TDEC Small MS4 Annual Report
Year Two (2)

for

from

July 1st, 2011 through June 30th, 2012
Report Due September 30th, 2012

Permit Tracking No. TNS075370

City of Johnson City, TN
Municipal and Safety Building
601 East Main Street
P.O. Box 2150
Johnson City, TN 37605-2150
Phone: 423-975-2854
Introduction / Summary

On April 27, 2011 the City of Johnson City and East Tennessee State University (ETSU) were issued the second version of the NPDES municipal separate storm sewer systems (MS4) phase II permit from the Tennessee Department of Environment and Conservation (TDEC). This permit regulates discharges from the municipal storm sewer system into the waters of the state Tennessee. The permit requires the City to perform five (5) minimum control measures (MCM) that must be completed during the permit cycle. During this second (2nd) year of the second (2nd) five (5) year permit, the required MCM’s were met by utilizing and revising approved best management practices (BMP’s).

The City’s goal for this first (1st) permit cycle was to continue the self sustaining stormwater management program. This program focused on fulfilling the intent of the NPDES permit and improving areas with localized flooding. To accomplish the goal of a self sustaining program the City has done the following through since 2003:

- Formed a twelve member Stormwater Advisory Task Force that developed a five-year stormwater management plan.
- Developed ordinances for controlling sediment runoff and illicit discharges.
- Implemented a stormwater utility fee to ensure long term source of funding.
- Hired additional staff dedicated to stormwater and erosion control.
- Implemented regular in-house training and education programs preformed by in-house staff, private consultants, and the State of Tennessee personnel.
- Identified impaired waters and determined methods to improve those waters.
- Purchased and implemented computer software (i.e. ASIST) for tracking NPDES Program.
- Purchased and implemented code compliance computer software (i.e. Blue Prince) for tracking stormwater related issues (e.g. Construction Sites, Outfalls, Complaints, Post-construction facilities, BMP’s).
- Developing post construction regulations and manual.
- Developed a five-year TMDL plan for siltation and escherichia coli (E. coli) in area streams.
- Implemented BMP’s to improve area streams.
- Public education regarding proper construction practices and use(s) of BMP’s.
- Completed stream outfall mapping and visual survey;
- Updated website for public education purposes.
The City continues to require Notices of Coverage (NOC’s) from the Tennessee Department of Environment and Conservation (TDEC) for all construction projects prior to the issuance of a city permit. The City also requires pre-construction meeting for projects that drainage to an impaired waterbody or from hotspots. We have successfully used the administrative process for the enforcement of the stormwater ordinances, resulting in mandated and/or negotiated best management practices (BMP’s) that meet the city requirements.

This annual report reflects the City being in full permit compliance with required year two (2) BMP’s. The City is striving to develop a complete stormwater management program that will meet the needs of the citizens and create a cleaner environment. The City currently has a stormwater program manager to oversee the entire program under the direction of the Public Works Director. The City also has a stormwater inspector who sole purpose is to inspect for erosion prevention and sediment control issues and a stormwater GIS Technician to ensure that the mapping and database systems are up to date. These efforts are supplemented by a management team including code enforcement and engineering, an environmental specialist, an increased level of inspection staff, plan reviewers, drafting/GIS staff, public relations specialists, as well as community action and volunteer groups. This team has been working on the implementation of a community wide stormwater management program that addresses water quality and quantity issues.
### Small Municipal Separate Storm Sewer System (MS4) Annual Report

1. **MS4 INFORMATION**

   City of Johnson City  NPDES Tracking No. TNS075370
   Name of MS4
   Andrew Best
   Name of Contact Person
   423-975-2854
   Telephone (including area code)
   P.O. Box 2150
   Mailing Address
   Johnson City  TN  37605
   City  State  ZIP code

   What is the current population of your MS4? 63,815
   What is the reporting period for this annual report? From 7-1-11 to 6-30-12

2. **PROTECTION OF STATE OR FEDERALLY LISTED SPECIES**

   A. Are any of the MS4 discharges or discharge-related activities likely to jeopardize any state or federally listed species (Part 3, Special Conditions, General Permit for Phase II MS4s)?
      - Yes ☒ No 

   B. Please attach the determination of the effect of the MS4 discharges on state or federally listed species per sub-part 3.2.1

