



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, 2014 to June 30, 2015

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 targeted pollutants nutrients, sediment, trash; absence of streamside vegetation; and the pollutant problem of illicit discharges. Through the UT Ag Extension Office, we helped to distribute educational materials to lawncare professionals related to minimizing *fertilizer* use. Construction program EPSC activities target *sediment*. Stream clean-ups and general water quality education target, among other things, *trash*. Outreach to 20 selected restaurants targeted *trash*, *grease*, and *illicit discharges* and food-related waste. Door hangers placed on doors target problem of *grass and woody debris* left on streets. At the 7th annual tree-day event, 500 trees were distributed to landowners (mostly riparian) in the Sinking Creek watershed; and as part of the same effort, we mailed letters to 133 riparian property owners informing about *improving streamside vegetation*. Staff and volunteers at 50K Tree Day (TEC) *planted 210 trees along bank of WFSR*. Field contacts (e.g. complaint response) and web site material target *illicit discharges*.

During FY 2014-2015, MTSU targeted several pollutants such as Illicit Discharges, Hydrocarbon Pollutants, Trash, Bacteria & 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 streamside 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.

- 210 trees planted aside West Forks Stones River across from Old Fort Golf Course (just u/s Lytle Creek)
- 3129 pounds trash removed from local streams
- 500 seedlings distributed to mostly riparian landowners in Sinking Creek watershed
- 13,246 invasive shrubs cut and poisoned
- 6,951 general ed. contacts (student classes, field days, webinar, workshop) by City and MTSU
- 682 hands-on volunteers 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 such as bioretention, swales and pervious concrete/paver blocks
- Rain barrel workshop educated 12 persons and delivered 6 rain barrels

Selected other activities, publications, etc.

- 133 letters with streamside management guide mailed to Sinking Cr riparian property owners
- 1012 brochures and/or print media distributed at events, classrooms, presentations
- 978 stormwater promotional items given out at events
- 105 MTSU WMOT Radio PSAs & 461 Murfreesboro Channel 3 TV PSAs played; total 566 PSAs
- 682 MTSU student volunteers
- 707 participants signed up for volunteer list
- City Parks & Rec. dept. surface water-related classes: 1194 participants, 35 sessions, total 3481 education-service units
- Project WET/Discovery Center contact with 2982 children, youth and adults in classroom and/or field; Project WET training of 175 Rutherford County teachers

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 1303+ 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: 636* 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 2014-15, 31 outfalls screened on West Fork Stones River between Old Fort Parkway and Thompson Lane. Plus screening within system (catch basins) in area of Stones River Mall, ~15.
- 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: water leak, restaurant wash water, restaurant sewage overflow, equipment washing (Ref. ST 14_024, 025, 15_007 and IDDE screening report); plus one irrigation water (not considered illicit)
- I. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? 2

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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? Yes No

Other construction waste control requirements? Yes No

Requirement to submit construction plans for review? Yes No

MS4 enforcement authority? Yes No

B. How many active construction sites disturbing at least one acre were there in your jurisdiction this reporting period? 141 (99 issued FY 14-15)

C. How many of these active sites did you inspect this reporting period? 141

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

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? Yes No

Maintenance of stormwater management controls? Yes No

Retrofitting of existing BMPs with green infrastructure BMPs? Yes 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 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.

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

F. How many development and redevelopment project plans were reviewed for this reporting period? 198; of which 104 were subject to the City's post-construction/permanent runoff treatment standards

G. How many development and redevelopment project plans were approved? 198 approved for development, 61 projects were approved for construction (pre-construction mtg. held; ref. PCR database)

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- H. How many permanent stormwater management practices/facilities were inspected? 2
- I. How many were found to have inadequate maintenance? 1 (Salem.Cr.)
- J. Of those, how many were notified and remedied within 30 days? (If window is different than 30 days, please specify) 1 notified, not yet remedied
- K. How many enforcement actions were taken that address inadequate maintenance? 0 (Salem Cr., action taken FY 2016)
- 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? 9 approved

