



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)

Municipal Separate Storm Sewer System (MS4) Annual Report

1. MS4 INFORMATION

City of Murfreesboro and Middle Tennessee State University TNS075469

Name of MS4 MS4 Permit Number

Robert Haley, III (City) roberthaley@murfreesborotn.gov

Shelia Knight (MTSU) Shelia.Knight@mtsu.edu

Name of Contact Person Email Address

615-848-3200 (City) 615-494-8708 (MTSU)

Telephone (including area code)

Water and Sewer Dept., 220 NW Broad Street MTSU Box 32, Murfreesboro, TN 37132

Mailing Address

Murfreesboro TN 37130

City State ZIP code

What is the current population of your MS4? 109,031 (latest certified figure, 2012)

What is the reporting period for this annual report? From July 1, 2015 to June 30, 2016

2. WATER QUALITY PRIORITIES (SECTION 3.1)

- A. Does your MS4 discharge into waters listed as impaired on TN's most current 303(d) list and/or according to the on-line GIS mapping tool? Yes No
- B. If yes, please attach a list all impaired waters within your jurisdictional area. *See Attachment 1.*
- C. Does your MS4's jurisdictional area contain any waterbodies where a TMDL has been approved for parameters other than pathogens, siltation and habitat alterations? If yes, please attach a list. *See Attachment 1.*
- D. Does your MS4 discharge to any Exceptional TN Waters (ETWs) or Outstanding National Resource Waters (ONRWs)? If yes, please attach a list. *See Attachment 2.* Yes No
- E. Are you implementing additional specific provisions to ensure the continued integrity of ETWs or ONRWS located within your jurisdiction? Yes No

3. PROTECTION OF STATE OR FEDERALLY LISTED SPECIES (SECTION 3.2.1 General Permit for Phase II MS4s)

- A. Are there any state or federally listed species within the MS4's jurisdiction? Yes No
- B. Are any of the MS4 discharges or discharge-related activities likely to jeopardize any state or federally listed species? Yes No
- C. Please attach any authorizations or determinations by U.S. Fish & Wildlife Service on the effect of the MS4 discharges on state or federally listed species.

4. PUBLIC EDUCATION AND PUBLIC PARTICIPATION (SECTION 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 of those pollutants, such as Hot Spots? Yes No

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C. If yes, what are the specific causes, sources and/or pollutants addressed by your public education program?
 The City has targeted nutrients, sediment, trash; absence of streamside vegetation; and the problem of illicit discharges. Via ongoing outreach to the UT Ag Extension Office, we distribute educational materials to lawncare professionals related to minimizing *fertilizer* use. Door hangers placed on doors target problem of *grass and woody debris* left on streets; and the *nutrients* that would be washed to streams. Construction program EPSC activities target *sediment*. Stream clean-ups and general water quality education target, among other things, *trash*. Outreach to restaurants targets *trash, grease, and illicit discharges* and food-related waste. At the 8th annual tree-day event, in 2016, 500 trees were distributed to landowners (mostly riparian) in the Middle Fork Stones River watershed; and as part of the same effort, we mailed letters to 66 riparian property owners informing about *improving streamside vegetation*. Field contacts (e.g. our responses to complaints) and web site material target *illicit discharges*.

During FY 2015-16, MTSU targeted several pollutants such as Illicit Discharges, Hydrocarbon Pollutants, Trash, & Riparian. Employees were targeted with online training & individual training on an as needed basis. Events such as campus & detention pond cleanups were coordinated to help remove trash from ending up in the streams. Students also volunteered for riparian tree plantings and invasive species removal throughout the city & learned about steamside buffers & their benefits.

For additional events and information, see Attachment 3, tables showing Targeted Education of MTSU and the City.

D. Note specific successful outcome(s) (NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

- 770 pounds trash removed from local streams
- 500 seedlings distributed to mostly riparian landowners in Middle Fork Stones River watershed
- 488 trees, shrubs and native grasses and ferns planted
- 14,649 invasive shrubs in riparian areas cut and poisoned
- 4986 general ed. contacts (student classes, field days, workshops to students, citizens, business operators) by City and MTSU
- 647 hands-on volunteers (City + MTSU) in events (stream clean-up, riparian tree planting, invasive plant removal)
- Placement of silt fence and other epsc controls on construction projects
- Installation of post-construction runoff controls in new development, including green infrastructure
- Rain barrel workshop educated 35 persons and delivered 15 rain barrels

Selected other activities, publications, etc.

- 66 letters with streamside management guidance mailed to Middle Fork S. River riparian property owners
- 1216 brochures and/or print media distributed at events, classrooms, presentations
- 1159 stormwater promotional items given out at events
- 547 Murfreesboro Channel 3 TV PSAs played
- 1214 MTSU student volunteers and involment
- 934 people signed up for volunteer list
- City Parks & Rec. dept. surface water-related classes: 1236 participants, 32 sessions, total 1931 education-service units
- Project WET/Discovery Center contact with 2594 students in classroom and/or field; plus training and project work with 192 teachers (2461 contact hours)

E. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your stormwater program? (City W.S. Board) Yes No

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- F. How do you facilitate, advertise, and publicize public involvement and participation opportunities?

MTSU advertises on their website (www.mtsu.edu/stormwater), the MTSU Master Calendar (available on www.mtsu.edu), emails to MTSU Subscriber list (sent to all staff, faculty & temp employees), emails to all Volunteers in stormwater database (over 1900+ signed up at prior events), emails & promotion through MTSU News & Media, posting of flyers across campus.

City of Murfreesboro maintains a set of stormwater web pages, with the lead page showing most recently added materials. Announcements of public meetings (such as monthly Water and Sewer Board meetings, City Council meetings at which certain stormwater issues are presented, discussed and decided) are published in local newspaper, scrolled on the City TV station and posted on the City's web calendar. Depending on nature of opportunities, press releases are used to advertise and tell the story of the water quality programs; and similarly the City's Facebook page is used to post announcements. When the City is drafting new stormwater ordinances, public hearings are scheduled and stakeholders are notified of the hearings.

