollutant of Concern	Waterbody Name/ Pollutant of Concern
Permit Requirement	Stock, Grand View Branch, High Bluff Branch, Gun Hollow Branch / Pathogens	Beaver and Bullrun Creeks/ Pathogens
3.1.3.1 Is the pollutant likely to be found in storm water discharges from the MS4?	Yes	Yes
3.1.3.2 Does the <u>TMDL</u> include a pollutant wasteload allocation, implementation recommendations, or other performance requirements specifically for storm water discharges from your MS4?	Yes	Yes
3.1.3.3 Does the TMDL address a flow regime likely to occur during periods of storm water discharge?	Yes	Yes
3.1.3.4 If the above three questions are true, does implementation of existing storm water control measures meet the TMDL provisions?	Yes	Yes

3.1.3.4-Or are additional control measures necessary?	No, but others may be recommended and become apparent either through watershed initiatives or from monitoring data.	No, but others may be recommended and become apparent either through watershed initiatives or from monitoring data.
3.1.3.5 Current and planned control measures are documented.	Yes	Yes
3.1.3.6 Describe method to evaluate whether storm water controls are adequate to meet the requirements of the TMDL.	See Below	See Below
3.1.3.7 If additional or modified controls are necessary, describe the type and schedule for the control additions/revisions.	There are none planned at present.	There are none planned at present.

	Waterbody Name/ Pollutant of Concern	Waterbody Name/ Pollutant of Concern
Permit Requirement	Whites, First, Second, Third, Fourth, Sinking, Williams, Baker, Goose, Twin Branch, Casteel Branch, McCall Branch, Stock, Roddy Branch, Turkey, Little Turkey Creeks / Siltation & Habitat Alterations	Grable Branch, Williams Branch, Foster Branch, Bullrun, Hines Branch, Knob Fork, Grassy, Meadow, BeaverCreeks/ Siltation & Habitat Alterations
3.1.3.1 Is the pollutant likely to be found in storm water discharges from the MS4?	Yes	Yes
3.1.3.2 Does the <u>TMDL</u> include a pollutant wasteload allocation, implementation recommendations, or other performance requirements specifically for storm water discharges from your MS4?	Yes	Yes
3.1.3.3 Does the TMDL address a flow regime likely to occur during periods of storm water discharge?	Yes	Yes
3.1.3.4 If the above three questions are true, does implementation of existing storm water control measures meet the TMDL provisions?	No (see 3.1.3.5 below)	No (see 3.1.3.5 below)

3.1.3.4-Or are additional control measures necessary?	Yes, a monitoring program will be included in the TMDL implementation plan to be proposed to TDEC by January 2007 by Knox County	Yes, a monitoring program will be included in the TMDL implementation plan to be proposed to TDEC by March 2007 by Knox County
3.1.3.5 Current and planned control measures are documented.	Yes (additional monitoring requirements will be presented to by January 2007.)	Yes (additional monitoring requirements will be presented to by January 2007.)
3.1.3.6 Describe method to evaluate whether storm water controls are adequate to meet the requirements of the TMDL.	See Below	See Below
3.1.3.7 If additional or modified controls are necessary, describe the type and schedule for the control additions/revisions.	Please see the notes below regarding 3.1.3.6	Please see the notes below regarding 3.1.3.6

3.1.3.6 Additional Data

TMDL for Pathogens in the Fort Loudoun Lake & Little River Watershed

1. Knox County began and is currently in an active, leadership role with the Stock Creek Watershed Initiative. This activity has been cited in the TMDL as an example of the approach desired on the part of MS4s. More information on the Stock Creek Initiative is available upon request.
2. The longevity (ie, funding, partnership participation, etc.) of the watershed initiative is assessed. A watershed management plan is being developed with continuing support from the main project partners (Knox County, TVA, UT, Knox-Chapman Utility District).
3. The potential for expansion of the watershed initiative's scope is considered. In areas beyond the geographical scope of the current initiatives, it is likely new partnerships will be needed.
4. Improvements, standardization and continued development of Knox County's illicit discharge detection and elimination program will provide key tools for watershed management. At present, existing resources through watershed initiatives, the Health Department, Stormwater staff, and outfall mapping efforts are likely adequate. This facet of the MS4 program should be re-evaluated as inventorying is completed in order to determine if additional staff resources are needed.
5. Knox County requests specific guidance from TDEC on what actions with respect to analysis and management tools should be initiated by the MS4 under this permit. A work group with representatives from TDEC and neighboring MS4s has been discussed to address this matter.

