



Tennessee Department of Environment and Conservation
 Division of Water Pollution Control
 Enforcement and Compliance Section
 L&C Annex, 6th Floor, 401 Church Street
 Nashville, TN 37243
 (615) 532-0625

Small Municipal Separate Storm Sewer System (MS4) Annual Report

1. MS4 INFORMATION

Town of Smyrna

Name of MS4

Gregory A. Upham

Name of Contact Person

615-355-5701

Telephone (including area code)

Town Hall, 315 S. Lowry Street

Mailing Address

Smyrna

TN

37167

City

State

ZIP code

What is the current population of your MS4? 43,060 (2013 census)

What is the reporting period for this annual report? From 7-1-14 to 6-30-15

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.

Waterbody I.D. #	Cause/TMDL Priority	Approved TMDL		MS4 Assigned to WLA	
TN05130203 010-1000	Nitrate + Nitrite L	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Stewart Creek	Total Phosphorus L				
	Loss of biological integrity due to siltation NA				
TN05130203 010-2000	Escherichia coli				
Stewart Creek (near I-24)					

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TN05130203 010-0300 Harts Branch Creek	Loss biological integrity due to siltation NA	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
TN05130203 010-0310 Rock Springs Branch Creek	Loss of biological integrity due to siltation NA Physical substrate habitat alterations NA				
TN05130203 010-0200 Olive Branch Creek	Physical substrate habitat alterations NA Escherichia coli	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
TN05130203 010-0100 Rocky Fork Creek	Loss of biological integrity due to siltation NA Habitat loss due to alteration in stream-side or littoral vegetative cover NA				

C. What specific sources of these pollutants of concern are you targeting? Land development EPSC practices, permanent stormwater controls (detention basins, et al), free-standing grease receptacles, as well as miscellaneous MS4 discharges are being field inspected on a regular basis, while all violations are being duly enforced.

- D. Do you have discharges to any Exceptional TN Waters (ETWs) or Outstanding National Resource Waters (ONRWS)? Yes No
- E. Are you implementing additional specific provisions to ensure the continued integrity of ETWs or ONRWS located within your jurisdiction? Yes No

4. PUBLIC EDUCATION AND PUBLIC PARTICIPATION

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

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

1.) Standard education packet, including 25 brochures, with the 16-fold Stones River Watershed map/brochure (developed by the Rutherford County MS4 programs & Cumberland River Compact - 5,000 units/MS4 program) & 'Discover the Waters of Tennessee' being the primary components, were once again distributed at all education & outreach events. Topics include: land development (construction BMPs, sediment control, & detention basin maintenance); proper pesticide use; protection of the Water Quality Buffer Zone & storm drains to control nutrient & sediment loading; & IDDE information to control E-coli & other pollutants). The standard packet was distributed to just 20 young volunteers & citizens at the following public education/participation events: a.) Two 9th Annual Stewart Creek-fall stream cleanup events were held, where 16 volunteers cleaned three sites, removing 30 bags of litter; b.) Four 10th Annual Stewart Creek-spring stream cleanup events where 76 volunteers cleaned eight sites, removing 63 bags of litter & a plethora of debris. So far, 888 stream cleanup volunteers in 9-1/2 years. c.) 3rd Annual Storm Drain Decal Event saw 153 decals affixed to storm drains, in five subdivisions, using 18 volunteers (Eagle award) d.) 8th Annual Boat Day - 10th Annual WaterFest (4 exhibits/11 exhibitors), where 115 citizens & 22 staff learned about water quality, while enjoying canoeing & kayaking on 'flat' lake water. This event was filmed then broadcasted by Channel 3, while Academy gave away one kayak to a 10-year old boy. So far, 1,138 Boat Day participants in eight years. 2.) Rutherford County MS4 programs completed their 5th year of the Project WET Contract, while having to terminate their affiliation with the Discovery Center, a Discovery Center decision. Now, the contract resides with the Rutherford County government. This year saw 184 Rutherford County, 98 of which were in Smyrna, teachers Project WET trained & certified. Some 2,489 students & adults were informed, through Project WET & associated programs, at 589 school visits, several camps, & other associated activities. 3.) The SWM Program assisted Project WET contractor in two in-stream monitoring events involving a STEM teacher & 40-50 students of Stewarts Creek Middle School in adjoining Rocky Fork Branch. This resumes this annual event, last held in 2012. It was filmed and broadcasted. 4.) The 10-15 minute DVD, entitled Stewarts Creek Voyage was released & broadcasted on Channel 3. This DVD was filmed from two canoes on Stewart Creek, where the SWM Program Coordinator addressed stream health & safe boating, while floating the creek. 5.) Created two 5-10 minute DVDs, addressing past stream cleanup and Boat Day events, respectively then presented to the Rotary Club, a strong partner and Channel 3 broadcasted. 6.) Brief statements meant to direct homeowners & homeowner associations then engineers & business owners to the EPA water quality links found on our website were broadcasted on Channel 3 during the week of the quarterly SWAC meeting. 7.) So far, 158 certificates of appreciation were signed by Mayor Mary Esther Reed & distributed for all participants of stream cleanup events, storm drain decal days, & Boat Day staff, boat lenders, & contributing partners. 8.) Participated in the funding of the annual TN Assoc. of Broadcaster's Public Educ. Program, where local water quality radio announcements were broadcasted. 9.) So far, 34 VSA stream segments were designated then marked on a computerized town-wide map. 11 sites of the total 34 stream segments were assessed using USGS protocol for physical characteristics & habitat (23 sites were done last year). Since then, the Hanna HI-9829 monitoring device was used to test for temperature, pH, D.O., turbidity, & specific conductance at all 34 VSA sites. Aerial photos & up/downstream photos were taken at all VSA sites. Each site has its completed USGS form, aerial, & photos as a sub-chapter of a larger chapter assigned to each stream. All VSA reports are kept in an easily assessible three-ring binder. 10.) Of the total 434 outfalls, 229 were dry-weather assessed this year, while the other 205 were already dry-weather assessed last year. 11.) Re-entered into MTSU - CLEAR Institute (Biology Department) contract, who performed fall, winter, & spring water quality samplings at 10 sites, along with benthic monitoring. Sampling was completed during permit YR-12, while the results will not be officially reported until early permit YR-13.