- G. Do you have a webpage dedicated to your stormwater program? Yes No

If so, what is the link/URL: MTSU - www.mtsu.edu/stormwater

City of Murfreesboro - <http://www.murfreesborotn.gov/index.aspx?NID=288>

- H. Are you tracking and maintaining records of public education, outreach, involvement and participation activities? Attach a summary of these activities. *See Attachment 3, General Education of MTSU & the City of Murfreesboro.* Yes No

5. ILLICIT DISCHARGE DETECTION AND ELIMINATION (SECTION 4.2.3)

- 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? City: 641 MTSU: 12

- D. Have any of these outfalls been screened for dry weather discharges? Yes No

- F. What is your frequency for screening outfalls for illicit discharges? City: yearly MTSU: yearly

City yearly screens *a portion* of total number of outfalls. For FY 2015-16, 23 outfalls screened on West Fork Stones River; plus 7 junction boxes within storm drain system, in hot spot areas.

- G. Do you have an ordinance that effectively prohibits illicit discharges? (not an ordinance but a guideline adopted by policy for MTSU campus) Yes No

- H. During this reporting period, how many illicit discharges/illegal connections have you discovered (or been reported to you)? 4: restaurant dumpster; restaurant wash water; granite cutting wastewater; paint washwater (ref. IDDE screening report and files ST 15_035, 16_017, 16_027)

- I. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? 3

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6. CONSTRUCTION SITE STORMWATER RUNOFF (SECTION 4.2.4)

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? 155 (of which 125 were issued FY 15-16)

C. How many of these active sites did you inspect this reporting period? 155

D. On average, how many times each, or with what frequency, were these sites inspected 1/month (e.g., weekly, monthly, etc.)? By policy-protocol, each is inspected 1/month.

E. Do you prioritize certain construction sites for more frequent inspections? Yes No
If Yes, based on what criteria? a) subdivision developments; b) response to complaint; and c) the City's capital improvement projects

7. PERMANENT STORMWATER CONTROLS (SECTION 4.2.5)

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.) All new and re-development projects are reviewed with respect to stormwater management. Certain of those are subject to our permanent stormwater control standards, those being projects on lots of one acre or more (or part of a common plan of development of one acre or more) and that add a net of 10,000 square feet of impervious surface.

C. Have you implemented and enforced performance standards for permanent stormwater controls? See <http://www.murfreesborotn.gov/DocumentCenter/View/416>. Yes No

D. Do these performance standards go beyond the requirements found in Section 4.2.5.2 and require that pre-development hydrology be met for:

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

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

<http://www.murfreesborotn.gov/index.aspx?nid=498>

F. How many development and redevelopment project plans were reviewed for this reporting period? 254 (48 s/division prelim plats + 206 site plans); of which 130 were subject to the City's post-construction/permanent runoff treatment standards

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- G. How many development and redevelopment project plans were approved? 77 (based on pre-construction mtg. held or review at PRC for building permit; ref. PCR database). Of the 77, 56 were plans first reviewed in this report year (the 254 in previous question).
- H. How many permanent stormwater management practices/facilities were inspected? 9
- I. How many were found to have inadequate maintenance? 3
- J. Of those, how many were notified and remedied within 30 days? (If window is different than 30 days, please specify) 3 notified and 2 remedied within 30-90 days.
- 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? Primarily relevant staff have access, not all departments. 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? 20 approved (recorded)

8. CODES AND ORDINANCES REVIEW AND UPDATE (SECTION 4.2.5.3)

- A. Is a completed copy of the EPA Water Quality Scorecard submitted with this report? Yes No submitted with a previous year's report
- B. Include status of implementation of code, ordinance and/or policy revisions associated with permanent stormwater management. For regulated sites, the City has a set of standards referenced at 7.E. above. For small development sites, of less than two acres of impervious surfaces, we allow the TDEC permit runoff reduction standards as compliance with City's small site development option; this encourages the smaller developments to use LID/vegetation/runoff reduction.

9. STORMWATER MANAGEMENT FOR MUNICIPAL OPERATIONS (SECTION 4.2.6)

-- MTSU --

- 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? yearly
- 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, for BMP inspections twice a year) Yes No

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- E. On average, how frequently are catch basins and other inline treatment systems inspected? by complaint
- F. On average, how frequently are catch basins and other inline treatment systems cleaned out/maintained? As identified by complaint
- 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? Annual or as needed

-- CITY --

- A. Have stormwater pollution prevention plans (or an equivalent plan) been developed for:
- | | | |
|---|------------------------------|--|
| All parks, ball fields and other recreational facilities | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| All municipal turf grass/landscape management activities | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| All municipal vehicle fueling, operation and maintenance activities | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| All municipal maintenance yards | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| All municipal waste handling and disposal areas | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
- B. Are stormwater inspections conducted at these facilities? Yes No
1. If Yes, at what frequency are inspections conducted?
 1/yr (vehich.;waste); 1/2 yrs (yards); 1/5 yrs (parks, grounds)
- 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
 For most field activities, but not all. Road repairs, street sweeping, ditch repair...yes
- D. Do you have a prioritization system for storm sewer system and permanent BMP inspections? (Storm system: wet weather inspec., historical conditions; BMP, 1/yr; and detention ponds inspected monthly during mosquito season) Yes No
- E. On average, how frequently are catch basins and other inline treatment systems inspected? Area drains/street inlets are checked on rainy days, for identifying dysfunctional drainage and need for repair; avg. across the city these drains are checked 2 X/year. (Streets) Pipes are checked and cleaned on an approx. 1/5-7 year schedule (MWSD cleaning)
- F. On average, how frequently are catch basins and other inline treatment systems cleaned out/maintained? Varies by frequency of issues (e.g., frequency of complaints or observed blockages/debris); 1/5 year overall average. Ditches and earthen channels cleaned out/maintained as problems identified by inspectors or public upon observing drainage restrictions. Ditch maintenance is done daily at one place or another in the city.
- G. Do municipal employees in all relevant positions and departments receive comprehensive training on stormwater management? By policy, yes. We are currently Yes No behind schedule.
- H. If yes, do you also provide regular updates and refreshers? Yes No
 If so, how frequently and/or under what circumstances? 1/two years