3. **WATER QUALITY PRIORITIES**

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

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

<table>
<thead>
<tr>
<th>Waterbody I.D. #</th>
<th>Cause/TMDL Priority</th>
<th>Approved TMDL</th>
<th>MS4 Assigned to WLA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boone Reservoir</td>
<td>PCB / Chlordane - Natural Attenuation-Contaminated Sediment</td>
<td>☒ Yes</td>
<td>☐ No</td>
</tr>
<tr>
<td>(TN06010102006-1000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boones Creek</td>
<td>Nitrate+Nitrite L, Loss of biological integrity due to siltation NA, Alteration in stream-side or littoral vegetative cover M, Escherichia coli NA - Discharges from MS4 area Pasture Grazing, Land Development</td>
<td>☒ Yes</td>
<td>☐ No</td>
</tr>
<tr>
<td>(TN06010103006-1000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creek Name</td>
<td>Code</td>
<td>Parameters</td>
<td>Yes</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Brush Creek (TN06010103009-1000)</td>
<td>Nitrate + Nitrite L, Loss of biological integrity due to siltation NA, Other Anthropogenic Habitat Alterations M, Escherichia coli H - Discharges from MS4 area</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>Carroll Creek (TN06010103006 – 0100)</td>
<td>Nitrate + Nitrite L, Loss of biological integrity due to siltation NA, Alteration in stream-side or littoral vegetative cover M, Escherichia coli H - Discharges from MS4 area</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>Cash Hollow Creek (TN06010103635 – 0100)</td>
<td>Habitat loss due to alteration in stream-side or littoral vegetative cover M, Escherichia coli NA - Discharges from MS4 area</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>Catbird Creek (TN06010103046 – 0100)</td>
<td>Loss of biological integrity due to siltation M - Discharges from MS4 area</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Cedar Creek (TN06010102702 – 1000)</td>
<td>Loss of biological integrity due to siltation M, Habitat loss due to alteration in stream-side or littoral vegetative cover M, Escherichia coli H - Discharges from MS4 area Pasture Grazing</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Cobb Creek (TN06010103635 – 0200)</td>
<td>Alteration in stream-side or littoral vegetative cover M, Loss of biological integrity due to siltation NA - Discharges from MS4 area</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>Knob Creek (TN06010103635 – 1000)</td>
<td>Alteration in stream-side or littoral vegetative cover M, Nitrate + Nitrite L, Loss of biological integrity due to siltation NA, Escherichia coli NA - Discharges from MS4 area, Pasture Grazing</td>
<td>☒</td>
<td>☐</td>
</tr>
</tbody>
</table>
C. What specific sources of these pollutants of concern are you targeting? Sediment, failing septic systems

D. Do you have discharges to any Exceptional TN Waters (ETWs) or Outstanding National Resource Waters (ONRWs)?

E. Are you implementing additional specific provisions to ensure the continued integrity of ETWs or ONRWs located within your jurisdiction?

4. **PUBLIC EDUCATION AND PUBLIC PARTICIPATION**

A. Is your public education program targeting specific pollutants and sources of those pollutants?

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

Erosion Prevention and Sediment Control, trash, automotive

C. Note specific successful outcome(s) (NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period. Public display at TN Environmental Conference - distributed approx. 300 stormwater pamphlets, educated approx. 75 adults at TNSA meetings, ran 144 stormwater public service announcements on local radio.

D. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your stormwater program?

E. Provide a summary of all public meetings required by the permit. Regularly scheduled City Commission Meetings on the first (1st) and third (3rd) Thursday of each month, regularly scheduled planning commission meetings on the second (2nd) Tuesday of each month, Public Hearings are held as required by the permit with the public notices kept on file.

5. **CODES AND ORDINANCES REVIEW AND UPDATE**

A. Is a completed copy of the EPA Water Quality Scorecard submitted with this report?

B. Include status of implementation of code, ordinance and/or policy revisions associated with permanent stormwater management. This item is not required at this point in the permit.

6. **CONSTRUCTION**

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

Erosion and sediment control requirements?

Other construction waste control requirements?

Requirement to submit construction plans for review?

MS4 enforcement authority?

B. How many active construction sites disturbing at least one acre were there in your jurisdiction this reporting period? 35

C. How many of these active sites did you inspect this reporting period? All
Small Municipal Separate Storm Sewer System (MS4) Annual Report

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

E. Do you prioritize certain construction sites for more frequent inspections? ☑ Yes ☐ No
   If Yes, based on what criteria? New construction sites are inspected frequently to ensure that they are compliant. If the site is in good shape then the site is inspected monthly or after a significant rainfall event.

