



Tennessee Department of Environment and Conservation
 Division of Water Resources
 William R. Snodgrass Tennessee Tower,
 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243
 1-888-891-8332 (TDEC)

Phase II Small Municipal Separate Storm Sewer System (MS4) Annual Report

1. MS4 Information

Name of MS4: Knox County Stormwater Management Program		MS4 Permit Number: TNS075582
Contact Person: Chris Granju		Email Address: chris.granju@knoxcounty.org
Telephone: (865) 215-5840		MS4 Program Web Address: knoxcounty.org/stormwater
Mailing Address: 205 W Baxter Ave		
City: Knoxville	State: TN	ZIP code: 37917

What is the current population of your MS4? 266,033 (MPC, 2015)

What is the reporting period for this annual report? July 1 2016 to June 30 2017

2. Discharges to Waterbodies with Unavailable Parameters or Exceptional Tennessee Waters (Section 3.1)

- A. Does your MS4 discharge into waters with unavailable parameters (previously referred to as impaired) for pathogens, nutrients, siltation or other parameters related to stormwater runoff from urbanized areas as listed on TN's most current 303(d) list and/or according to the on-line state GIS mapping tool (tdeconline.tn.gov/dwr/)? If yes, attach a list. Yes No
- B. Are there established and approved TMDLs (<http://www.tn.gov/environment/article/wrws-tennessees-total-maximum-daily-load-tmdl-program>) with waste load allocations for MS4 discharges in your jurisdiction? If yes, attach a list. Yes No
- C. Does your MS4 discharge to any Exceptional Tennessee Waters (ETWs - http://environment-online.tn.gov:8080/pls/enf_reports/f?p=9034:34304:4880790061142)? If yes, attach a list. Yes No
- D. Are you implementing specific Best Management Practices (BMPs) to control pollutant discharges to waterbodies with unavailable parameters or ETWs? If yes, describe the specific practices: The County considers work within the watershed of ETWs to be priority construction activities. The additional requirements outlined in section 5.4.1 of the TNCGP are applied within the entire watershed. Yes No

3. Public Education/Outreach and Involvement/Participation (Sections 4.2.1 and 4.2.2)

- A. Have you developed a Public Information and Education plan (PIE)? Yes No

- B. Is your public education program targeting specific pollutants and sources, such as Hot Spots? If yes, describe the specific pollutants and/or sources targeted by your public education program: Hot spot education via SPAP permits (Parking Lots, Auto & Food SPAPs) to educate these businesses about the specific pollutant - generating activities their operations have the potential to introduce into community waters. We also have initiated an Emergency Utility Repair training for Utilities to limit discharges of wastewater & supply water (E.coli, chlorine) into local streams & waterways. We've also started a 5-year Storm Drain art competition initiative to educate the public about stormwater infrastructure & keeping green waste, oils / auto fluids & trash out of the storm drain system. We've been marketing our Strong Streams Buffers program to the public in 2017 to encourage & promote planting & preserving residential streamside buffers to address excess nutrient / fertilizer (nitrogen / phosphorous) inputs into local waterways from private land uses. Yes No
- C. Do you have a webpage dedicated to your stormwater program? If yes, provide a link/URL: www.knoxcounty.org/Stormwater Yes No
- D. Summarize how you advertise and publicize your public education, outreach, involvement and participation opportunities: We have a robust website that is updated on a weekly basis; we have very active Facebook, Twitter & Instagram accounts (KnoxStrongStreams). We have an "Upcoming Events" page on our website and also publish upcoming workshops, events and activities on all of our social media accounts. We also have a Quarterly E-newsletter promoting upcoming workshops & educational opportunities.
- E. Summarize the public education, outreach, involvement and participation activities you completed during this reporting period: We implemented the Adopt-A-Watershed program in 12 Knox County Schools (see attached CAC AmeriCorps Water Quality Team 2016-2017 Year-End Overview), reaching approximately 2,279 middle & high schools students; we've hosted our custom "Your Stream is Tougher with a Buffer" booth display (including related brochures on buffers, drainage management, flooding + giveaways to the public at approximately 10 public festivals (EarthFest, TN River Runoff 5K, Strong Streams Buffer workshop); we've participated in rain barrel workshops & a rain barrel truckload sale, we've published 4 quarterly E-newsletters; we've installed a water quality mural on a local greenway, successfully conducted the first year of the new Strong Streams program, the "Storm Drain Style-Off" that involved 10 local artists painting storm drains & heavy promotion of these community art / water quality education programs; we've given a number of presentations on our Strong Streams and Environmental Stewardship Program; we've conducted 10 clean-ups through our Adopt-A-Stream program and recruited a new AAS group; and we've distributed 640 water quality brochures at 7 Knox County libraries throughout the reporting period. (see attached EO and PP E-Codes Report 7-1-16 thru 6-30-17)

F. Summarize any specific successful outcome(s) (e.g., citizen involvement, pollutant reduction, water quality improvement, etc.) fully or partially attributable to your public education and participation program during this reporting period: Citizen involvement in our programs, events & activities has resulted in the following reportable metrics in Knox County in FY17:

- a) over 6,000 pounds of trash removed from streamsides
- b) 110 pounds of sediment removed from storm drains / areas where sediment can wash into storm drain system
- c) 213 native trees planted
- d) 93 native shrubs planted
- e) 14,770 pounds of invasive species removed
- f) 129 rain barrels sold
- g) 5 rain gardens installed to address drainage problems
- h) 20 grassed swales installed to address drainage problems
- i) 960 square feet of wetlands installed
- j) 260 square feet of permeable surface installed

4. Illicit Discharge Detection and Elimination (Section 4.2.3)

- A. Have you developed and do you continue to update a storm sewer system map that shows the location of system outfalls where the municipal storm sewer system discharges into waters of the state or conveyances owned or operated by another MS4? Yes No
- B. If yes, does the map include inputs into the storm sewer collection system, such as the inlets, catch basins, drop structures or other defined contributing points to the sewershed of that outfall, and general direction of stormwater flow? Yes No
- C. How many outfalls have you identified in your storm sewer system? 3985 outfalls
- D. Do you have an ordinance, or other regulatory mechanism, that prohibits non-stormwater discharges into your storm sewer system? Yes No
- E. Have you implemented a plan to detect, identify and eliminate non-stormwater discharges, including illegal disposal, throughout the storm sewer system? If yes, provide a summary: Knox County is currently using many methods to detect, identify and eliminate illicit discharges. One method is through the dry weather screening program, which identifies hot spot areas in the County by utilizing land use maps, zoning maps, and complaint tracking. We also issue Special Pollutant Abatement Permits (SPAPs) to "hot spot" businesses, which include automotive and restaurant related businesses as well as businesses with large parking areas. Complaint and spill tracking is also used to determine where there are issues and helps us determine what kind of education and outreach needs to be implemented and where that would be most effective. All of these tools are administered through our robust GIS Applications and maintained in our E-Codes database. We also apply for and administer watershed grants so we can help citizens "fix" failing septic systems on their properties. We enforce our illicit discharge ordinance through our enforcement response plan, which allows us to write Notices of Violation and Civil Penalties up to \$5000 per day/per violation. Yes No
- F. How many illicit discharge related complaints were received this reporting period? 127
- G. How many illicit discharge investigations were performed this reporting period? 127
- H. Of those investigations performed, how many resulted in valid illicit discharges that were addressed and/or eliminated? 107

5. Construction Site Stormwater Runoff Pollutant Control (Section 4.2.4)

- A. Do you have an ordinance or other regulatory mechanism requiring:
- Construction site operators to implement appropriate erosion prevention and sediment control BMPs consistent with those described in the TDEC EPSC Handbook? Yes No
- Construction site operators to control wastes such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste? Yes No
- Design storm and special conditions for unavailable parameters waters or Exceptional Tennessee Waters consistent with those of the current Tennessee Construction General Permit (TNR100000)? Yes No
- B. Do you have specific procedures for construction site plan (including erosion prevention and sediment BMPs) review and approval? Yes No
- C. Do you have sanctions to enforce compliance? Yes No
- D. Do you hold pre-construction meetings with operators of priority construction activities and inspect priority construction sites at least monthly? Yes No
- E. How many construction sites disturbing at least one acre or greater were active in your jurisdiction this reporting period? 212
- F. How many active priority and non-priority construction sites were inspected this reporting period? 212
- G. How many construction related complaints were received this reporting period? 114