10. STORMWATER MANAGEMENT PROGRAM UPDATE (SECTION 4.4)

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

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Changes adding (but not subtracting or replacing) components, controls or other requirements (Section 4.4.2.a).
n/a

Changes to replace an ineffective or unfeasible BMP (Section 4.4.2.b). n/a

Information (e.g. additional acreage, outfalls, BMPs) on program area expansion based on annexation or newly urbanized areas. Acreage annexed: 532 acres. Additional outfalls, + 5. Permanent stormwater control sites mapped this year, 25; mapped to date, 135; 94 permanent control sites under construction end of FY

Changes to the program as required by the division (Section 4.4.3). n/a

11. 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
Regulatory buffer zones along streams	2007	Annually	78 parcels*/74.1 acres/35-50 feet wide, total as of 6/2015 *Last year's value (183) included numerous adjacent parcels.
Visual stream assessments	2008	Annually	Portion of 2 segments (Overall Creek _2000 and Puckett Creek _0100); total 2.2 miles
Macroinvertebrate, sites sampled (cursory/SQSH)	2015	Annually	5 cursory on TMDL stream segments; 19 SQSH sites; ref. file no. ST 16019
E.coli	2010	Varies	11 samples (Sinking Cr, Town Cr) + additional by MTSU/Bailey FY 2014-16 (ref. file ST 15004)
Street sweeper debris (Street Dept.)	2006	Monthly	City wide, 1796 tons in FY 2015-16
Storm sewer cleaning (MWSD)	2008	Weekly	City wide by watershed and hot spots 27 cubic yds; 36,569 linear feet
DRIP program (drainage improvement/rehab)	2012	Weekly	106 logged; all resolved (based on Street Div. nos.); \$252,186 total
Capital projects	2012	Annually	Spence Creek w/shed study Rosebank wetlands study & design North Murfreesboro drainage improvements Lees Spring Branch study Hoopers Bottom study & design Town Creek daylighting concept & design
Construction-phase SCM sites	2015	Weekly	184 in admin. process of development; 94 in construction-phase, actively inspected (from inspector's list)
Storm sewer cleaning (Streets)	2016	Weekly	126 cubic yds

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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. As of report date, the City has mapped 135 regulated, permanent stormwater control systems. We inspect periodically but do not sample inflow and outflow, nor do we have instream water quality information that has been closely correlated to these structures, except in the case of Spring Branch, as noted below. We have correlated stream buffer with ambient monitoring of basic water quality parameters and macroinvertebrates, and we find cooler water temperature in buffered segments as would be expected. In the case of Spring Branch, a spring-fed tributary to Lytle Creek with adjacent catchment area of about 100 acres, the City installed several SCMs in the watershed. Sediment forebay and bioretention for 70 acres, and bioretention, enhanced swales, infiltration trench and porous pavers for another 5 acres. This stream shows measurable improvement since 2010, when the City installed the SCMs and established a 35-50 buffer on the stream. TMI scores: 12 in 2010; 16 in 2013; 32 in 2016.

12. ENFORCEMENT (SECTION 4.5)

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?	
Deficiency correction notices	25 (est.)			<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Notice of violation	--	--	--	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Administrative fines	--	--	--	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Stop Work Orders	6	--	--	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Civil penalties	--	--	--	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Criminal actions	--	--	--	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Administrative orders	--	3	3*	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Other	--	--	*Chili's; Gold's Gym; Wasabi		

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

C. What are the 3 most common types of violations documented during this reporting period? Construction EPSC and paperwork violations; washwaters discharged to storm sewer; construction or fill w/o permit.

13. PROGRAM RESOURCES (OPTIONAL)

A. What was your annual expenditure to implement the requirements of your MS4 NPDES permit and SWMP this past reporting period? City: \$1,940,861 + \$1,155,811 capital improvement projects MTSU: \$141,300

B. What is next year's budget for implementing the requirements of your MS4 NPDES permit and SWMP? City: \$1,721,536 operating budget + \$1,500,000 capital projects MTSU: \$142,000

C. Do you have an independent financing mechanism for your stormwater program? Yes(City) No (MTSU)

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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 fee Amount \$2,850,000

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)? City: 13 MTSU: 2.5

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

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
MTSU/City M'boro	Education and Public Participation	Memorandum of Understanding/Contract
Rutherford County	Project WET education in County and City schools	Interagency contract; bi-annual meetings

G. Please attach a copy of your Organizational Chart. *Attachment 4, charts for Murfreesboro and MTSU.*

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."

Shane M. Farland
 Printed Name and Title (Murfreesboro)
 Shane McFarland, Mayor

Shane McFarland
 Signature

9/30/16
 Date

Alan R. Thomas
 Printed Name and Title (MTSU)
 Alan R. Thomas, Vice President

Alan R. Thomas
 Signature

9/29/16
 Date

Annual reports must be submitted in accordance with the requirements of Section 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
Nashville	711 R S Gass Boulevard	Nashville	37216	(615) 687-7000

Small MS4 Annual Report, Question no. 2., Water Quality Priorities, lists of impaired waters and TMDL waters

B. If MS4 discharges into waters listed as impaired on most current 303(d) list and/or according to on-line GIS mapping tool, please attach a list of all impaired waters within your jurisdiction. C. If MS4 area includes any waterbodies where a TMDL has been approved for parameters other than pathogens, siltation and habitat alteration, please attach a list. Impaired waters data from [TDEC's 2014 Final 303\(d\) List](#) and from the [Draft 2016 303\(d\) List](#).