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 small development sites, of less than two acres of impervious surfaces, now we allow the TDEC permit runoff reduction standards as compliance with City's small site development option; this adds to options for small 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
- E. On average, how frequently are catch basins and other inline treatment systems inspected? 1/year
- F. On average, how frequently are catch basins and other inline treatment systems cleaned out/maintained? 1/year

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- 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
- 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) 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 each 1-2X/year. Pipes are checked and cleaned on an approx. 1/5-7 year schedule.
- 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 requested by inspectors or public upon observing drainage restrictions.
- 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? 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:
- 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: 336 acres. Additional outfalls, + 3. Permanent stormwater control sites mapped this year, 19; mapped to date, 116; 114 permanent control sites in development review or under construction
- Changes to the program as required by the division (Section 4.4.3). n/a

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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	183 parcels/66 acres/35-50 feet wide, total as of 6/2015
Visual stream assessments	2008	Annually	1 segment (Middle Fk Stones R., 3.9 miles) assessed 2015; out of total 8 watersheds and 48 total segments/reaches in city
Macroinvertebrate, sites sampled (cursory/SQSH)	2015	Annually	6/0: upper Lytle Cr. and Sinking Cr.
E.coli	2010	Varies	33 samples + additional by MTSU/Bailey FY 2014-15
Street sweeper debris (Street Dept.)	2006	Monthly	City wide, 931.1 tons in 2014-15
Storm sewer cleaning (MWSD)	2008	Weekly	City wide by watershed and hot spots 32 cubic yds in 2014-15; 30,202 linear feet
DRIP program (drainage improvement/rehab)	2012	Weekly	143 of which 118 are resolved; 88 performed by Street Division (in-house) \$260,000 (incl. Mitchell-Nielson)
Capital projects	2012	Annually	Spence Creek w/shed study Hoopers Bottom w/shed study Town Creek conveyance assessment Mitchell-Nielson drainage improvements
Construction-phase SCM sites	2015	Weekly	176 in admin. process of development; 58 in construction-phase, actively inspected (from inspector's list)

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. 116 (97+19) regulated, permanent stormwater control systems in place and mapped. We do not have instream water quality information that has been related to these structures, nor performance data or modeling. We do have record of stream buffer length and acreage; and correlating stream buffers with stream monitoring, including sampling of water quality and macroinvertebrates, we find cooler water temperature in buffered segments and lower dissolved oxygen levels in daytime. Recent (2014-15) Murfreesboro-contracted SQSH macroinvertebrate sampling and recent TDEC biorecon indicate improved (from impaired to non-impaired condition) water quality in the 3000 segment of the West Fork Stones River. (segment through the urban city boundaries)

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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	35 (est.)	1	1	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Notice of violation	#0	# <u>0</u>	# <u>0</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	#1	# <u>0</u>	# <u>0</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Civil penalties	# <u>1</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>1</u>	# <u>0</u>	# <u>0</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Other	#	# <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

B. 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: \$1,880,201 + \$2,120,909 capital improvement projects MTSU: \$139,000

B. What is next year's budget for implementing the requirements of your MS4 NPDES permit and SWMP? City: \$1,606,686 operating budget + \$2,679,200 capital projects MTSU: \$142,000

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

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 \$2,800,000

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: 9 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

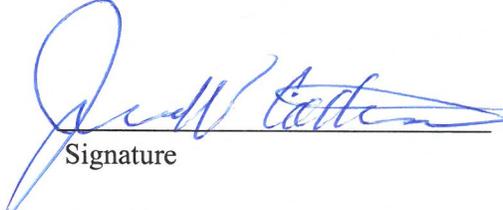
G. Please attach a copy of your Organizational Chart. *Attachment 4, charts for Murfreesboro and MTSU.*

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 McFarland	9/29/2015
Printed Name and Title (Murfreesboro) Shane McFarland, Mayor	Signature Printed Name	Date

	Signature	9/30/15
Printed Name and Title (MTSU) John Cothorn, Vice President		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

Attachment 1 to 2014-15 MS4 annual report for Murfreesboro, Tennessee and MTSU
 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.