6. Permanent Stormwater Management at New Development and Redevelopment Projects (Section 4.2.5)

- A. Do you have a regulatory mechanism (e.g. ordinance) requiring permanent stormwater pollutant removal for development and redevelopment projects? If no, have you submitted an Implementation Plan to the Division? Yes No
 Yes No
- B. Do you have an ordinance or other regulatory mechanism requiring:
- Site plan review and approval of new and re-development projects? Yes No
- A process to ensure stormwater control measures (SCMs) are properly installed and maintained? Yes No
- Permanent water quality riparian buffers? If yes, specify requirements: 25 foot minimum and 50 foot average buffer width required to be shown on a recorded plat. Yes No
- C. What is the threshold for development and redevelopment project plans plan review (e.g., all projects, projects disturbing greater than one acre, etc.)? All projects that disturb over an acre or projects that add 10,000 square feet or more of impervious area
- D. How many development and redevelopment project plans were reviewed for this reporting period? 46
- E. How many development and redevelopment project plans were approved? 42
- F. How many permanent stormwater related complaints were received this reporting period? 10
- G. How many enforcement actions were taken to address improper installation or maintenance? 20
- H. Do you have a system to inventory and track the status of all public and private SCMs installed on development and redevelopment projects? Yes No

Phase II Small Municipal Separate Storm Sewer System (MS4) Annual Report

- I. Does your program include an off-site stormwater mitigation or payment into public stormwater fund? If yes, specify. _____ Yes No

7. Stormwater Management for Municipal Operations (Section 4.2.6)

- A. As applicable, have stormwater related operation and maintenance plans that include information related to maintenance activities, schedules and the proper disposal of waste from structural and non-structural stormwater controls been developed and implemented at the following municipal operations:
- Streets, roads, highways? Yes No
- Municipal parking lots? Yes No
- Maintenance and storage yards? Yes No
- Fleet or maintenance shops with outdoor storage areas? Yes No
- Salt and storage locations? Yes No
- Snow disposal areas? Yes No
- Waste disposal, storage, and transfer stations? Yes No
- B. Do you have a training program for employees responsible for municipal operations at facilities within the jurisdiction that handle, generate and/or store materials which constitute a potential pollutant of concern for MS4s? Yes No
- If yes, are new applicable employees trained within six months, and existing applicable employees trained and/or retrained within the permit term? Yes No

8. Reviewing and Updating Stormwater Management Programs (Section 4.4)

- A. Describe any revisions to your program implemented during this reporting period including but not limited to:
- Modifications or replacement of an ineffective activity/control measure. Knox County notified TDEC of its intention to withdraw (attached) from the Qualified Local Program on June 9, 2017 which effectively ends BMP 3D in the Notice of Intent. Knox County believes utilizing the concurrent jurisdiction approach that is more widely observed across the state will better ensure our ability to meet the requirements of our MS4 permit.
- Changes to the program as required by the division to satisfy permit requirements. Based on a Follow Up Inspection to the 2016 Audit (letter dated 2/15/17 to Mayor Burchett) Knox County Construction Services has made the following changes to its program: Deadline for compliance given in all permit non-compliance correspondence. Improved communication pathways between inspector and contractor, owner and engineer for inspection reports and enforcement correspondence. Site Assessment requirements are discussed at all pre-con meetings. For impacts to Waters of the State, a certified Notice of Violation is sent on the first offense to the owner, engineer and contractor with notice to TDEC.
- Information (e.g. additional acreage, outfalls, BMPs) on newly annexed areas and any resulting updates to your program. N/A
- B. In preparation for this annual report, have you performed an overall assessment of your stormwater management program effectiveness? If yes, summarize the assessment results, and any modifications and improvements scheduled to be implemented in the next reporting period. The results showed a need to document standard procedures of the site plan review process. We anticipate a detail work flow with a revised application and new checklist for this process in the next reporting period. Yes No

9. Enforcement Response Plan (Section 4.5)

- A. Have you implemented an enforcement response plan that includes progressive enforcement actions to address non-compliance, and allows the maximum penalties specified in TCA 68-221-1106? If no, explain. _____ Yes No
- B. As applicable, identify which of the following types of enforcement actions (or their equivalent) were used during this reporting period; indicate the number of actions, the minimum measure (e.g., construction, illicit discharge, permanent stormwater management), and note those for which you do not have authority:

<u>Action</u>	<u>Construction</u>	<u>Permanent Stormwater</u>	<u>Illicit Discharge</u>	<u>In Your ERP?</u>	
Verbal warnings	# <u>47</u>	# <u> </u>	# <u>1</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Written notices	# <u>38</u>	# <u>2</u>	# <u>28</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Citations with administrative penalties	# <u>28</u>	# <u> </u>	# <u>0</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Stop work orders	# <u>3</u>	# <u> </u>	# <u> </u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Withholding of plan approvals or other authorizations	# <u>0</u>	# <u> </u>	# <u> </u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Additional Measures	# <u> </u>	# <u> </u>	# <u>1</u>	Describe: <u>IDDE Email - follow-up warning</u>	

C. Do you track instances of non-compliance and related enforcement documentation? Yes No

D. What were the most common types of non-compliance instances documented during this reporting period?

Construction:

1. Temporary sediment controls not properly installed, functional and/or maintained, 2. Necessary permits have not been obtained, 3. Sediment controls are failing to retain sediment on site and 4. Failure to control the discharge of muddy water.

Illicit Discharges:

1. Failing or leaking sewer and septic systems and grey water discharges, 2. Dumping of oils/solvents/chemicals in storm sewer system or stream (Residential), and 3. Dumping of yard waste in drainageway or storm sewer system.

Permanent Construction:

1. Water Vaults not being inspected and maintain, 2. Catch basin inserts not being inspected and maintenance and 3. Headwalls separated from pipes.

10. Monitoring, Recordkeeping and reporting (Section 5)

- A. Summarize any analytical monitoring activities (e.g., planning, collection, evaluation of results) performed during this reporting period. Ten streams were monitored for physical and chemical parameters during this period which included a total of 16 sampling locations. Samples were collected at each location that had flowing water analyzed for E. coli MPN. The samples were collected over a period of 30 days to comply with the 5-in-30 protocols. A geometric mean was calculated for each location where 5 samples were successfully collected (flowing stream). The results of this monitoring effort is attached. Knox County Stormwater submitted a memo (in attachments) to the Knoxville EFO requesting inclusion of the Conner Creek 5-in-30 data in the next 305 (b) report and 303 (d) list. Conner Creek is currently "unassessed" and under tremendous development pressure. The County has prioritized conducting analytical assessments necessary to determine use status of the creek.
- B. Summarize any non-analytical monitoring activities (e.g., planning, collection, evaluation of results) performed during this reporting period. Knox County is conducting non-analytical surveys at 44 county parks. The work includes stream surveys that document impacted buffers, severe erosion and trash & debris using the Center for Watershed Protection Unified Stream Assessment method. During the reporting period, 26 surveys were completed using ESRI Collector software.
- C. If applicable, are monitoring records for activities performed during this reporting period submitted with this report. Yes No

11. Certification

This report must be signed by a ranking elected official or by a duly authorized representative of that person. See signatory requirements in sub-part 6.7.2 of the permit.

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

Tim Burchett, Mayor
Printed Name and Title


Signature

8/29/17
Date

Annual reports must be submitted by September 30 of each calendar year (Section 5.4) to the appropriate Environmental Field Office (EFO), identified in the table below:

EFO	Street Address	City	Zip Code	Telephone
Chattanooga	1301 Riverfront Pkwy, Suite 206	Chattanooga	37402	(423) 634-5745
Columbia	1421 Hampshire Pike	Columbia	38401	(931) 380-3371
Cookeville	1221 South Willow Ave.	Cookeville	38506	(931) 520-6688
Jackson	1625 Hollywood Drive	Jackson	38305	(731) 512-1300
Johnson City	2305 Silverdale Road	Johnson City	37601	(423) 854-5400
Knoxville	3711 Middlebrook Pike	Knoxville	37921	(865) 594-6035
Memphis	8383 Wolf Lake Drive	Bartlett	38133	(901) 371-3000
Nashville	711 R S Gass Boulevard	Nashville	37216	(615) 687-7000

Attachments for Annual Report

1. Water with Unavailable Parameters (Impaired Waters) List
2. TMDLs with Waste Load Allocations for MS4 Discharges
3. Exceptional Tennessee Waters with MS4 Discharges
4. EO and PP E-Codes Report 7-1-16 through 6-30-17
5. Knox County QLP Withdrawal Letter
6. Analytical Monitoring
7. Conner Creek Memo to EFO
8. Non-Analytical Monitoring