Waterbody I.D. #	Impaired waters acc. to 2014 Final 303(d) list & Draft 2016 additions and deletions)	Cause/TMDL Priority	Is MS4 a source per 303(d) list?	Approved TMDL Yes/No	MS4 Assigned to WLA Yes/No	
					Yes/No	Amount (reductions)
TN05130203015_0100	Puckett Creek, 6.7 miles	Alteration in stream-side or littoral vegetative cover/L (Land dvlp.)	No	No	No	--
TN05130203018_0100	Sinking Creek, 5.5 miles	Nitrate+Nitrite/L (Collection system failure)	No	No	No	--
“	“	Alteration in stream-side or littoral vegetative cover/L	No	No	No	--
“	“	Escherichia coli/na	Yes	Yes	Yes	75%
TN05130203018_0600	Unnamed tributary to WF Stones River, 5.87 miles (Spence Cr)	Alteration in stream-side or littoral vegetative cover/L (Land dvlp.)	No	No	No	--
“	“	Loss of biological integrity due to siltation/L (Land dvlp.)	No	No	No	--
TN05130203018_1000	WF Stones River, 6.3 miles (from u/s of I-840 downstream)	Escherichia coli/L (Collection system failure and MS4)	Yes	No	No	--
TN05130203018_2000	WF Stones River, 1.3 miles (u/s of I-840 to Sinking Creek)	Nitrate+Nitrite/M	No	No	No	--

Waterbody I.D. #	Impaired waters acc. to 2014 Final 303(d) list & Draft 2016 additions and deletions)	Cause/TMDL Priority	Is MS4 a source per 303(d) list?	Approved TMDL Yes/No	MS4 Assigned to WLA Yes/No	
					Yes/No	Amount (reductions)
“	“	Total phosphorus/M	No	No	No	--
“	“	Loss of biological integrity due to siltation/L	No	No	No	--
TN05130203018_3000	WF Stones River, 5.1 miles (Sinking Creek to Lytle Creek)	Loss of biological integrity due to siltation/L	Yes	No	No	--
TN05130203022_1000	Lytle Creek, 8.9 miles (mouth to Lees Spring Branch)	Alteration in stream-side or littoral vegetative cover/na (MS4)	Yes	Yes	No	--
“	“	Loss of biological integrity due to siltation/na (MS4)	Yes	Yes	Yes	38%
“	“	Escherichia coli/na (MS4)	Yes	Yes	Yes	23%, lower 49%, mid 10%, upper
TN05130203022 – 0200	Lees Spring Branch, 1.1 miles (mouth to headwaters)	Alteration in stream-side or littoral vegetative cover/na (Land dvlp.)	No	Yes	No	--
“	(A short section of stream is within Murfreesboro city limits.)	Loss of biological integrity due to siltation/na (Land dvlp.)	No	Yes	No	--
TN05130203022 – 0100	Town Creek, 0.13 miles (unnamed trib to Lytle Creek)	Low dissolved oxygen/na	Undetermined source	Yes	--	--
“	“	CBOD5	--	Yes	Yes	1061 lbs/yr
“	“	Nitrogen	--	Yes	Yes	534 lbs/yr
“	“	Total Phosphorous	--	Yes	Yes	113 lbs/yr

Waterbody I.D. #	Impaired waters acc. to 2014 Final 303(d) list & Draft 2016 additions and deletions)	Cause/TMDL Priority	Is MS4 a source per 303(d) list?	Approved TMDL Yes/No	MS4 Assigned to WLA Yes/No	
					Yes/No	Amount (reductions)
“	“	Escherichia coli/na	Undetermined source	Yes	Yes	52%
TN05130203023_0310	Bear Branch, 3.5 miles (Dry Branch to headwaters)	Alteration in stream-side or littoral vegetative cover/na	No	Yes	No	--
“	“	Loss of biological integrity due to siltation/na	No	Yes	Yes	58%
“	“	Nutrients/na	No	Yes	--	--
“	“	Nitrogen/na	No	Yes	Yes	8019 lb/yr
“	“	Total Phosphorous/na	No	Yes	Yes	1699 lb/yr
TN05130203023 – 0210	Garrison Creek, 0.37 miles (mouth to Lascassas Hwy bridge)	Alteration in stream-side or littoral vegetative cover/na	Yes	Yes	No	--
“	(also referred to as unnamed trib to Bushman Creek)	Physical Substrate Habitat Alteration/na	Yes	Yes	No	--
“	“	Loss of biological integrity due to siltation/na	Yes	Yes	Yes	57%

Final TMDLs for Stones River Watershed include: a.) siltation and habitat alteration, 10/31/2002; b.) low dissolved oxygen and nutrients, 5/16/2008; and c.) E-coli, 6/19/2012.

The Known Exceptional Tennessee waters and Outstanding National Resource Waters Streams within Urban Growth Boundary of Murfreesboro

<http://www.tn.gov/environment/article/wr-water-resources-data-viewer>

The Division of Water Pollution Control has compiled the list of waters that follows based on the characteristics of Exceptional Tennessee Waters and Outstanding National Resource Waters set forth in the regulation by the Tennessee Water Quality Control Board. In general, these are waterbodies with good water quality, important ecological values, valuable recreational uses, and outstanding scenery. Wherever possible, the Division has utilized objective measures to apply these characteristics and the basis for each listing is provided.

The following factors should be considered:

1. The list will be updated regularly and does not include waterbodies that the division has not evaluated. The fact that a waterbody does not appear on this list by name does not preclude the possibility that it may be high quality.
2. In some cases, only a portion of a waterbody is considered high quality. The extent of each listing is provided.
3. This compilation of waterbodies is based on the most recent information obtained by the division and may be reconsidered upon submittal of further information.