Waterbody I.D. #	List of impaired waters per TDEC Proposed Final Year 2012 303(d) list	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)
TN05130203018_0100	Sinking Creek, 5.5 miles	Alteration in stream-side or littoral vegetative cover/L	No	No	No	--
		Escherichia coli/na	Yes	Yes	Yes	75%
TN05130203018_2000	WF Stones River, 1.3 miles (u/s of I-840 to Sinking Creek)	Nitrate+Nitrite/M	No	No	No	--
"	"	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	Yes	Yes	No	--
"	"	Loss of biological integrity due to siltation/na	Yes	Yes	Yes	38%
"	"	Escherichia coli/na	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	No	Yes	No	--
"	(A short section of stream is within Murfreesboro city limits.)	Loss of biological integrity due to siltation/na	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
"	"	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 (formerly Big Ditch) (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%

Impaired waters data from TDEC's [Proposed Final Year 2014 303\(d\) List](#). 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/water.shtml>

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.

HUC	Watershed Name	Waterbody	County	Description	Basis for Inclusion	From Lat	To Lat	From Long	To Long	Inclusion Date
5130203	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	
5130203	Stones	Dry Branch	Rutherford	Portion in Overbridge SNA.	Overbridge SNA	35.8482	35.844	-86.2781	-86.2897	
5130203	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
5130203	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		
5130203	Stones	Bear Branch	Rutherford	From Dry Branch to origin.	State endangered Blackfoot Quillwort.	35.9153	35.8735	-86.3671	-86.3667	NOV-01-2007
5130203	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
5130203	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
5130203	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
5130203	Stones	West Fork Stones River Unnamed Tributary (Smyrna)	Rutherford	From West Fork Stones River to Origin	State threatened Yellow Sunnysbell	35.9546	35.9515	-86.4557	-86.4468	NOV-13-2007
5130203	Stones	West Fork Stones River Unnamed Tributary (Smyrna)	Rutherford	From West Fork Stones River to origin.	State threatened Yellow Sunnysbell, Sunnysbell Cedar Glade State Natural Area.	35.9671	35.9681	-86.4563	-86.4422	NOV-13-2007
5130204	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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City of Murfreesboro - MTSU Stormwater General Education Activities for FY 2014-15