Waterbody Impairment Pollutants and Sources			
Waterbody Name	Waterbody ID	Cause of Impairment	Pollutant Source
TIER 1 STREAMS			
Little Turkey Creek	TN06010201037-1000	Loss of biological integrity due to siltation	Discharges from MS4 area
Turkey Creek	TN06010201340-1000	Loss of biological integrity due to siltation Escherichia coli	Discharges from MS4 area
High Bluff Branch	TN06010201066-0600	Escherichia coli	Discharges from MS4 area
Sinking Creek	TN060102011330-1000	Escherichia coli	Discharges from MS4 area
Ten Mile Creek (formerly called Sinking Creek)	TN060102011334-0100	Habitat loss due to alteration in streamside or littoral vegetative cover Loss of biological integrity due to siltation Escherichia coli	Discharges from MS4 area
Willow Fork	TN06010207011-0300	Alteration in stream-side or littoral vegetative cover Loss of biological integrity due to siltation Escherichia coli	Discharges from MS4 area
Hines Branch	TN06010207011-0500	Habitat loss due to other anthropogenic substrate alterations Escherichia coli	Discharges from MS4 area
Knob Fork	TN06010207011-0600	Nitrate+Nitrite Loss of biological integrity due to siltation Habitat loss due to other anthropogenic substrate alterations Alteration in stream-side or littoral vegetative cover Escherichia coli	Discharges from MS4 area
Grassy Creek	TN06010207011-0700	Loss of biological integrity due to siltation Escherichia coli	Discharges from MS4 area
Meadow Creek	TN06010207011-0800	Escherichia coli	Discharges from MS4 area
Plumb Creek	TN06010207011-0900	Escherichia coli	Discharges from MS4 area
TIER 2 STREAMS			
Grable Branch	TN06010207004-0100	Oil & Grease Loss of biological integrity due to siltation Physical Substrate Habitat Alterations	Minor Industrial Point Source Channelization Industrial Permitted Runoff Discharges from MS4 area

Swanpond Creek	TN06010104001-1400	Loss of biological integrity due to siltation Alteration in stream-side or littoral vegetative cover Escherichia coli	Channelization Discharges from MS4 Area
Casteel Branch	TN06010201066-0100	Loss of biological integrity due to siltation	Pasture Grazing Discharges from MS4 area
Whites Creek	TN06010201080-0100	Other Anthropogenic Habitat Alterations Escherichia coli	Discharges from MS4 area Streambank Modification
Beaver Creek (segment 1000)	TN06010207011-1000	Phosphate Nitrates Escherichia coli Low Dissolved Oxygen Loss of biological integrity due to siltation Physical Substrate Habitat Alterations	<u>Section 1000</u> Major Municipal Point Source Pasture Grazing Discharges from MS4 Area
Beaver Creek (segments 2000 and 3000)	TN06010207011-2000 TN06010207011-3000	Escherichia coli Loss of biological integrity due to siltation Physical Substrate Habitat Alterations	<u>Sections 2000 and 3000</u> Pasture Grazing Discharges from MS4 Area Collection System Failure
Bullrun Creek	TN06010207014-1000	Escherichia coli	Discharges from MS4 Area Pasture Grazing
Bullrun Creek	TN06010207014-2000	Escherichia coli	Discharges from MS4 Area Pasture Grazing
Love Creek	TN06010104001-0100	Nitrate+Nitrite Loss of biological integrity due to siltation Other Anthropogenic Habitat Alterations Escherichia coli	Discharges from MS4 area (multiple MS4s)
TIER 3 STREAMS			
Roseberry Creek	TN06010104001-0500	Escherichia coli	Pasture Grazing Septic Tanks
Grandview Branch	TN06010201066-0400	Escherichia coli	Pasture Grazing
Little Flat Creek	TN06010104019-0100	Escherichia coli	Animal Feeding Operations (NPS)
Flat Creek (segment 1000)	TN06010104019-1000	Escherichia coli	Pasture Grazing Collection System Failure

Flat Creek (segment 2000)	TN06010104019-2000	Escherichia coli	Pasture Grazing Collection System Failure
Fort Loudon Reservoir (segment 1000)	TN06010201020-1000	PCBs	Contaminated Sediment
Fort Loudon Reservoir (segment 2000)	TN06010201020-1000	Mercury, PCBs	Atmospheric Deposition Contaminated Sediment
Roddy Branch	TN06010201026-0100	Alteration in stream-side or littoral vegetative cover Physical Substrate Habitat Alteration, Loss of biological integrity due to siltation Escherichia coli	Pasture Grazing Channelization
Stock Creek (Segments 1000 and 2000)	TN06010201066-1000 TN06010201066-2000	Escherichia coli	Pasture Grazing
Gun Hollow Branch	TN06010201066-1200	Escherichia coli	Pasture Grazing
East Fork Third Creek (Located within the City of Knoxville)	TN06010201067-0100	Loss of biological integrity due to siltation Other Anthropogenic Habitat Alterations Escherichia coli	Discharges from MS4 area Urbanized High Density Area Land Development Collection System Failure
Third Creek (Located within the City of Knoxville)	TN06010201067-1000	Nitrates Loss of biological integrity due to siltation Other Anthropogenic Habitat Alterations Escherichia coli	Discharges from MS4 area Urbanized High Density Area Land Development Collection System Failure
First Creek (Located within the City of Knoxville)	TN06010201080-1000	Nitrate + Nitrite Loss of biological integrity due to siltation Other Anthropogenic Habitat Alterations Escherichia coli	Discharges from MS4 area Urbanized High Density Area Collection System Failure
Second Creek (Located within the	TN06010201097- 1000	Nitrate + Nitrite Loss of biological integrity due to siltation Other Anthropogenic Habitat Alterations	Discharges from MS4 area Urbanized High Density Area

City of Knoxville)		Escherichia coli	Collection System Failure
Williams Creek (Located within the City of Knoxville)	TN06010201719 – 1000	Nitrate+Nitrite Other Habitat Alterations Escherichia coli	Discharges from MS4 area Collection System Failure
Baker Creek (Located within the City of Knoxville)	TN06010201721 – 1000	Nitrate + Nitrite Other Habitat Alterations Escherichia coli	Discharges from MS4 area Collection System Failure
Goose Creek (Located within the City of Knoxville)	TN06010201723 – 1000	Loss of biological integrity due to siltation Other Anthropogenic Habitat Alterations PCBs Escherichia coli	Collection System Failure Discharges from MS4 area RCRA Hazardous Waste
Fourth Creek (Located within the City of Knoxville)	TN06010201697-1000	Physical Substrate Habitat Alterations Escherichia coli	Discharges from MS4 area Channelization
Melton Hill Reservoir	TN06010207006-1000	PCBs Chlordane	Contaminated Sediment

TMDLs with waste load allocations for MS4 discharges in Knox County

Final/EPA Approval Date	TMDL Type	Watershed	HUC	Waterbody Name	Waterbody ID
1/12/2017	E coli	Fort Loudoun Lake	06010201	Stock Creek	TN06010201066-1000
1/12/2017	E coli	Fort Loudoun Lake	06010201	Stock Creek	TN06010201066-2000
1/12/2017	E coli	Fort Loudoun Lake	06010201	Grandview Branch	TN06010201066-4000
1/12/2017	E coli	Fort Loudoun Lake	06010201	Gun Hollow Branch	TN06010201066-1200
1/12/2017	E coli	Fort Loudoun Lake	06010201	High Bluff Branch	TN06010201066-0600
1/12/2017	E coli	Fort Loudoun Lake	06010201	Roddy Branch	TN06010201026-0100
1/12/2017	E coli	Fort Loudoun Lake	06010201	Whites Creek	TN06010201080-0100
1/12/2017	E coli	Fort Loudoun Lake	06010201	Sinking Creek	TN060102011330-1000
1/12/2017	E coli	Fort Loudoun Lake	06010201	Ten Mile Creek	TN060102011334-0100
1/12/2017	E coli	Fort Loudoun Lake	06010201	Turkey Creek	TN06010201640-1000
11/29/2005	E coli	Lower Clinch	06010207	Beaver Creek	TN06010207011-1000
11/29/2005	E coli	Lower Clinch	06010207	Beaver Creek	TN06010207011-2000
11/29/2005	E coli	Lower Clinch	06010207	Beaver Creek	TN06010207011-3000
11/29/2005	E coli	Lower Clinch	06010207	Bull Run Creek	TN06010207014-1000
11/29/2005	E coli	Lower Clinch	06010207	Hinds Creek	TN06010207016-3000
3/15/2006	Siltation Habitat Alteration	Lower Clinch	06010207	Grable Branch	TN06010207004-0100
3/15/2006	Siltation Habitat Alteration	Lower Clinch	06010207	Williams Branch	TN06010207014-0100
3/15/2006	Siltation Habitat Alteration	Lower Clinch	06010207	Foster Branch	TN06010207014-0110
3/15/2006	Siltation Habitat Alteration	Lower Clinch	06010207	Bull Run Creek	TN06010207014-1000
3/15/2006	Siltation Habitat Alteration	Lower Clinch	06010207	Hines Branch	TN06010207011-0500
3/15/2006	Siltation Habitat Alteration	Lower Clinch	06010207	Knob Fork	TN06010207011-0600