Receives M'boro MS4 Dschg.	Watershed Name	Waterbody	County	Description	Basis for Inclusion	From Lat	To Lat	From Long	To Long	Inclusion Date
No	Stones	Bryant Branch (Rural Hill, Percy Priest Res.)	Rutherford	Portion in Long Hunter SP.	Long Hunter State Park	36.0813	36.0894	-86.5196	-86.5144	
No	Stones	Dry Branch	Rutherford	Portion in Overbridge SNA.	Overbridge SNA	35.8482	35.844	-86.2781	-86.2897	
No	Stones	West Fork Stones River (Crescent Road, Crescent Lane)	Rutherford	From Panther Creek to headwaters.	Exceptional biological diversity. WPC ecoregion reference stream for 71i.	35.7444	35.647	-86.4335	-86.438	APR-10-2003
Yes	Stones	Hoover Swamp Black Fox Wetland	Rutherford	Hoover Swamp area of Black Fox Wetland.	Scored 80 (exceptional category) on TN Rapid Assessment for Wetlands.	35.8139		-86.3603		
Yes	Stones	Bear Branch	Rutherford	From Dry Branch to origin.	State endangered Blackfoot Quillwort.	35.9153	35.8735	-86.3671	-86.3667	NOV-01-2007
Yes	Stones	Sinking Creek	Rutherford	From unnamed tributary at Sulphur Springs Road to origin.	State endangered Sessile Water- Speedwell.	35.883	35.846	-86.3989	-86.372	NOV-07-2007
No	Stones	East Fork Stones River	Rutherford	From Cripple Creek to unnamed tributary near Halls Hill.	State threatened Water Stitchwort.	35.8807	35.8746	-86.2644	-86.2366	NOV-09-2007
Yes	Stones	West Fork Stones River	Rutherford	From Sinking Creek to Lytle Creek.	State threatened Water Stitchwort.	35.9013	35.855	-86.4237	-86.4139	NOV-09-2007
No	Stones	West Fork Stones River Unnamed Tributary (Smyrna)	Rutherford	From West Fork Stones River to Origin	State threatened Yellow Sunnybell	35.9546	35.9515	-86.4557	-86.4468	NOV-13-2007
No	Stones	West Fork Stones River Unnamed Tributary (Smyrna)	Rutherford	From West Fork Stones River to origin.	State threatened Yellow Sunnybell, Sunnybell Cedar Glade State Natural Area.	35.9671	35.9681	-86.4563	-86.4422	NOV-13-2007
No	Harpeth	Puckett Branch (County)	Rutherford	From Concord Creek to State Highway 99.	State endangered Willow Aster	35.7441	35.7337	-86.595	-86.5876	APR-23-2009

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Murfreesboro - MTSU Stormwater General Education Activities for FY 2015-16

Date	Event	# Participants	# Education Materials Distributed	# signed up for mailing list for volunteer opportunities	Trees Given Out or Planted	Ibs. of Trash Removed	# Promotional Items
8/21/2015	Rain Barrel Workshop at Agricultural Extension Office	20	9 "Rain Barrel" brochures, 13 "Rain Barrel" flyers, 16 Watershed maps, 10 "Waterfront Property" brochures, 11 "Homeowners" brochures	17			4 Rain Barrels, 7 yard waste bags, 11 Stormwater pens, 8 stormwater bags
10/23/2015	UT EXT Rain Garden Lecture	20	5 "Old Fort Park" brochures, 2 Backyard Conservation brochures, 18 Native Plant Recommendations, 2 "Rain Barrel" brochures	10			
11/5/2015	Karst Field Trip	27 Professionals	27 "Old Fort Park" brochures				
2/11/2016	UT Chemical Applicator	84	16 TWRA fishing guides, 5 "Old Fort Park" brochures, 2 "Surface Cleaning" brochures	8 signed pledges			11 yard waste bags
2/23/2016	Globe - Creeks to Classrooms (Homeschool group, Wilderness Station)	10 students (5 parent teachers)	20 "Discover the Waters of TN" booklets, 3 "Rain Barrel" brochures, 2 "Waterfront Property" brochures, 6 Proj Wet posters				
3/1/2016	Globe - Creeks to Classrooms (Scales Elementary ESP)	100 students					
3/11/2016	Globe - Creeks to Classroom (Homeschool Church)	4	8 "Discover the Waters of TN" booklets, 6 garden show flyers				
3/18 - 3/19 16	UT Garden Show Booth	100	12 "Homeowner" brochures, 24 "Watershed" maps, 18 "Waterfront Property" brochures, 33 "Rain Barrel" brochures, 7 "Old Fort Park" brochures, 18 "Discover the Waters of TN" brochures, 7 landowner guides, 23 NRCS conservation guides, 3 "Surface Cleaning" brochures, 7 "Be Aware" fact cards	10			15 yard waste bags
3/21/2016	Globe - Creeks to Classrooms (Overall Creek)	132 students (6 teachers)	140 "Discover the Waters of TN" booklets				
3/22/2016	Read to Succeed - Stormwater Outreach Education Booth - (Overall Creek)	600	73 "Discover the Waters of TN" booklets, 12 "Watershed" maps, 9 "Waterfront Property" brochures	13			8 Stormwater pens, 4 Stormwater bags
4/23/2016	Murfreesboro Earth Day Celebration	over 2000	44 "Waterfront Property" brochures, 20 "Rain Barrel" brochures, 50 "Be Aware" fact cards, 50 "Homeowners" brochures, 22 "Construction" guides, 24 "Farmers" guides	118 signed up for volunteer list, 17 signed up for WWTP Rain barrel event			50 Stormwater bags, 101 stormwater pens, 132 water bottles, 124 Earth Day t-shirts, 125 Stickers
5/20/2016	Blackman Elementary Career Day	400	Show-and-tell about stormwater program and surface water quality (JU)				
6/3/2016	Rain Barrel Workshop @ WWTP	15 attendees					11 Rain Barrels given away
6/25/2016	Murfreesboro Boat Day	estimate 150 citizens	16 "Watersheds of TN" maps, 2 "Waterfront Property" brochures, 8 "Discover the Waters of TN" booklets, 12 "Be Aware" fact cards	34			(No float due to weather and too strong of current but we were able to stay & talk to citizens)
9/24/2015	Oaklands Outreach	415 students					
10/29/2015	Oaklands Outreach	569 students					
5/13/2016	Oaklands Outreach	329 students					
annually	Public Service Announcements						Total PSAs (547 TV Ch 3)
TOTALS		4986	922	227			599
Breakdown:		2570 Elementary Students & Teachers	283 "Waterfront Property" brochures				62 Stormwater reusable bags
		84 Chemical Applicators	71 "Rain Barrel" brochures				120 Stormwater pens
		27 Stormwater Professionals	69 "Be Aware" fact cards				132 Reusable water bottles
		2305 Citizens	73 "Homeowners" brochures				124 Earth Day t-shirts
			267 "Discover the Waters of TN" booklets				33 Yard waste bags
			24 "Farmers" guides				125 MWSD stickets
			22 "Construction" guides				15 Rain Barrels
			44 "Watersheds of TN" brochures				
			6 Project Wet Posters				
			18 Native Plants				
			37 "Old Fort Park" Brochures				
			6 Garden show flyers				
			23 NRCS Conservation Guide				
			3 "Surface Cleaning" brochures				