Date	Event	# Participants	# Education Materials Distributed	# signed up for mailing list for volunteer opportunities	Trees Given Out or Planted	#s of Trash Removed	# Promotional Items
9/11/2014	MPRD Fun Volunteer Day	5	Stream/Wetland clean ups at Old Fort Park, Oaklands & Walter Hill Dam			240 lbs of trash	
9/15/2014	Rain Barrel Workshop	12 citizens	15 "Waterfront Brochures", 17 "Rain Barrel Brochures" & 3 "Homeowner Brochures"				
10/15/2014	Globe - Creeks to Classrooms (Northfield Elementary)	25 students	25 "Discover the Waters of TN" booklets, 25 "Stormwater games, 25 "Macro Invertebrate" identification guides & 25 "Waterfront Property"				25 Stormwater pens
3/25/2015	Globe - Creeks to Classrooms (Overall Creek Elementary)	100 students (5 teachers)	100 "Discover the Waters of TN" booklets				
3/26/2015	Read to Succeed - Stormwater Outreach Education Booth	300-500 citizens	7 "Waterfront Property" brochures, 2 "SRWA" map, 95 "Discover the Waters of TN" booklets, 7 "Macro Invertebrate" identification guides, 7 Stormwater games				3 Leaf Reuse bags, 3 Stormwater water bottles, 3 Stormwater pens
4/25/2015	Murfreesboro Earth Day Celebration	4 MTSU students	29 "Waterfront Property" brochures, 33 "Rain Barrel" brochures, 20 "Be Aware" brochures, 57 "Homeowners" brochures, 25 "Watersheds of TN" maps	64			385 Promotional items (30 Stormwater bags, 33 stormwater pens & 175 Water & Sewer water bottles & 97 Earth Day t-shirts, 50 Leaf Refuse bags)
5/18/2015	Globe - Creeks to Classrooms (Blackman Middle School)	94 students (2 teachers)	100 "Discover the Waters of TN" booklets				
6/3/2015	Kohls Cares Wetland Cleanup at Oakland's Maney Spring	8 volunteers & 2 staff (1 MTSU & 1 City employee)	7 "SRWA" maps	9		20	
6/26/2015	UT Farmers Market booth		10 "Homeowner" Brochures, 17 "Rain Barrel" brochures, 2 "Waterfront Property" brochures				25 Stormwater bags, 12 Pens, 15 Leaf Reuse bags, 2 "Invitation to a Healthy Home", 5 "Farmer" brochures, 1 "Home Town Clean Water Tour", 24 Fishing Coloring book, 18 TWRA Fishing guides, 3 Stream bank stabilization, 4 CRC Stones River brochure, 2 Conservation Planning brochures, 7 MWSD stickers
6/27/2015	Murfreesboro Boat Day	25 citizens		25			(Event was cancelled due to weather but we were able to stay & talk to citizens)
05/07-08/15	Oaklands Outreach	725		2			
10/01-02/14	Oaklands Outreach	622		2			
annually	Public Service Announcements						566 Total PSAs (461 TV Ch 3,105 Radio WMOT)
TOTALS		1929	653	111		260 lbs trash	537 Promotional Items
	Breakdown:	1873 Elementary Students & Teachers	78 "Waterfront Property" brochures				55 Stormwater reusable bags
		2 Staff	67 "Rain Barrel" brochures				73 Stormwater pens
		17 Volunteers	20 "Be Aware" brochures				178 water bottles
		37 Citizens	70 "Homeowners" brochures				97 Earth Day t-shirts
			320 "Discover the Waters of TN" booklets				68 Leaf reuse bags
			32 "Macro Invertebrate" identification guides				2 "Invitation to a Healthy Home" brochures
			25 "Watersheds of TN" brochures				5 "Farmer" brochures
			9 "SRWA" maps				1 "Home Town Clean Water Tour" booklet
			32 Stormwater games				24 fishing coloring books
							18 "TWRA fishing guides"
							3 Stream bank stabilization handouts
							4 "CRC SRWA" brochures
							2 Conservation planning brochures
							7 MWSD stickets

City of Murfreesboro-Targeted Education Activities for FY 2014-15

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
9/23/2014	Annual Meeting for Stormwater Permit						
9/27/2014	National Public Lands Day cleanup event - Old Fort Park, Lytle Creek Greenway	92 volunteers and 19 employees			3,825 invasive plant stumps treated & 89 lbs of trash		
10/29/2014	Oaklands Wetland Cleanup	4 student volunteers	4		110 lbs trash		
2/12/2015	UT Ext Outreach - Commercial Hort Applicators Training	15 participants	16 Business Pledges				
3/7/2015	UT Master Gardener Presentation	22 participants	4 citizens, 25 Citizen Pledges	20 "Waterfront Property" brochures, 20 "Old Fort Water Quality", 20 "Rain Barrel", 20 "Backyard Conservation" booklets, 20 Stormwater pens, 20 Leaf Reuse bags, 25 "Native Plants"			
3/14/2015	50K Tree Day - Along the Greenway	7 volunteers, 2 MTSU staff & 1 City of Mboro employee				124 trees planted during event + 86 later by staff	
3/21/2015	Annual Tree Day	133 letters to citizens, 4 MTSU volunteers	26 citizens	133 letters to residents, 4 "Waterfront Property" brochures, 13 "Be Aware" fact cards,		500 seedlings distributed	
4/11/2015	Big Event 2015 - Invasive plant removal & trash cleanup at Old Fort Park, Fortress Rosecrans & Lytle Creek Greenway	207 volunteers, 21 partner employees			9,421 invasive plant stumps treated & 2,340 lbs of trash removed		
01/16-20/15	Yard Waste Door Hanger Outreach	121 residences - Kensington Subdivision		121 door hangers distributed			Initial complaint about grass in street
May 28-29/15	Yard Waste Door Hanger Outreach	72 residences - Benley Drive		72 door hangers distributed			Initial complaint about trash disposal in neighborhood &
Spring/Summer 2015	Yard Waste Door Hanger Outreach	276 residences - Garrison Cove Subdivision		276 door hangers distributed			Initial complaint about grass in street
Spring/Summer 2015	Restaurant Outreach	20 local restaurants		20 letters for each site			
TOTALS		1125	34 citizens signed up for volunteer list, 41 Pledges (business & citizens),	784 print media	13,246 invasive shrubs removed; 2,539 lbs trash	210 trees planted, 500 trees distributed	
Breakdown:		314 Volunteers/Public	34 citizens for volunteer list	469 door hangers			
		639 Local Citizens	16 Business Pledges	20 restaurant letters			
		20 Restaurants	25 Citizen Pledges	133 Letters to residents			
		43 Local Partners/Staff		24 "Waterfront Property" brochures			
				20 "Old Fort Park" brochures			
				20 "Rain Barrel" brochures			
				20 "Backyard Conservation" booklets			
				20 Stormwater Pens			
				20 Leaf Reuse bags			
				25 "Native Plants"			
				13 "Be Aware" fact cards			