TMDLs with waste load allocations for MS4 discharges in Knox County

3/15/2006	Siltation Habitat Alteration	Lower Clinch	06010207	Beaver Creek	TN06010207011-1000
3/15/2006	Siltation Habitat Alteration	Lower Clinch	06010207	Beaver Creek	TN06010207011-2000
3/15/2006	Siltation Habitat Alteration	Lower Clinch	06010207	Beaver Creek	TN06010207011-3000
3/15/2006	Siltation Habitat Alteration	Lower Clinch	06010207	Grassy Creek	TN06010207011-0700
3/15/2006	Siltation Habitat Alteration	Lower Clinch	06010207	Meadow Creek	TN06010207011-0800
9/30/2008	E coli	Holston River	06010104	Sinking Creek	TN06010104011-0100
9/30/2008	E coli	Holston River	06010104	Turkey Creek	TN06010104004T-2100
9/30/2008	E coli	Holston River	06010104	Beaver Creek	TN06010104001-0900
9/30/2008	E coli	Holston River	06010104	Swanpond Creek	TN06010104001-1400
9/30/2008	E coli	Holston River	06010104	Flat Creek	TN06010104019-2000
9/30/2008	E coli	Holston River	06010104	Little Flat Creek	TN06010104019-0100
9/30/2008	E coli	Holston River	06010104	Roseberry Creek	TN06010104001-0500
2/12/2010	PCB	Fort Loudoun Lake	06010201	Fort Loudoun Reservoir	TN06010201020-1000
2/12/2010	PCB	Fort Loudoun Lake	06010201	Fort Loudoun Reservoir	TN06010201020-2000
11/21/2005	E coli	Little River	06010201	Roddy Branch	TN06010201026-0100
11/21/2005	E coli	Little River	06010201	Grandview Branch	TN06010201066-0300
11/21/2005	E coli	Little River	06010201	High Bluff Branch	TN06010201066-0600
11/21/2005	E coli	Little River	06010201	Stock Creek	TN06010201066-1000
11/21/2005	E coli	Little River	06010201	Stock Creek	TN06010201066-2000
11/21/2005	E coli	Little River	06010201	Gun Hollow Branch	TN06010201066-1200

TMDLs with waste load allocations for MS4 discharges in Knox County

2/1/2006	Siltation Habitat Alteration	Fort Loudoun Lake	06010201	Roddy Branch	TN06010201026-0100
2/1/2006	Siltation Habitat Alteration	Fort Loudoun Lake	06010201	Casteel Branch	TN06010201066-0100
2/1/2006	Siltation Habitat Alteration	Fort Loudoun Lake	06010201	Twin Branch	TN06010201066-0200
2/1/2006	Siltation Habitat Alteration	Fort Loudoun Lake	06010201	McCall Branch	TN06010201066-0500
2/1/2006	Siltation Habitat Alteration	Fort Loudoun Lake	06010201	Stock Creek	TN06010201066-1000
2/1/2006	Siltation Habitat Alteration	Fort Loudoun Lake	06010201	Whites Creek	TN06010201080-0100
2/1/2006	Siltation Habitat Alteration	Fort Loudoun Lake	06010201	Sinking Creek	TN060102011330-2000
2/1/2006	Siltation Habitat Alteration	Fort Loudoun Lake	06010201	Little Turkey Creek	TN06010201037-1000
2/1/2006	Siltation Habitat Alteration	Fort Loudoun Lake	06010201	Turkey Creek	TN06010201340-1000

Exceptional Tennessee Waters in Knox County

Waterbody Name	Waterbody ID
Hogskin Branch	TN06010104001-0020
Holston River	TN06010104001
French Broad River	TN06010107001
Tuckahoe Creek	TN06010107039-1000
Turkey Creek	TN06010201340-1000
Clinch River – Melton Hill Reservoir	TN06010207006-1000
Brice Branch Unnamed Tributary	TN06010104019-0999
Flat Creek Unnamed Tributary	TN06010104019-1000

Action Date	Label	Completed Date	Comments	Location Description	Target Demographic
07/16/2016	Beaver Creek Farmer's Breakfast	07/16/2016			General Public
07/17/2016	Water For Life Outreach Event	07/17/2016		World's Fair Park	General Public
07/17/2016	SCD Water For Life Booth	07/17/2016	Outreach event in World's Fair Park as part of the KY/TN Water Professional Conference. Target audience was children; facilitated the "Sediment Survival" activity.	World's Fair Park	General Public
07/31/2016	Permanent Stormwater Control Measure letters to homeowners	07/31/2016	Dennis sent a total of 5 letters out to owners / operators of permanent SCMs in the month of July 2016		Permanent SCM Operators (HOA's)
07/31/2016	Permanent Stormwater Management devices letters to Homeowners	07/31/2016	Dennis sent out a total of 4 letters to owners of permanent stormwater control devices in July.		General Public
08/17/2016	EPW SWPPP Training	08/17/2016		Building D	Municipal Employees
08/18/2016	EPW SWPPP Training	08/18/2016			Municipal Employees
08/18/2016	Enviroscape Lesson	08/18/2016		Tate's School	General Public
08/22/2016	Drainageway Maintenance Brochures Sent to homeowners	08/22/2016	Tracy sent out 17 to homeowners on Piperton Ln. and 6 to homeowners on Avashire Ln. The total sent was 23 letters and pamphlets.		General Public
08/05/2016	White's Creek Watershed Landowner Survey	08/26/2016		Survey Monkey 10-question survey	General Public
09/13/2016	UT Watershed Symposium BOOTH	09/13/2016		Hollingsworth Auditorium, UT Ag Campus	General Public
09/28/2016	Solid Waste SWPPP Training FY17	09/22/2016	This newsletter's feature article was about rain gardens	Stormwater Conference Room	Municipal Employees
10/01/2016	Fall E-Newsletter	10/01/2016			General Public
10/05/2016	PSCC Strawberry Plains English / Watershed Class	10/05/2016		PSCC Straw Plains Campus	General Public
10/10/2016	SCD Farmer's Banquet	10/10/2016		Bearden Banquet Hall	General Public
10/11/2016	PSCC Storm Drain Chalk Art	10/11/2016		Strawberry Plains Campus	General Public
10/22/2016	Green Village Green Summit 2016	10/22/2016		Pellissippi Hardin Valley campus	General Public
10/29/2016	West Hills Elementary Fall Festival	10/29/2016		West Hills Elementary	General Public
11/01/2016	Parks & Rec Stormwater Pollution Prevention Plan overview and Training	11/01/2016		Parks & Rec Dept. Administration building	Municipal Employees
12/20/2016	Letters to Homeowners - drainageway maintenance	12/20/2016			General Public
12/28/2016	Winter E-Newsletter	12/28/2016	Sent to 361 Subscribers		General Public
02/03/2017	2017 House & Garden Show	02/05/2017		Knoxville Convention Center	General Public
02/06/2017	Unplanned Releases of Wastewater & Drinking Water: How to protect streams from the impacts	02/06/2017		Hallsdale Powell Utility District	Engineering & Development Community
02/25/2017	100K Tree Day	02/25/2017			General Public
02/28/2017	Master Gardener Training	02/28/2017		UT Ag Campus	General Public
01/02/2017	UT Grounds Management for Homeowners	02/28/2017		UT Conference Center	General Public
01/30/2017	UT Grounds Management Short Course	02/28/2017		UT Conference Center	Chemical applicators
03/19/2017	Emory Road Litter Pick-up	02/28/2017		Emory Road near Halls Library	General Public
03/19/2017	Hadasah Women's Group Rain Garden Presentation	03/19/2017		Arnstein Jewish Community Center	General Public
03/22/2017	IDDE Letters to Landowners: pool discharges	03/22/2017			General Public
03/29/2017	Spring 2017 E-Newsletter	03/29/2017		email	General Public
04/03/2017	River Rescue 2017	04/01/2017		Caswell Park	General Public
04/03/2017	River Rescue 2017	04/01/2017		Ten Mile Creek Greenway	General Public
04/03/2017	In-Situ Product Demo / Lunch & Learn	04/01/2017		Stormwater Conference Room	Engineering & Development Community
04/07/2017	Unplanned Releases of Wastewater & Drinking Water: How to protect streams from the impacts	04/07/2017		West Knox Utility District	Engineering & Development Community
04/12/2017	Flitrex Lunch & Learn: Streambank Restoration & Living Shorelines	04/12/2017		Building D of EPW Complex, Knox County	Engineering & Development Community
04/15/2017	Earth Fest 2017	04/15/2017		Knoxville Botanical Gardens	General Public
04/18/2017	ESP Roundup	04/18/2017	14 lbs. of sediment removed from FlexStorm unit; 550 lbs. of sediment removed from EPW campus in response to Quarterly inspection conducted on March 21, 2017	Jubilee Banquet Hall, Callahan Rd.	General Public
04/19/2017	EPW SWPPP Activity - Sediment removed	04/19/2017			Municipal Employees
04/20/2017	Food Handling Stormwater BMP Posters delivered to County Schools	04/20/2017		EPW Complex	Municipal Employees
04/28/2017	Vegetated Streamside Buffer Workshop	04/28/2017		87 Knox County schools	General Public
04/29/2017	Breathibition - TN River Runoff 5K Promotion	04/29/2017		Bearden Branch library	General Public
				Downtown	General Public