Murfreesboro-Targeted Education Activities for FY 2015-16

Date	Event	# of Participants	# of People signed up for mailing list for volunteer opportunities	# of Brochures/Print Media	#s of Trash Removed	Trees Given Out or Planted	Pollutants Targeted
7/24/2016	Mailout to Car Detailing and to Carpet Cleaning Businesses	20/10	--	20/10	--	--	washwater/illicit discharges
9/26/2015	National Public Lands Day cleanup event - Old Fort Park, Lytle Creek Greenway	75 volunteers and 27 employees			5655 invasive plant stumps treated & 30 lbs of trash		riparian restoration / nutrients
10/24/2015	Dominican Sisters Stream Restoration	40			10 trees removed, 110 lbs of trash removed	20 trees planted, 50 grasses and ferns planted	riparian restoration / nutrients
10/27/2015	Garrison Creek Streamside Planting	10 volunteers, 6 staff				130 shrubs planted	riparian restoration / nutrients
11/10-11/16	Yard Waste Door Hanger Outreach	149 residents in Sinking Creek/ Tomahawk Area		149 door hangers distributed			yard debris and nutrients
2/11/2016	UT Chemical Applicator	84	8 signed pledges	16 TWRA fishing guides, 3 streambank stabilization, 5 "Old Fort Park" brochures, 2 "Surface Cleaning" brochures			nutrients
3/12/2016	Annual Tree Day	66 letters to citizens, 5 MTSU volunteers, 5 staff	49	66 letters to residents, 7 "Be Aware" fact cards, 24 Garden Show flyers, 27 Tree species handout, 25 "How to plant" handouts, 3 "Homeowner" brochures, 3 "Watersheds of TN" maps, 12 "Rain Barrel" brochures		500 seedlings distributed	riparian restoration / nutrients
4/7/2016	Garrison Creek Cleanup	2 volunteers, 5 staff			255 lbs of trash	17 bushes planted	trash
4/16/2016	Big Event 2016 (Park Day) Invasive plant removal & trash cleanup at Old Fort Park, Fortress Rosecrans & Lytle Creek Greenway	421 volunteers, 31 partner employees			8,984 invasive plant stumps treated & 65 lbs of trash removed	246 Trees planted	riparian restoration / nutrients
Summer 2015	Riparian PSA developed						riparian restoration / nutrients
TOTALS		921	57	124 educational materials, 129 door hangers, 66 letters to residents	14,649 invasive plants removed & 460 lbs of trash	963	
Breakdown:		<i>Volunteers/Public</i>	<i>49 citizens for volunteer list</i>	<i>149 door hangers</i>			
		<i>847 Local Citizens</i>	<i>8 Business Pledges</i>	<i>2 "Surface Cleaning" brochures</i>			
		<i>74 Local Partners/Staff</i>		<i>66 Letters to residents</i>			
				<i>16 TWRA fishing guides</i>			
				<i>5 "Old Fort Park" brochures</i>			
				<i>12 "Rain Barrel" brochures</i>			
				<i>24 Garden Show flyers</i>			
				<i>27 Tree Species handouts</i>			
				<i>25 How to Plant handouts</i>			
				<i>3 "Homeowner" brochures</i>			
				<i>7 "Be Aware" fact cards</i>			
				<i>3 "Watersheds of TN" maps</i>			