C. Note specific successful outcome(s) (NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period. None

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

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- E. Provide a summary of all public meetings required by the permit. The Storm Water Advisory Committee (SWAC), is quite functional & comprised of seven Smyrna citizens (three civil engineers, one town council member & former mayor, one farmer, one Metro biologist/chemist, & one professional photographer) who meet: a.) monthly to review Storm Water Use fee issues, if any exist; b.) quarterly to review MS4 program progress reports & review & approve any policy changes; & c.) annually to hold elections of officers & review & approve Annual Reports to TDEC. All SWAC reviews & approvals of policy/ordinance changes & Annual Reports to TDEC are then reviewed & approved by the Smyrna Town Council and signed by the mayor before official submittal to TDEC.

5. CODES AND ORDINANCES REVIEW AND UPDATE

- A. Is a completed copy of the EPA Water Quality Scorecard submitted with this report? Yes No
- B. Include status of implementation of code, ordinance and/or policy revisions associated with permanent stormwater management. The Town of Smyrna Storm Water Management Ordinance was approved by the Town Council on 01-11-05, while the Water Quality Buffer Zone and Dry Detention Basin policies were both approved by the Town Council on 10-12-04. The Stormwater BMP Selection Guide Manual & TDEC Manual for Construction were both adopted by the Town of Smyrna & incorporated into the Stormwater Management Ordinance in 2007. In addition, all projects less than one acre are required to contain the 'Land Disturbance Management Guidelines', created by the town's engineer of record & approved by the SWM Program, on plans as a surrogate to a SWPPP. In addition, the Stormwater Management Plan, Public Information & Education, & Enforcement Response Plan documents created & revised by staff ready for SWAC then town council approval early in YR-11(July 2013). All documents are still implemented & available on the SWM Program website.

6. CONSTRUCTION

- A. Do you have an ordinance or adopted policies stipulating:
- | | | |
|--|---|-----------------------------|
| Erosion and sediment control requirements? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Other construction waste control requirements? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Requirement to submit construction plans for review? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| MS4 enforcement authority? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
- B. How many active construction sites disturbing at least one acre were there in your jurisdiction this reporting period? 29
- C. How many of these active sites did you inspect this reporting period? 29
- D. On average, how many times each, or with what frequency, were these sites inspected monthly/more often (e.g., weekly, monthly, etc.)?
- E. Do you prioritize certain construction sites for more frequent inspections? Yes No
If Yes, based on what criteria? 1.) Previous Notice of Violation citations 2.) Both active & inactive sites are inspected on a monthly basis, unless violations are found (see #1).

7. ILLICIT 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? 434
- D. How many of these outfalls have been screened for dry weather discharges? 434
- E. How many of these have been screened more than once? 434
- 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)? 4

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- I. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? 4

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	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
All municipal turf grass/landscape management activities	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
All municipal vehicle fueling, operation and maintenance activities	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
All municipal maintenance yards	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
All municipal waste handling and disposal areas	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

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

1. If Yes, at what frequency are inspections conducted? Monthly to bi-annually, yet daily inspections are standard at most facilities.

- 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? Annually

- F. On average, how frequently are catch basins and other inline treatment systems cleaned out/maintained? As needed, while much of the roadways are swept monthly.

- 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? TDEC Level I & II EPSC training certification & re-certification are required for Street, Utilities, & SWM Program staff, who work with stormwater & land disturbance issues (Public Works office coord. tracks these certifications & makes certain staff attends).