TMDL for Pathogens in the Lower Clinch River Watershed

1. Knox County was the catalyst for the formation of the Beaver Creek Watershed Initiative (BCWI) and has taken an active leadership role in the Bullrun Creek watershed project. The BCWI has been cited in the TMDL as an example of the approach desired on the part of MS4s.
2. The longevity (ie, funding, partnership participation, etc.) of the watershed initiative is assessed. Currently, sampling plans, education efforts, restoration projects are all planned for the next several years. The Knox

County Health Department and Hallsdale-Powell Utility District are committed partners in implementing BMPs, engaging in monitoring, and investigating potential illicit discharges.

3. The potential for expansion of the watershed initiative's scope is considered. In areas beyond the geographical scope of the current initiatives, it is likely new partnerships will be needed.
4. Improvements, standardization and continued development of Knox County's illicit discharge detection and elimination program will provide key tools for watershed management. At present, existing resources through watershed initiatives, the Health Department, Stormwater staff, and outfall mapping efforts are likely adequate. This facet of the MS4 program should be re-evaluated as inventorying is completed in order to determine if additional staff resources are needed.
5. Knox County requests specific guidance from TDEC on what actions with respect to analysis and management tools should be initiated by the MS4 under this permit. A work group with representatives from TDEC and neighboring MS4s has been discussed to address this matter.

TMDL for Fecal Coliform in the Fort Loudoun Lake Watershed (First, Second, Third, Goose, Baker, Fourth, and Williams Creek)

1. In these watersheds, areas outside the City of Knoxville MS4 (ie, within the Knox County MS4) are identified for potential for public contact with impaired waters.
2. If public contact areas are identified, sites will be identified for signs to be posted. (NOTE: currently, no areas of public contact within the Knox County MS4s are found. Maps of the watershed were generated for this analysis.)
3. Improvements, standardization and continued development of Knox County's illicit discharge detection and elimination program will provide key tools for watershed management. At present, existing resources through watershed initiatives, the Health Department, Stormwater staff, and outfall mapping efforts are likely adequate. This facet of the MS4 program should be re-evaluated as inventorying is completed in order to determine if additional staff resources are needed.
4. Knox County requests specific guidance from TDEC on what actions with respect to analysis and management tools should be initiated by the MS4 under this permit. A work group with representatives from TDEC and neighboring MS4s has been discussed to address this matter

TMDL for Siltation and Habitat Alteration in the Fort Loudoun Watershed

1. A joint effort between Knox County and neighboring MS4s should be initiated to best coordinate efforts and share resources for education, monitoring, policy and BMP implementation.
2. Staffing resources and support materials (data management, standard operating procedures, etc.) are considered for increased site inspection procedures by County staff.
3. Tracking of permitting and enforcement/administrative actions will be evaluated yearly.
4. A monitoring plan will be developed. The plan will help evaluate BMP effectiveness by allowing monitoring before and following BMP installations. The plan may also help to identify key land use types by providing data associated with particular land uses and/or application of BMPs. The plan will also provide baseline sampling data help determine baseline conditions.
5. Areas of streambank erosion may be identified and inventoried as a means to locate impacting areas and track watershed changes.

TMDL for Siltation and Habitat Alteration in the Lower Clinch River Watershed

1. Current education and monitoring resources available through the Beaver Creek and Bullrun Creek watershed initiatives will be considered. Knox County will continue to take a leadership role in both efforts to best align efforts between partnering agencies.
2. Staffing resources and support materials (data management, standard operating procedures, etc.) are considered for increased site inspection procedures by County staff.
3. Tracking of permitting and enforcement/administrative actions will be evaluated yearly.

-
4. A monitoring plan will be developed. The plan will help evaluate BMP effectiveness by allowing monitoring before and following BMP installations. The plan may also help to identify key land use types by providing data associated with particular land uses and/or application of BMPs. The plan will also provide baseline sampling data help determine baseline conditions.
 5. Areas of streambank erosion may be identified and inventoried as a means to locate impacting areas and track watershed changes.