04/30/2017	Turkey Creek Clean-Up Education		04/30/2017	Turkey Creek greenway	General Public
05/09/2017	WaterFest 2017		05/09/2017	Jlams Nature Center	General Public
05/09/2017	Farm City Day		05/09/2017	Chilhowee Park	General Public
05/12/2017	Flat Creek Farm Tour		05/12/2017	Flat Creek farm	General Public
05/15/2017	Fulton High School Contribution Day		05/15/2017	Fulton High School	General Public
05/16/2017	IECA Conference: Creating a Successful SWPPP for your Municipal Facility		05/16/2017	Charleston, SC IECA Conference	Municipal Employees
06/02/2017	TN River Runoff 5k & Cheers to Clean Water Celebration		06/02/2017	UT Gardens	General Public
06/03/2017	Rain Barrel Truckload Sale 2017		06/03/2017	UT Gardens	General Public
06/12/2017	EPW SWPPP Activity - sediment removed		06/12/2017	EPW campus	General Public
06/19/2017	Sheriff's Detention Facility Staff Trainings		06/19/2017	Roger D. Wilson Detention Facility	Municipal Employees
06/30/2017	Adopt-A-Watershed Hands-On Learning		06/30/2017	Knox County schools	General Public
06/30/2017	Rain Barrel Workshops 2017		06/30/2017	Various	General Public
06/30/2017	Upward Bound Invasive Removal		06/30/2017	various	General Public
06/30/2017	Adopt-A-Stream 2017		06/30/2017		General Public
06/30/2017	Summer 2017 E-Newsletter		06/30/2017		General Public
06/30/2017	Environmental Stewardship Numbers FY17		06/30/2017	+ 1 living wall	General Public



OFFICE OF COUNTY MAYOR TIM BURCHETT

Department of Engineering & Public Works

Codes Administration • Fire Prevention • Fleet Services • Highway Maintenance • Planning & Development
Soil Conservation • Solid Waste • Stormwater Management • Traffic Engineering

May 5, 2017

Ms. Tisha Calabrese-Benton
Tennessee Department of Environment & Conservation
Tennessee Tower - 2nd Floor
312 Rosa L. Parks Ave.
Nashville, TN 37243

Dear Ms. Benton:

Knox County, Tennessee has been recognized as a Qualifying Local Program (QLP) since March 8, 2013, through the pilot program initiated by the Tennessee Department of Environment and Conservation (TDEC). We are grateful to TDEC for your support of our stormwater management program.

During the time we have participated in the program, we have continually sought to fully meet the conditions of our MS4 permit, while at the same time taking every reasonable step to protect the interests of all of our constituent groups, including area homeowners, the land development community, and our professional partners at local utilities, other local governments, and other public institutions.

As we consider how best to continue these efforts, it has become evident to us that the QLP model is not the ideal framework for Knox County. The extensive number of 303(d) listed streams, a high level of development activity, and the density of existing housing stock creates a difficult regulatory environment. We believe utilizing the concurrent jurisdiction approach that is more widely observed across the state will better ensure our ability to meet the requirements of our MS4 permit.

Accordingly, please consider this as our official notice of withdrawal from the QLP program, effective June 9, 2017. Starting June 12, 2017, we will refer any applicant seeking coverage under the state's Construction General Permit to the Knoxville Field Office of TDEC.

We appreciate our professional partnership with everyone at TDEC, and thank-you for all you do on behalf of the citizens of Tennessee.

Tisha Calabrese Benton

May 5, 2017

Page 2:

Sincerely,

A handwritten signature in blue ink, appearing to read "Dwight Van de Vate". The signature is stylized with a large initial "D" and "V".

Dwight Van de Vate

Senior Director

CC: Mayor Burchett
Dean Rice, COS
Jim Snowden, Chief Engineer
Chris Granju, P.E.
Brad Warren, P.E.

Station ID	Date	Time	Project Name	Activity Category (routine/field duplicate)	Spec Cond (µDO (%))	fDO (mg/L)	Temp (degrees C)	E. coli cfu/100ml
BULLR007.2AN	10/17/2016	9:54	KnoxCoMS4	Routine				142
BULLR007.2AN	10/12/2016	9:57	KnoxCoMS4	Routine				114
BULLR007.2AN	10/26/2016	10:01	KnoxCoMS4	Routine				74
BULLR007.2AN	11/9/2016	9:55	KnoxCoMS4	Routine				55
BULLR007.2AN	11/2/2016	10:22	KnoxCoMS4	Routine				47
BULLR007.2AN	10/24/2016	10:29	KnoxCoMS4	Routine	358	105	10.83	
BULLR007.2AN	10/18/2016	10:18	KnoxCoMS4	Routine	354	105.5	10.59	
BULLR007.2AN	10/31/2016	10:06	KnoxCoMS4	Routine	351	106.2	10.9	
BULLR007.2AN	11/7/2016	10:14	KnoxCoMS4	Routine	357	109.6	11.46	
BULLR007.2AN	10/13/2016	12:40	KnoxCoMS4	Routine	334	146.2	14.58	
CONN000.1KN	10/26/2016	10:46	KnoxCoMS4	Routine				727
CONN000.1KN	10/12/2016	11:00	KnoxCoMS4	Routine				488
CONN000.1KN	11/2/2016	11:19	KnoxCoMS4	Routine				488
CONN000.1KN	10/17/2016	10:37	KnoxCoMS4	Routine				461
CONN000.1KN	11/9/2016	10:39	KnoxCoMS4	Routine				365
CONN000.1KN	10/24/2016	11:19	KnoxCoMS4	Routine	320	113.8	11.63	
CONN000.1KN	10/18/2016	11:11	KnoxCoMS4	Routine	323	114.1	11.06	
CONN000.1KN	10/31/2016	10:55	KnoxCoMS4	Routine	276	111.7	11.25	
CONN000.1KN	11/7/2016	11:07	KnoxCoMS4	Routine	314	114.1	12.01	
CONN000.1KN	10/13/2016	1:43	KnoxCoMS4	Routine	220	155.6	15.42	
CONN001.7KN	11/9/2016	10:31 AM	KnoxCoMS4	Routine				2420
CONN001.7KN	10/17/2016	10:27	KnoxCoMS4	Routine				1986
CONN001.7KN	10/12/2016	10:40	KnoxCoMS4	Routine				1986
CONN001.7KN	10/26/2016	10:37	KnoxCoMS4	Routine				1733
CONN001.7KN	11/2/2016	10:59	KnoxCoMS4	Routine				649
CONN001.7KN	10/24/2016	11:09	KnoxCoMS4	Routine	253	92.3	10.01	
CONN001.7KN	10/18/2016	10:59	KnoxCoMS4	Routine	274	86	8.42	
CONN001.7KN	10/31/2016	10:46	KnoxCoMS4	Routine	261	80.6	8.4	
CONN001.7KN	11/7/2016	10:55	KnoxCoMS4	Routine	240	83.6	9.97	
CONN001.7KN	10/13/2016	1:08	KnoxCoMS4	Routine	237	157.2	15.37	
COX000.2KN	11/9/2016	9:25	KnoxCoMS4	Routine				345
COX000.2KN	10/17/2016	9:22	KnoxCoMS4	Routine				107
COX000.2KN	10/12/2016	9:23	KnoxCoMS4	Routine				70
COX000.2KN	10/26/2016	9:30	KnoxCoMS4	Routine				34