MTSU - Targeted Education

Date	Event	# Participants	# Brochures & Promo Items	# signed up for mailing list for volunteer opportunities	Trees Given Out	#s of Trash Removed	Outcome(s)
9/2/2014	MTSU Volunteer Fair	64	14 water bottles & 9 bags	64			
9/9/2014	Environmental Science Class Presentation	10 Students, 1 faculty	10 "Be Aware" fact cards, 10 "Watershed maps", 10 "Old Fort Park" brochures, 10 "Waterfront Property" brochures, 10 bags, 10 water bottles & 10 pens handed out				
9/25/2014	MTSU Prescription Drug Take-Back Event					30 lbs of prescription drugs taken back	
10/27/2014	MTSU Campus Cleanup	52 students		52		165 lbs trash	
1/29/2015	Employee Commercial Applicator Training	13 employees					
3/23/2015	MTSU Campus Cleanup	71 students		71		165 lbs trash	
4/11/2015	MTSU Big Event - Park Day 2015, Old Fort Park/Stones River National Battlefield	207				9,421 stumps treated & 2,340 lbs of trash (counted under City Targeted)	
07/01-06/30/15	MTSU Customs (10 events)	342 students	90 bags, 178 bottles, 120 pens, 89 "Waterfront Property" brochures, 68 "Be Aware" fact cards	334			
	MTSU EH&S Stormwater Training	3883 staff					
TOTALS		4643	441 promotional items & 197 brochures	521		330 lbs of trash removed, 30 lbs of prescription drugs	
	Breakdown:	746 MTSU Students	202 Water bottles				
		3,897 MTSU Faculty/Staff	109 Stormwater reusable bags				
			130 Stormwater pens				
			99 "Waterfront Property" brochures				
			78 "Be Aware" fact cards				
			10 "Watershed Maps"				
			10 "Old Fort Park" brochures				

City of Murfreesboro – Stormwater Functions Chart

Legislative Body

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

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

City Attorney
Susan McGannon

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; responds to and 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, interim

- 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, interim

- Overall mission is to coordinates 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