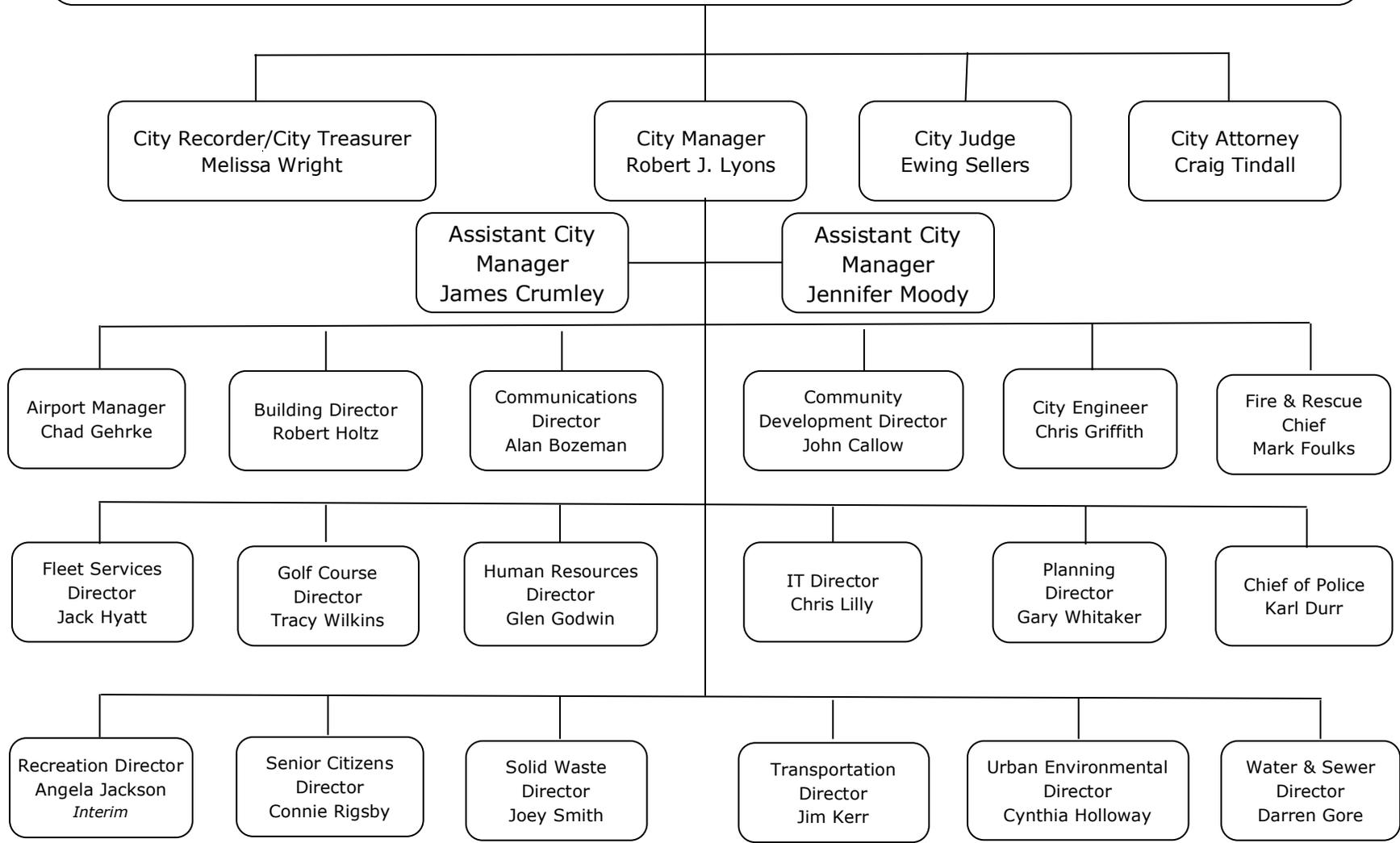
MTSU - Targeted Education 2015-16

Date	Event	# Participants	# Brochures & Promo Items	# signed up for mailing list for volunteer opportunities	Trees/Plants Given Out	#s of Trash Removed	Outcome(s)
9/1/2015	MTSU Volunteer Fair	63 MTSU students	13 water bottles, 9 stormwater pens, 4 "Waterfront Property" brochures, 6 "Be Aware" fact cards & 18 stormwater reusable bags	63			
10/15/2015	Pesticide Training - MTSU Ag Class	14 MTSU students					
10/19/2015	MTSU Campus Cleanup	34 MTSU students				235 lbs	
11/5/2015	Karst Field Trip	27 professionals	27 "Old Fort Park" brochures				
2/25/2016	MTSU Health and Wellness Fair		8 "Be Aware" fact cards, 19 "Watersheds of TN" maps, 9 "Old Fort Park" brochures	26			
3/18, 23&25/16	MTSU Campus Cleanup/Abolins Class	105 MTSU students				75 lbs	
3/29/2016	Gamma Beta Phi Meeting - Park Day Event & Stormwater Info	30 MTSU students		10 squad boss training			
4/8/2016	United Way - Days of Action Rain Garden Cleanout	4 Heritage Farms employees, 3 MTSU students			25 plants planted		2 Rain gardens cleaned out
4/16/2016	Big Event 2016 (Park Day) - Invasive plant removal & trash cleanup at Old Fort Park, Fortress Rosecrans & Lytle Creek Greenway	421 volunteers, 31 partner employees			246 trees planted	8,984 invasive plant stumps treated & 65 lbs of trash removed	
4/21/2016	MTSU Earth Day		3 "Waterfront Property" brochures, 2 "Be Aware" fact cards, 3 stormwater pens, 14 water bottles	11			
4/ 12 & 16/16	Stormwater Presentation to Dr. Anderson's Soil Conservation Class	16 MTSU students		10 squad boss training			
9/24 & 4/26 2016	Prescription Drug Takeback					244.6 lbs of drugs collected	
07/01/15-06/30/16	MTSU Customs (10 events)		143 Stormwater reusable bags, 235 water bottles, 125 pens, 46 "Waterfront Property" brochures, 41 "Be Aware" fact cards	530			
annual	MTSU EH&S Stormwater Training	945 faculty and staff					
TOTALS			560 Promotional Items, 165 Print Media	650	271	310 lbs of trash	2 Rain gardens cleaned out
	Breakdown:		262 Stormwater Reusable Water bottles				
		1693 MTSU student/Faculty/Staff/other	161 Stormwater reusable bags				
			137 Stormwater pens				
customs			53 "Waterfront Property" brochures				
			57 "Be Aware" fact cards				
			19 "Watersheds of TN" maps				
			36 "Old Fort Park" brochures				

City of Murfreesboro—Organization Chart

Legislative Body

Shane McFarland, Mayor; Doug Young, Vice Mayor; Madelyn Scales Harris
Rick LaLance, Bill Shacklett, Eddie Smotherman, Kirt Wade



City of Murfreesboro — Stormwater Functions Chart

Legislative Body

Shane McFarland, Mayor; Doug Young, Vice Mayor; Madelyn Scales Harris
Rick LaLance, Bill Shacklett, Eddie Smotherman, Kirt Wade

City Manager, Robert J. Lyons
Asst. City Mgr., Jim Crumley
Asst. City Mgr., Jennifer Moody

City Attorney
Craig Tindal

City Engineer, Chris Griffith
Environ. Engineer, Sam Huddleston
Staff engineers: Katie Noel, Cey Chase (EIT)

- Reviews construction plans for new development for compliance with eng. standards, incl. review for compliance with post-construction stormwater quality standards
- Administers land disturbance permit (LDP) program and construction site inspections
- Administers Drainage Improvement Project (DRIP) program (responding to drainage complaints and rehab of existing MS4 structure/s)
- Street Division (Raymond Hillis) performs maintenance and repair of storm drainage structures and ditches; vacuum structures of sediment and debris; corrects drainage problems and complaints; street sweeping; spill response (e.g., cleaning roadway); mowing vegetated right-of-way and stormwater drainage easements

Building Director
Robert Holtz

- Issues land disturbance and building permits
- Enforces certain stormwater-related codes, including home-building erosion/sediment control
- Conducts building permit plans review meetings
- Issues Certificates of Occupancy, and oversees the City's approval process for C/Os.