COX000.2KN	11/2/2016	9:53	KnoxCoMS4	Routine					12	19
COX000.2KN	10/24/2016	9:57	KnoxCoMS4	Routine	340	88	9.62	11.17		
COX000.2KN	10/18/2016	9:45	KnoxCoMS4	Routine	361	80.7	8.03	15.48		
COX000.2KN	10/31/2016	9:35	KnoxCoMS4	Routine	351	86.5	8.74	13.66		
COX000.2KN	11/7/2016	9:44	KnoxCoMS4	Routine	335	100.7	10.8	10.28		
COX000.2KN	10/13/2016	12:08	KnoxCoMS4	Routine	321	131.3	13.67	13.95		
COX000.2KN-DU	10/13/2016	12:42	KnoxCoMS4	Field Duplicate	333	146.4	14.54	15.42		
FLAT000.4KN	10/17/2016	11:53	KnoxCoMS4	Routine				14.5	308	
FLAT000.4KN	11/2/2016	12:02	KnoxCoMS4	Routine				14.5	291	
FLAT000.4KN	10/26/2016	11:40	KnoxCoMS4	Routine				10	231	
FLAT000.4KN	10/12/2016	12:03	KnoxCoMS4	Routine				13	201	
FLAT000.4KN	11/9/2016	11:33	KnoxCoMS4	Routine				12	99	
FLAT000.4KN	10/24/2016	12:21	KnoxCoMS4	Routine	379	136.7	13.89	14.65		
FLAT000.4KN	10/18/2016	12:13	KnoxCoMS4	Routine	387	143	13.46	18.29		
FLAT000.4KN	10/31/2016	11:55	KnoxCoMS4	Routine	381	128	12.82	15.45		
FLAT000.4KN	11/7/2016	12:15	KnoxCoMS4	Routine	369	131.8	13.84	13.12		
FLAT000.4KN	10/13/2016	2:49	KnoxCoMS4	Routine	338	187.1	18.33	16.64		
HOGSK000.1KN	10/12/2016	1:02	KnoxCoMS4	Routine				12	687	
HOGSK000.1KN	11/9/2016	11:57	KnoxCoMS4	Routine				10.5	435	
HOGSK000.1KN	10/17/2016	12:03	KnoxCoMS4	Routine				14.5	345	
HOGSK000.1KN	11/2/2016	12:20	KnoxCoMS4	Routine				14	210	
HOGSK000.1KN	10/26/2016	12:04	KnoxCoMS4	Routine				10.5	186	
HOGSK000.1KN	10/24/2016	12:45	KnoxCoMS4	Routine	377	105	10.85	13.87		
HOGSK000.1KN	10/18/2016	12:37	KnoxCoMS4	Routine	385	101.7	9.47	18.61		
HOGSK000.1KN	10/31/2016	12:20	KnoxCoMS4	Routine	384	103.2	10.01	14.99		
HOGSK000.1KN	11/7/2016	12:43	KnoxCoMS4	Routine	366	104.7	11.1	12.38		
HOGSK000.1KN	10/14/2016	10:01	KnoxCoMS4	Routine	373	90.7	8.96	15.52		
LFLAT000.3KN	10/17/2016	12:26	KnoxCoMS4	Routine				15	488	
LFLAT000.3KN	11/2/2016	12:49	KnoxCoMS4	Routine				14	488	
LFLAT000.3KN	10/26/2016	12:30	KnoxCoMS4	Routine				10	387	
LFLAT000.3KN	10/12/2016	12:42	KnoxCoMS4	Routine				12	225	
LFLAT000.3KN	11/9/2016	12:17	KnoxCoMS4	Routine				10	179	
LFLAT000.3KN	10/24/2016	1:06	KnoxCoMS4	Routine	382	85.4	8.92	13.2		
LFLAT000.3KN	10/18/2016	1:08	KnoxCoMS4	Routine	397	78.6	7.4	18.11		
LFLAT000.3KN	10/31/2016	12:42	KnoxCoMS4	Routine	383	80.5	7.9	14.25		
LFLAT000.3KN	11/7/2016	1:05	KnoxCoMS4	Routine	373	99.5	10.65	11.74		
LFLAT000.3KN	10/14/2016	9:33	KnoxCoMS4	Routine	366	82.3	8.35	14.35		

LFLAT005.9KN	10/26/2016	12:14	KnoxCoMS4	Routine						8.5	2420
LFLAT005.9KN	10/17/2016	12:15	KnoxCoMS4	Routine						14	2420
LFLAT005.9KN	10/12/2016	1:18	KnoxCoMS4	Routine						12.5	1414
LFLAT005.9KN	11/2/2016	12:38	KnoxCoMS4	Routine						13	1414
LFLAT005.9KN	11/9/2016	12:08	KnoxCoMS4	Routine						10	1120
LFLAT005.9KN	10/24/2016	12:57	KnoxCoMS4	Routine	345	78.2	8.43			11.13	
LFLAT005.9KN	10/18/2016	12:53	KnoxCoMS4	Routine	373	86.5	8.26			17.48	
LFLAT005.9KN	10/31/2016	12:31	KnoxCoMS4	Routine	357	82.5	8.37			14.74	
LFLAT005.9KN	11/7/2016	12:55	KnoxCoMS4	Routine	365	102.5	10.99			12.1	
LFLAT005.9KN	10/14/2016	9:21	KnoxCoMS4	Routine	344	72.5	7.34			14	
MURPH000.1KN	10/17/2016	12:58	KnoxCoMS4	Routine						15	166
MURPH000.1KN	11/2/2016	1:24	KnoxCoMS4	Routine						13	142
MURPH000.1KN	10/26/2016	1:08	KnoxCoMS4	Routine						9.5	133
MURPH000.1KN	11/9/2016	12:47	KnoxCoMS4	Routine						10.5	98
MURPH000.1KN	10/24/2016	1:39	KnoxCoMS4	Routine	348	95.9	9.84			13.93	
MURPH000.1KN	10/18/2016	2:07	KnoxCoMS4	Routine	362	84.5	7.95			18.24	
MURPH000.1KN	10/31/2016	1:17	KnoxCoMS4	Routine	351	97.7	9.58			15.32	
MURPH000.1KN	11/7/2016	1:43	KnoxCoMS4	Routine	340	98.2	10.48			12.2	
MURPH000.1KN	10/14/2016	10:41	KnoxCoMS4	Routine	321	92.8	9.37			15.17	
MURPH000.1KN-DU	11/7/2016	1:45	KnoxCoMS4	Field Duplicate	335	96.2	10.33			12.01	
MURPH000.1KN-DU	10/14/2016	10:44	KnoxCoMS4	Routine	311	92.9	9.24			15.17	
ROSEB000.6KN	11/2/2016	11:54	KnoxCoMS4	Routine						14	816
ROSEB000.6KN	11/9/2016	11:24	KnoxCoMS4	Routine						11	649
ROSEB000.6KN	10/26/2016	11:29	KnoxCoMS4	Routine						9.5	649
ROSEB000.6KN	10/17/2016	11:26	KnoxCoMS4	Routine						15	649
ROSEB000.6KN	10/12/2016	11:50	KnoxCoMS4	Routine						12	613
ROSEB000.6KN	10/24/2016	12:06	KnoxCoMS4	Routine	389	111.2	11.35			14.27	
ROSEB000.6KN	10/18/2016	12:00	KnoxCoMS4	Routine	398	108.2	10.31			17.64	
ROSEB000.6KN	10/31/2016	11:43	KnoxCoMS4	Routine	390	107.4	10.72			15.39	
ROSEB000.6KN	11/7/2016	12:04	KnoxCoMS4	Routine	380	117.9	12.4			13.03	
ROSEB000.6KN	10/13/2016	2:34	KnoxCoMS4	Routine	352	165.3	15.88			16.34	
ROSEB002.4KN	10/17/2016	11:53	KnoxCoMS4	Routine						14	2420
ROSEB002.4KN	10/26/2016	11:55	KnoxCoMS4	Routine						9	1203
ROSEB002.4KN	10/12/2016	12:24	KnoxCoMS4	Routine						12	1203
ROSEB002.4KN	11/9/2016	11:46	KnoxCoMS4	Routine						10	687
ROSEB002.4KN	11/2/2016	12:16	KnoxCoMS4	Routine						13	649
ROSEB002.4KN	10/24/2016	12:36	KnoxCoMS4	Routine	373	101.4	10.59			13.22	

ROSEB002.4KN	10/18/2016	12:30	KnoxCoMS4	Routine	392	98.1	9.41	17.25	
ROSEB002.4KN	10/31/2016	12:09	KnoxCoMS4	Routine	385	99.7	10.01	14.99	
ROSEB002.4KN	11/7/2016	12:32	KnoxCoMS4	Routine	371	105.2	11.33	11.8	
ROSEB002.4KN	10/13/2016	3:06	KnoxCoMS4	Routine	347	143.2	14.52	15.23	
ROSEB002.4KN-DU	11/2/2016	12:17	KnoxCoMS4	Field Duplicate				13	517
ROSEB006.2KN	11/9/2016	12:29	KnoxCoMS4	Routine				10	1986
ROSEB006.2KN	10/17/2016	12:40	KnoxCoMS4	Routine				16	980
ROSEB006.2KN	10/12/2016	1:39	KnoxCoMS4	Routine				12	921
ROSEB006.2KN	10/26/2016	12:50	KnoxCoMS4	Routine				10	866
ROSEB006.2KN	11/2/2016	1:04	KnoxCoMS4	Routine				14	435
ROSEB006.2KN	10/24/2016	1:22	KnoxCoMS4	Routine	369	86.1	9.11	12.82	
ROSEB006.2KN	10/18/2016	1:22	KnoxCoMS4	Routine	408	63.6	5.89	18.41	
ROSEB006.2KN	10/31/2016	12:55	KnoxCoMS4	Routine	386	69.6	6.57	14.85	
ROSEB006.2KN	11/7/2016	1:20	KnoxCoMS4	Routine	361	58.7	6.29	11.35	
ROSEB006.2KN	10/14/2016	10:18	KnoxCoMS4	Routine	360	57.1	5.81	14.27	
STOCK002.0KN	11/9/2016	8:30 AM	KnoxCoMS4	Routine				9	387
STOCK002.0KN	10/17/2016	8:37	KnoxCoMS4	Routine				15	190
STOCK002.0KN	10/26/2016	8:48	KnoxCoMS4	Routine				9	185
STOCK002.0KN	11/2/2016	9:05	KnoxCoMS4	Routine				12	105
STOCK002.0KN	10/12/2016	2:44	KnoxCoMS4	Routine				15	68
STOCK002.0KN	10/24/2016	9:01	KnoxCoMS4	Routine	318	76.5	7.68	13.03	
STOCK002.0KN	10/18/2016	8:55	KnoxCoMS4	Routine	328	70.1	6.69	17.48	
STOCK002.0KN	10/31/2016	8:54	KnoxCoMS4	Routine	325	66.2	6.58	14.53	
STOCK002.0KN	11/7/2016	8:57	KnoxCoMS4	Routine	318	76.9	7.94	11.76	
STOCK002.0KN	10/13/2016	11:21	KnoxCoMS4	Routine	291	112.1	11.32	14.84	
WHITE000.1KN	10/12/2016	8:50	KnoxCoMS4	Routine				13	816
WHITE000.1KN	10/17/2016	9:05	KnoxCoMS4	Routine				15.5	579
WHITE000.1KN	10/26/2016	9:15	KnoxCoMS4	Routine				11	361
WHITE000.1KN	11/2/2016	9:36	KnoxCoMS4	Routine				14	276
WHITE000.1KN	11/9/2016	9:08:00 AM	KnoxCoMS4	Routine				12	122
WHITE000.1KN	10/24/2016	9:38	KnoxCoMS4	Routine	378	90.3	9.2	14.32	
WHITE000.1KN	10/18/2016	9:27	KnoxCoMS4	Routine	384	83.8	8.03	17.37	
WHITE000.1KN	10/31/2016	9:20	KnoxCoMS4	Routine	377	88.2	8.6	15.75	
WHITE000.1KN	11/7/2016	9:30	KnoxCoMS4	Routine	369	93.2	9.8	13.05	
WHITE000.1KN	10/13/2016	11:50	KnoxCoMS4	Routine	349	123.3	12.18	16.08	
WHITE003.2T000.3KN	10/12/2016	2:10	KnoxCoMS4	Routine				13.5	1120
WHITE003.2T000.3KN	10/26/2016	1:26	KnoxCoMS4	Routine				11	980