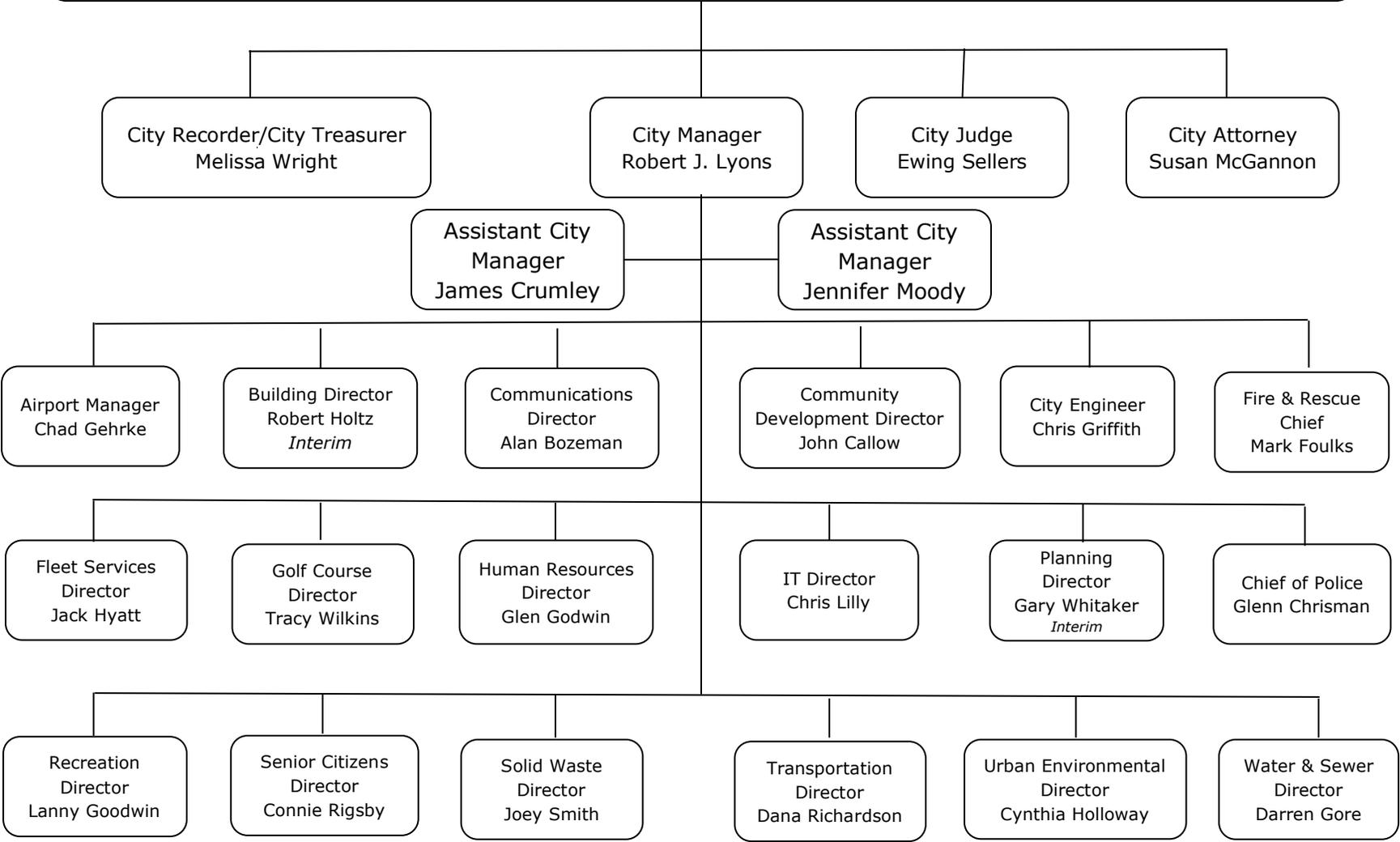
Water & Sewer Director, D. Gore
Stormwater Coord., Robert Haley
Staff: Paul Barber, Josh Upham