7. ILLEGAL DISCHARGE ELIMINATION
   A. Have you completed a map of all outfalls and receiving waters of your storm sewer system? ☑ Yes ☐ No
   B. Have you completed a map of all storm drain pipes of storm sewer system? ☐ Yes ☑ No
   C. How many outfalls have you identified in your system? 683
   D. How many of these outfalls have been screened for dry weather discharges? 100%
   E. How many of these have been screened more than once? 427
   F. What is your frequency for screening outfalls for illicit discharges? once every 5 years
   G. Do you have an ordinance that effectively prohibits illicit discharges? ☑ Yes ☐ No
   H. During this reporting period, how many illicit discharges/illegal connections have you discovered (or been reported to you)? 2
   I. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? 2

8. STORMWATER MANAGEMENT FOR MUNICIPAL OPERATIONS
   A. Have stormwater pollution prevention plans (or an equivalent plan) been developed for:
      All parks, ball fields and other recreational facilities ☑ Yes ☐ No
      All municipal turf grass/landscape management activities ☐ Yes ☑ No
      All municipal vehicle fueling, operation and maintenance activities ☑ Yes ☐ No
      All municipal maintenance yards ☑ Yes ☐ No
      All municipal waste handling and disposal areas ☑ Yes ☐ No
   B. Are stormwater inspections conducted at these facilities? ☑ Yes ☐ No
      1. If Yes, at what frequency are inspections conducted? Per the permit we are to inspect each operation once (1) in a 5 year period
   C. Have standard operating procedures or BMPs been developed for all MS4 field activities? (e.g., road repairs, catch basin cleaning, landscape management, etc.) ☐ Yes ☑ No
   D. Do you have a prioritization system for storm sewer system and permanent BMP inspections? ☑ Yes ☐ No
   E. On average, how frequently are catch basins and other inline treatment systems inspected? 900/month
   F. On average, how frequently are catch basins and other inline treatment systems cleaned out/maintained? 225/month
   G. Do municipal employees in all relevant positions and departments receive comprehensive training on stormwater management? ☑ Yes ☐ No
   H. If yes, do you also provide regular updates and refreshers? ☑ Yes ☐ No
      If so, how frequently and/or under what circumstances? The City is a member of the NE Tennessee Regional Stormwater Planning Group. This group contracts AMEC Earth and Environmental to conduct annual training seminars

9 PERMANENT STORMWATER CONTROLS
   A. Do you have an ordinance or other mechanism to require:
      Site plan reviews of all new and re-development projects? ☑ Yes ☐ No
      Maintenance of stormwater management controls? ☑ Yes ☐ No
      Retrofitting of existing BMPs with green infrastructure BMPs? ☐ Yes ☑ No
Small Municipal Separate Storm Sewer System (MS4) Annual Report

B. What is the threshold for new/redevelopment stormwater plan review? (e.g., all projects, projects disturbing greater than one acre, etc.) Any grading 4,000 sf and greater must obtain a permit

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

D. Do these performance standards go beyond the requirements found in paragraph 4.2.5.2 and require that pre-development hydrology be met for:
- Flow volumes ☐ Yes ☒ No
- Peak discharge rates ☐ Yes ☒ No
- Discharge frequency ☐ Yes ☒ No
- Flow duration ☐ Yes ☒ No

E. Please provide the URL/reference where all permanent stormwater management standards can be found.
   www.johnsoncitytn.org/documents/?doc=stormwater

F. How many development and redevelopment project plans were reviewed for this reporting period? 35

G. How many development and redevelopment project plans were approved? 35

H. How many permanent stormwater management practices/facilities were inspected? 33

I. Of those, how many were found to have inadequate maintenance? 1

J. Of those, how many were notified and remedied within 30 days? (If window is different than 30 days, please specify) 1

K. How many enforcement actions were taken that address inadequate maintenance? 0

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

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

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

O. How many maintenance agreements has the MS4 approved during the reporting period? 4

10. ENFORCEMENT

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

<table>
<thead>
<tr>
<th>Action</th>
<th>Construction</th>
<th>Permanent Stormwater Controls</th>
<th>Illicit Discharge</th>
<th>Authority?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notice of violation</td>
<td># 4</td>
<td># 0</td>
<td># 2</td>
<td>☒ Yes</td>
</tr>
<tr>
<td>Administrative fines</td>
<td># 0</td>
<td># 0</td>
<td># 0</td>
<td>☒ Yes</td>
</tr>
<tr>
<td>Stop Work Orders</td>
<td># 3</td>
<td># 0</td>
<td># 0</td>
<td>☒ Yes</td>
</tr>
<tr>
<td>Civil penalties</td>
<td># 0</td>
<td># 0</td>
<td># 0</td>
<td>☒ Yes</td>
</tr>
<tr>
<td>Criminal actions</td>
<td># 0</td>
<td># 0</td>
<td># 0</td>
<td>☒ Yes</td>
</tr>
<tr>
<td>Administrative orders</td>
<td># 0</td>
<td># 0</td>
<td># 0</td>
<td>☒ Yes</td>
</tr>
<tr>
<td>Other</td>
<td># 0</td>
<td># 0</td>
<td># 0</td>
<td>☒ Yes</td>
</tr>
</tbody>
</table>

B. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track the locations, inspection results, and enforcement actions in your jurisdiction? ☒ Yes ☐ No
Small Municipal Separate Storm Sewer System (MS4) Annual Report

C. What are the 3 most common types of violations documented during this reporting period? *mud in street/construction entrance not installed, Silt fence not initially installed properly, sediment basin/trap not installed initially or per the plan*

11. PROGRAM RESOURCES

A. What was your annual expenditure to implement the requirements of your MS4 NPDES permit and SWMP this past reporting period? **Approximately $500,000**

B. What is next year’s budget for implementing the requirements of your MS4 NPDES permit and SWMP? **$ 875,000**

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

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

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Began Tracking (year)</th>
<th>Frequency</th>
<th>Number of Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: E. coli</td>
<td>2003</td>
<td>Weekly April–September</td>
<td>20</td>
</tr>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

E. How many full time employees does your municipality devote to the stormwater program (specifically for implementing the stormwater program vs. municipal employees with other primary responsibilities that dovetail with stormwater issues)? 8.5

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

<table>
<thead>
<tr>
<th>Entity</th>
<th>Activity/Task/Responsibility</th>
<th>Your Oversight/Accountability Mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Tennessee University (ETSU)</td>
<td>ETSU's responsibility is to assist with the public education</td>
<td>ETSU and the City meet on the minimum of a quarterly basis to ensure communication</td>
</tr>
</tbody>
</table>

12. EVALUATING/MEASURING PROGRESS

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

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

13. STORMWATER MANAGEMENT PROGRAM UPDATE

A. Describe any changes to the MS4 program during the reporting period including but not limited to:

Changes adding (but not subtracting or replacing) components, controls or other requirements per paragraph 4.4.2.a of the permit. _None__

Changes to replace an ineffective or unfeasible BMP per paragraph 4.4.2.b of the permit.

Information (e.g. additional acreage, outfalls, BMPs) on program area expansion based on annexation or newly urbanized areas. _The City has co-permitted with ETSU and is continuing to work to implement PIE plan_.

Changes to the program as required by the division. _None_
14. **CERTIFICATION**

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

<table>
<thead>
<tr>
<th>Printed Name and Title</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
</table>

Annual reports must be submitted in accordance with the requirements of subpart 5.4. (Reporting) of the permit. Annual reports must be submitted to the appropriate Environmental Field Office (EFO) by September 30 of each calendar year, as shown in the table below:

<table>
<thead>
<tr>
<th>EFO</th>
<th>Street Address</th>
<th>City</th>
<th>Zip Code</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chattanooga</td>
<td>540 McCallie Avenue STE 550</td>
<td>Chattanooga</td>
<td>37402</td>
<td>(423) 634-5745</td>
</tr>
<tr>
<td>Columbia</td>
<td>1421 Hampshire Pike</td>
<td>Columbia</td>
<td>38401</td>
<td>(931) 380-3371</td>
</tr>
<tr>
<td>Cookeville</td>
<td>1221 South Willow Ave.</td>
<td>Cookeville</td>
<td>38506</td>
<td>(931) 432-4015</td>
</tr>
<tr>
<td>Jackson</td>
<td>1625 Hollywood Drive</td>
<td>Jackson</td>
<td>38305</td>
<td>(731) 512-1300</td>
</tr>
<tr>
<td>Johnson City</td>
<td>2305 Silverdale Road</td>
<td>Johnson City</td>
<td>37601</td>
<td>(423) 854-5400</td>
</tr>
<tr>
<td>Knoxville</td>
<td>3711 Middlebrook Pike</td>
<td>Knoxville</td>
<td>37921</td>
<td>(865) 594-6035</td>
</tr>
<tr>
<td>Memphis</td>
<td>8383 Wolf Lake Drive</td>
<td>Bartlett</td>
<td>38133</td>
<td>(901) 371-3000</td>
</tr>
<tr>
<td>Nashville</td>
<td>711 R S Gass Boulevard</td>
<td>Nashville</td>
<td>37216</td>
<td>(615) 687-7000</td>
</tr>
</tbody>
</table>