WHITE003.2T000.3KN	10/17/2016	1:18	KnoxCoMS4	Routine					15	687
WHITE003.2T000.3KN	11/9/2016	1:05	KnoxCoMS4	Routine					11	461
WHITE003.2T000.3KN	11/2/2016	1:42	KnoxCoMS4	Routine					14.5	461
WHITE003.2T000.3KN	10/24/2016	1:56	KnoxCoMS4	Routine	426	104.7	10.32	15.95		
WHITE003.2T000.3KN	10/18/2016	1:53	KnoxCoMS4	Routine	412	99.9	9.49	17.76		
WHITE003.2T000.3KN	10/31/2016	1:30	KnoxCoMS4	Routine	416	104.4	10.06	16.32		
WHITE003.2T000.3KN	11/7/2016	2:01	KnoxCoMS4	Routine	417	98.1	9.93	14.56		
WHITE003.2T000.3KN	10/14/2016	11:10	KnoxCoMS4	Routine	394	97.1	9.71	15.39		
WHITE003.2T000.3KN	11/9/2016	1:06	KnoxCoMS4	Field Duplicate					11	291
WHITE003.2T000.3KN	10/18/2016	1:55	KnoxCoMS4	Field Duplicate	415	99.9	9.5	17.77		
WHITE003.2T000.3KN	10/31/2016	1:32	KnoxCoMS4	Field Duplicate	383	100.3	9.88	16.34		
WHITE003.5KN	11/9/2016	12:58	KnoxCoMS4	Routine					12	1046
WHITE003.5KN	10/17/2016	1:11	KnoxCoMS4	Routine					14.5	411
WHITE003.5KN	11/2/2016	1:36	KnoxCoMS4	Routine					15	411
WHITE003.5KN	10/26/2016	1:14	KnoxCoMS4	Routine					13	345
WHITE003.5KN	10/12/2016	2:02	KnoxCoMS4	Routine					14	186
WHITE003.5KN	10/24/2016	1:49	KnoxCoMS4	Routine	377	93.1	9.15	15.98		
WHITE003.5KN	10/18/2016	1:47	KnoxCoMS4	Routine	372	89	8.55	17.18		
WHITE003.5KN	10/31/2016	1:23	KnoxCoMS4	Routine	369	99.1	9.66	16.2		
WHITE003.5KN	11/7/2016	1:55	KnoxCoMS4	Routine	372	95	9.52	14.75		
WHITE003.5KN	10/14/2016	11:02	KnoxCoMS4	Routine	360	91	8.96	15.79		
WHITE003.5KN-DU	10/26/2016	1:20	KnoxCoMS4	Field Duplicate					13	365



OFFICE OF COUNTY MAYOR TIM BURCHETT

Department of Engineering & Public Works • Stormwater Management
205 West Baxter Avenue, Knoxville, TN 37917

To: Michael Atchley, Water Resources Manager, TDEC Knoxville EFO
From: Chris Granju, Knox County Stormwater Management Director
Natalie Landry, NPDES Project Manager *nk*
Date: May 30, 2017
Re: Ambient Data for Conner Creek, Knox County (TN06010207455_1000)

Knox County Stormwater collected bacteriological samples and instantaneous field parameters in Conner Creek, Knox County, during October and November 2016. Knox County is submitting the field and laboratory data for your consideration for inclusion in the next 305(b) report and listing on the 303(d) list.

Conner Creek is located in the Clinch River Watershed (HUC 060102070404). The waterbody ID for Conner Creek is TN06010207455_1000. TDEC has an established monitoring station at the Rippling Drive Crossing (Lat: 35.931866, Long: -84.225429). Knox County recently established an upstream station at the Mission Hill Lane crossing (Lat: 35.920971, Long: -84.212694). The two sampling station IDs are as follows:

CONNE000.1KN Rippling Drive crossing (TDEC station ID)

CONNE001.7KN Mission Hill Lane crossing (Knox County station ID)

Knox County staff followed the Site Location, Station Identification, Surface Water Collections in Wadeable Rivers and Streams, Instantaneous Field Parameters, Bacteriological Analyses and Data & Records Management protocols in the Division of Water Pollution Control **Quality Systems Standard Operating Procedures for Chemical and Bacteriological Sampling of Surface Water**.

The bacteria sampling design was based on the Recreation Criteria Rule. According to General Water Quality Criterial Rule 0400-40-03-.03(4)f Coliform - The concentration of the *E. coli* shall not exceed 126 cfu/100 ml, as a geometric mean based on a minimum of 5 samples collected from a given sampling site over a period of not more than 30 consecutive days.

The concentration of the *E. coli* group in any individual sample taken from a waterbody [other than a lake, reservoir, State Scenic River, Exceptional Tennessee Water or ONRW (0400-40-03-.06)] shall not exceed 941 cfu/100 ml.

Knox County collected samples on five separate dates over a period of not more than 30 consecutive days from 10/12/16-11/9/16. The samples were delivered to the laboratory at the Hallsdale Powell Utility District wastewater treatment plant. The lab is overseen by Water Quality Supervisor Todd Dykes. The samples were analyzed using the EPA approved Colilert Method. Instantaneous field parameters were collected in accordance with Protocol J of the **QS-SOP for Chemical & Bacteriological Sampling of Surface Water** and the **YSI 650-MDS Operations Manual**.

Table 1 shows the *E. coli* geometric mean result for the two sampling locations on Conner Creek.

Table 1 *E. coli* Geometric Mean for two sampling locations on Conner Creek, Knox County

Station ID	<i>E. coli</i> Geometric Mean of 5 samples in 30 days	Recreation Criteria for Coliform
CONNE000.1KN	493	impaired
CONNE001.7KN	1607	impaired

Table 2 shows the *E. coli* concentration of individual samples for each sampling location on all of the sample collection days.

Table 2 *E. coli* concentration data for two sampling locations on Conner Creek, Knox County.

Station ID	Date	<i>E. coli</i> cfu/100ml	Exceed individual sample Recreation <i>E. coli</i> (941 cfu/100ml)?
CONNE000.1KN	10/26/2016	727	meets standard
CONNE000.1KN	10/12/2016	488	meets standard
CONNE000.1KN	11/2/2016	488	meets standard
CONNE000.1KN	10/17/2016	461	meets standard
CONNE000.1KN	11/9/2016	365	meets standard
CONNE001.7KN	11/9/2016	2420	Impaired
CONNE001.7KN	10/17/2016	1986	Impaired
CONNE001.7KN	10/12/2016	1986	Impaired
CONNE001.7KN	10/26/2016	1733	Impaired
CONNE001.7KN	11/2/2016	649	meets standard

The field parameters collected using the YSI handheld multi-parameter probe were specific conductance, temperature and dissolved oxygen (both percent and mg/L). The data are attached in an Excel spreadsheet and are available electronically. Field duplicates were

collected for every ten samples and the YSI meter was calibrated pre- and post-sampling. Field data sheets and calibration logs are also available.