Planning Director
Gary Whitaker

- Overall mission is to coordinate physical development of city.
- With respect to stormwater program:
- Conducts pre-application meetings for new development and oversees review of development plans, incl. stormwater issues
- Floodway and floodplain management

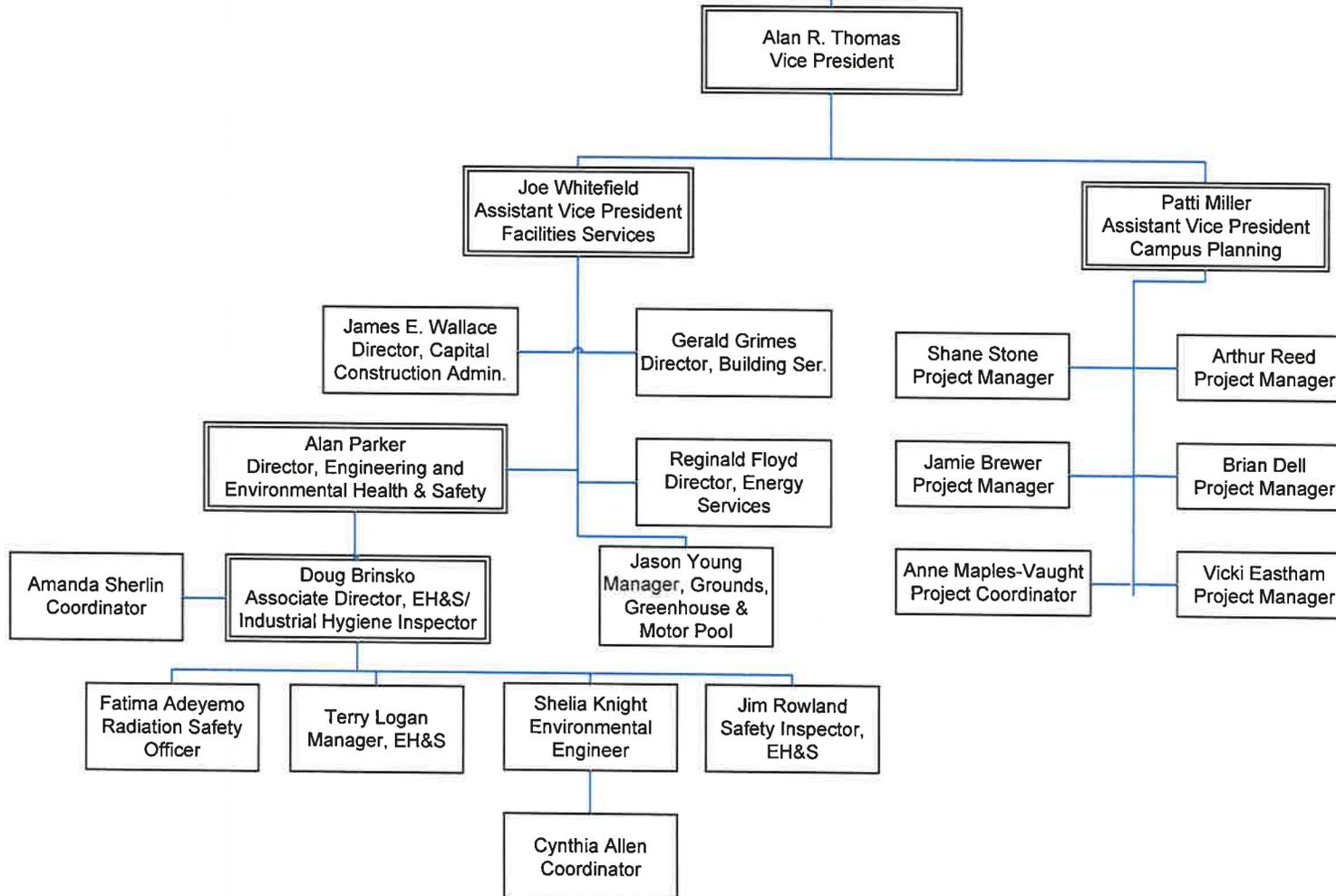
Water & Sewer Director, D. Gore
Stormwater Coord., Robert Haley
Staff: Paul Barber, Paul Haney,
Josh Upham

- Public outreach and involvement
- Maintains storm sewer map; illicit discharge screening
- Monitors installation & maintenance of post-construction treatment controls
- Water quality monitoring
- Stormwater-related education/training of staff
- Storm sewer vacuuming (O&M)
- Maintain stormwater quality-related policy and procedure documents (SWMP)
- Drafts stormwater ordinances
- Prepares annual stormwater report

MIDDLE TENNESSEE STATE UNIVERSITY – Organizational Chart
September 21, 2016

Administrative Body

Dr. Sidney McPhee, University President, Dr. Mark Byrnes, Interim University Provost, Alan R. Thomas, Vice President for Business & Finance, Dr. Debra Sells, Vice President for Student Affairs and Vice Provost for Enrollment & Academic Services, William J. Bales, Vice President for University Advancement, Andrew Oppmann, Vice President Marketing & Communications, Bruce Petryshak, Vice President for Information Technology & Chief Information Officer



*See Functional Responsibilities Chart

**Middle Tennessee State University Staff
with Function Responsibilities for Stormwater Best Management Practices**

Best Management Practice	Position Title With Responsibility for BMP	Name	Comments
Public Education and Public Outreach	Environmental Engineer	Shelia Knight	Coordinates activities of MTSU's Stormwater Program
Illicit Discharge Detection and Elimination	Environmental Engineer	Shelia Knight	Directs activities of stormwater program.
	Manager, EH&S	Terry Logan	Safety Officer responsible for MTSU's SPCC Program and conducting routine campus EH&S inspections and audits.
	Grounds Supervisor	Dale Witty	Responsible for daily maintenance of streets, parking lots and grounds.
Construction Site Runoff Program	Director, Capital Construction Administration	James Wallace	Responsible for oversight of capital construction projects and construction permits.
Permanent (Post Construction) Stormwater Management Program	Assistant Vice President, Campus Planning	Patricia Miller	Responsible for capital project design and specifications which includes design of permanent stormwater management systems and structures.
	Environmental Engineer	Shelia Knight	Responsible for maintenance and operation of campus systems including stormwater management systems.
	Grounds Supervisor	Dale Witty	Responsible for daily maintenance of streets, parking lots and grounds.
Pollution Prevention and Good Housekeeping	Environmental Engineer	Shelia Knight	Coordinates with university departments to develop pollution prevention and good housekeeping practices.
	Grounds Supervisor	Dale Witty	Responsible for daily maintenance of streets, parking lots and grounds.