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?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Maintenance of stormwater management controls?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Retrofitting of existing BMPs with green infrastructure BMPs?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

- B. What is the threshold for new/redevelopment stormwater plan review? (e.g., all projects, projects disturbing greater than one acre, etc.) 1.) All plans received by the Town Planner are reviewed twice by the SWM Coord. & Engineer of Record during; staff plan review meetings, prior to their submittal to the Planning Commission then again, under closer scrutiny, before issuance of a grading permit. 2.) The SWM Program staff does conduct plan reviews for sites less than one acre & developed SWAC-approved Land Disturbance Management Guidelines that are a surrogate to the TDEC-required SWPPP for larger projects. The 'Guidelines' must be included on all approved plans. 3.) When reviews are successfully completed & sediment control measures are inspected & found to be in compliance with the permit, all project contractors must successfully complete a pre-construction meeting with SWM Program staff & the engineer of record before a grading permit is issued.

- 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:

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- | | | |
|----------------------|---|-----------------------------|
| Flow volumes | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Peak discharge rates | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Discharge frequency | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Flow duration | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |

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

The Storm Water Management Ordinance as well as the Water Quality Buffer Zone & Dry Detention Basin policies were posted on the Town of Smyrna website (to find: go to Departments then Public Works then Storm Water then click on 'General Information' halfway down the first page's text) in January 2005. The Land Disturbance Management Guidelines for Areas under One Acre, as well as Grading Permit Requirements, Grading Permit Application, & Site Inspection Requirements can also be found at this site.

- F. How many development and redevelopment project plans were reviewed for this reporting period? 38
- G. How many development and redevelopment project plans were approved? 25
- H. How many permanent stormwater management practices/facilities were inspected? 186 sites/year
- I. 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? 1
- 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? None

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:

Action	Construction	Permanent Stormwater Controls	Illicit Discharge	Authority?
Notice of violation	<u>#5</u>	<u>#1</u>	<u>#4</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Administrative fines	<u>#0</u>	<u>#0</u>	<u>#0</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Stop Work Orders	<u>#0</u>	<u>#0</u>	<u>#0</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Civil penalties	<u>#0</u>	<u>#0</u>	<u>#0</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Criminal actions	<u>#0</u>	<u>#0</u>	<u>#0</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Administrative orders	<u>#0</u>	<u>#0</u>	<u>#0</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other <u>N/A</u>	<u>#0</u>	<u>#0</u>	<u>#0</u>	

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

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

- 1.) Improper maintenance of construction entrances & silt fences
- 2.) Improper disposal practices at free-standing grease receptacles
- 3.) Sediment loading caused by eroding detention basin interior slopes

11. PROGRAM RESOURCES

- A. What was your annual expenditure to implement the requirements of your MS4 NPDES permit and SWMP this past reporting period? \$1,150,000
- B. What is next year's budget for implementing the requirements of your MS4 NPDES permit and SWMP? \$2,190,000
- 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 User Fees Amount \$1,526,000
 Source: N/A Amount \$0
- 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)? 2 staff-yrs. + 9 staff-yrs. (drainage issues + stormwater projects) = 11 staff-yrs.
- F. Do you share program implementation responsibilities with any other entities? Yes No

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
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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.

Indicator	Began Tracking (year)	Frequency	Number of Locations
Example: E. coli	2003	Weekly April–September	20
TSS, DO, Conductivity, T	2010	Once as a baseline data set	14
Total coliforms and E-coli	2010	Once as a baseline data set	14
Chloride, Nitrate, Nitrite, Sulfate, and Phosphate	2010	Once as a baseline data set	14

- 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. The aforementioned monitoring was completed during the permit-year five years ago & was submitted with that Annual Report to TDEC. A subsequent monitoring program, comprised of fall, winter, & spring water quality testing as well as benthic monitoring, at all 10 sites, was completed in June 2015. Official results of this program are expected to be received from MTSU in late summer (permit YR-13).

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. No changes of this kind were made during this permit-year.

Changes to replace an ineffective or unfeasible BMP **per paragraph 4.4.2.b** of the permit. No changes or replacements of BMPs occurred during this permit-year.

Information (e.g. additional acreage, outfalls, BMPs) on program area expansion based on annexation or newly urbanized areas. No annexation occurred during this permit-year, while no outfalls were installed.

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Changes to the program as required by the division. No TDEC-required changes were made during this permit-year because none were required.

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 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.”

Printed Name and Title

Signature

Date

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:

EFO	Street Address	City	Zip Code	Telephone
Chattanooga	540 McCallie Avenue STE 550	Chattanooga	37402	(423) 634-5745
Columbia	1421 Hampshire Pike	Columbia	38401	(931) 380-3371
Cookeville	1221 South Willow Ave.	Cookeville	38506	(931) 432-4015
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