If you have any questions about the data or require additional information, please contact Natalie Landry at 865-215-5540 or natalie.landry@knoxcounty.org. Thank you for your consideration.

Ambient Data for Conner Creek, Knox County
TN06010207455_1000

Station ID	Date	Time	Spec Cond (uS/cm) field	DO (%) field	DO (mg/L) field	Temp (degrees C) field	E. coli cfu/100ml	Exceed Recreation E. coli (941)?	Bacteria analyzed by
CONNE000.1KN	10/26/2016	10:46				10.5	727	meets standard	HPUD
CONNE000.1KN	10/12/2016	11:00				12	488	meets standard	HPUD
CONNE000.1KN	11/2/2016	11:19				13	488	meets standard	HPUD
CONNE000.1KN	10/17/2016	10:37				13	461	meets standard	HPUD
CONNE000.1KN	11/9/2016	10:39				12	365	meets standard	HPUD
CONNE000.1KN	10/24/2016	11:19	320	113.8	11.63	14.44			
CONNE000.1KN	10/18/2016	11:11	323	114.1	11.06	16.76			
CONNE000.1KN	10/31/2016	10:55	276	111.7	11.25	15.11			
CONNE000.1KN	11/7/2016	11:07	314	114.1	12.01	13.12			
CONNE000.1KN	10/13/2016	1:43	220	155.6	15.42	15.76			
CONNE001.7KN	11/9/2016	10:31				9.5	2420	Impaired	HPUD
CONNE001.7KN	10/17/2016	10:27				14	1986	Impaired	HPUD
CONNE001.7KN	10/12/2016	10:40				9	1986	Impaired	HPUD
CONNE001.7KN	10/26/2016	10:37				7	1733	Impaired	HPUD
CONNE001.7KN	11/2/2016	10:59				11.5	649	meets standard	HPUD
CONNE001.7KN	10/24/2016	11:09	253	92.3	10.01	11.28			
CONNE001.7KN	10/18/2016	10:59	274	86	8.42	16.37			
CONNE001.7KN	10/31/2016	10:46	261	80.6	8.4	13.35			
CONNE001.7KN	11/7/2016	10:55	240	83.6	9.97	9.82			
CONNE001.7KN	10/13/2016	1:08	237	157.2	15.37	16.11			

Station ID	Geometric Mean of 5 samples in 30 days	Recreation Criteria for Coliform
CONNE000.1KN	493	impaired
CONNE001.7KN	1607	impaired

Unified Stream Assessments
Knox County Parks

Status	NAME	ParkCode	PARKCLASS	PARKTYPOLO	STREET	Watershed	Waterbody ID
no streams	Bower Field	BOWF			8744 Chapman Highway 37920	Hines Creek	TN06010107001_0400
no streams	Carter Park	CARP			9030 Asheville Highway 37924	Lyon Creek	TN06010104001_1300
no streams	Corryton Park	CORP			7737 Corryton Road 37721	Little Flat Creek	TN06010104019_0100
no streams	Gibbs Ruritan Park	GIRP	Community	Sports Complex	7827 Tazwell Pike	Beaver Creek	TN06010207011_3000
no streams	John Tarleton Park				3201 Division Street 37919	Third Creek	TN06010201067_1000
no streams	Mascot Park	MASP			1909 Number Two Drive, Mascot	Flat Creek	TN06010104019_1000
no streams	Powell Levi Park	POLP			7222 Martingale Drive 37849	Misc. tribs to Beaver Creek	TN06010207011_0998
revisit	Admiral Farragut Park	ADFP	Community	Traditional Community Park	9950 S Northshore Dr, 37922	Fort Loudoun Reservoir	TN06010201020_1000
revisit	Carl Cowan Park	CACP	Community	Traditional Community Park	10058 S. Northshore 37922	Fort Loudoun Reservoir	TN06010201020_1000
revisit	Halls Community Park	HACP	Community	Sports Complex	6933 Recreation Lane	Beaver Creek	TN06010207011_1000
revisit	Halls Greenway Park	HAGP	Open Space / Natural	Preserve/Reserve	7140 Andersonville Pike	Beaver Creek	TN06010207011_1000
revisit	Hickory Creek Park	HICP	Community	Traditional Community Park	2120 Everett Rd	Hickory Creek	TN06010207004_1000
revisit	Northwest Sports Complex/ Knox C	NOSC	District/Regional	Sports Complex	8050 Oak Ridge Hwy	Beaver Creek	TN06010207011_1000
revisit	Walker Springs Park	WASP	Community	Traditional Community Park	700 Kidder LN	Ten Mile Creek	TN060102011334_0100
revisit	Willow Creek Park	WLCP			7530 Quarry Road	Lammie Branch	TN06010207011_0210
revisit	Badgett Road Park #2	BRP2			8430 Badgett Road	Fort Loudoun Reservoir	TN06010201020_1000
revisit	Badgett Road Park #3	BRP3			8220 Badgett Road	Fort Loudoun Reservoir	TN06010201020_1000
revisit	Badgett Road Park #1	BRP1			8616 Badgett Road	Fort Loudoun Reservoir	TN06010201020_1000
revisit	Guinn Road Park	GURP			4115 Guinn Road 37932	Melton Hill Reservoir	TN06010207006_1000
revisit	Keller Bend Park #1				0 Keller Bend Road 37922	Fort Loudoun Reservoir	TN06010201020_1000
revisit	Solway Park	SOP	Community	Traditional Community Park	3206 Solway Road 37932	Beaver Creek	TN06010207011_1000
surveyed	Alcoa Way Optimist Club Park	AWOP	Community	Sports Complex	2022 Belt Road	Flenniken Branch	TN06010201089_0110
surveyed	Ball Camp Community Park				8734 Ball Camp Pike 37931	Plumb Creek	TN06010207011_0900
surveyed	Ball Camp Soccer Complex				1831 Hitching Post Drive 37921	Plumb Creek	TN06010207011_0900
surveyed	Beverly Park	BEP	District/Regional	Traditional District/Regional	5311 Beverly Park Circle 37918	Whites Creek	TN06010201080_0100
surveyed	Clayton Park	CLP	Neighborhood	Traditional Neighborhood Park	7347 Norris Frwy	Beaver Creek	TN06010207011_2000
surveyed	Dunn Park	DUP	Neighborhood	Traditional Neighborhood Park	S Peters Road	Ten Mile Creek	TN060102011334_0100
surveyed	East Knox Park	EAKP	Community	Traditional Community Park	9220 Millertown Pike	Roseberry Creek	TN06010104001_0500
surveyed	Forks Of The River Park	FOTP	Community	Traditional Community Park	5428 Strawberry Plains Pike	Holston River	TN06010104001_1400
surveyed	French Memorial Park	FRMP	Community	Traditional Community Park	7752 Martin Mill Pike 37920	stock Creek	TN06010201066_1000
surveyed	I C King Park	ICKP	District/Regional	Preserve/Reserve	3440 Alcoa Highway 37920	Fort Loudoun Reservoir	TN06010201089_0100
surveyed	Maloney Rd Park	MARP	Community	Traditional Community Park	3516 Ginn Drive	Fort Loudoun Reservoir	TN06010201020_1000
surveyed	Meadow Creek Soccer Complex	MCSC	Community	Sports Complex	2801 Ball Camp-Byington Road	Meadow Creek	TN06010207011_0800
surveyed	Meads Quarry	MEQ	Open Space / Natural	Nature Center	3518 Island Home Pike	Misc. Tribs French Broad	TN06010107001_0999
surveyed	Melton Hill Park	MEHP			3230 Williams Bend Road 37932	Melton Hill Reservoir	TN06010207006_1000
surveyed	Nicholas Ball Park	NIBP	Community	Traditional Community Park	8728 Ball Camp Pike 37932	Plumb Creek	TN06010207011_0900
surveyed	Plumb Creek Park	PLCP	Community	Traditional Community Park	1517 Hickey Road	Plumb Creek	TN06010207011_0900
surveyed	Powell Station	POS	Neighborhood	Traditional Neighborhood Park	2318 W. Emory	Beaver Creek	TN06010207011_2000
surveyed	Spring Place Park	SPPP	Community	Traditional Community Park	5201 Parker Drive 37924	Love Creek	TN06010104001_0100
surveyed	Sterchi Hills Park	STHP	Community	Traditional Community Park	1145 Dry Gap Pike	Knob Fork	TN06010207011_0600
surveyed	Thomas "Tank" Strickland Park	TTSP			4618 Asheville Highway 37914	Love Creek	TN06010104001_0100
surveyed	Tommy Schumpert Park	TOSP	District/Regional	Traditional District/Regional	2065 Rifle Range Dr.	Knob Fork	TN06010207011_0600
surveyed	Keller Bend Park #2				3360 Keller Bend Road 37922	Fort Loudoun Reservoir	TN06010201020_1000