- 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

Murfreesboro-MTSU Annual Stormwater
Report, FY 2014-15

City of Murfreesboro—Organization Chart

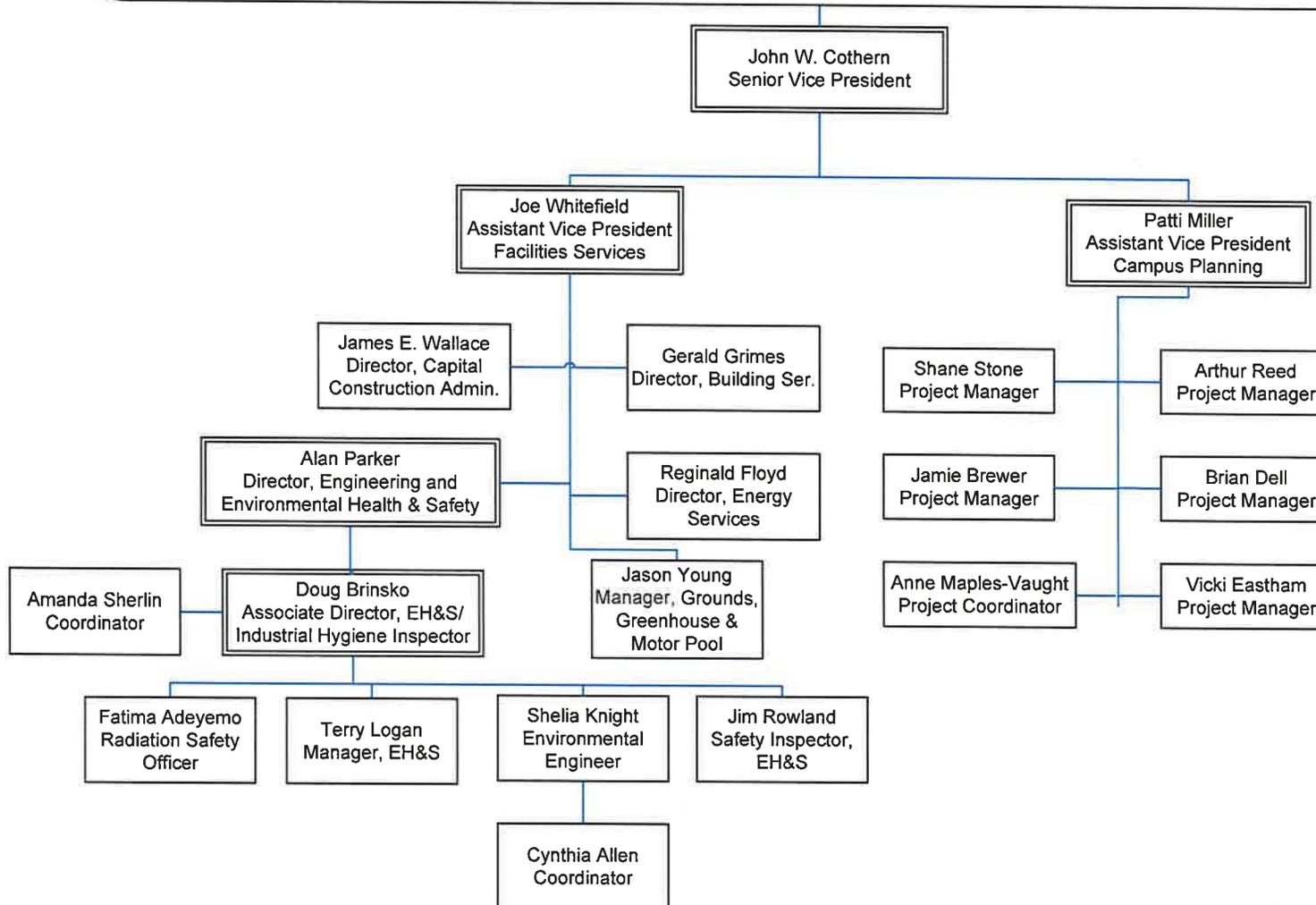
Legislative Body
 Shane McFarland, Mayor; Doug Young, Vice Mayor; Madelyn Scales Harris
 Rick LaLance, Bill Shacklett, Eddie Smotherman, Ron Washington



MIDDLE TENNESSEE STATE UNIVERSITY – Organizational Chart
August 10, 2015

Administrative Body

Dr. Sidney McPhee, University President, Dr. Brad Bartel, University Provost, John W. Cothern, Senior Vice President, Dr. Debra Sells, Vice President for Student Affairs and Vice Provost for Enrollment & Academic Services, William J. Bales, VP for University Advancement, Andrew Oppmann, VP Marketing & Communication, Bruce Petryshak, VP 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.