

Comments for the Draft NPDES Permit for Discharges from the City of Chattanooga’s
Municipal Separate Storm Sewer System (Permit No. TNS068063)

Comments applicable to the entire of the permit:

- Overall this permit is wholly inadequate as an individual permit. It is written as if it were a general permit, lacking the specific requirements applicable to the City of Chattanooga MS4. The intent of an individual permit is to include specific information. The permit and rationale fail to address the Consent Order 05-0171 or the specific components required under the Order.
- The permit repeatedly includes language from the general NPDES permit for Phase II MS4s which is unnecessary in this individual permit. All of this irrelevant language must be removed. TCWN has attempted to identify the specific instances in the more detailed comments below, but there may be additional places where erroneous language should be removed.
- The permit language is written as if this MS4 has not previously been covered under a stormwater permit. Several required activities should have already been initiated or should be noted as continuing.
- The primary receiving waters are absent from this permit, and are listed only in the rationale. The NPDES permit itself should list the receiving waters of the discharge. This information should be included on the cover page. TDEC could simply list the major rivers and then say “and their tributaries within the Chattanooga city limits” or whatever the appropriate boundary is. The information about the receiving waters should be included in the NPDES permit application. 40 C.F.R. § 122.26(d)(1)(iii)(B)(1) & (iv).
- Several details included in the rationale need to be included within the permit as well. The rationale is not an enforceable component of this permit, but is instead merely an explanation for the derivation of permit limits. *See generally* 40 C.F.R. § 122.44 (discussing the use of “fact sheets” in various contexts).
- TCWN’s comments on the individual sections of this permit are also applicable to any discussion of that subject in the rationale.

Section 1.6 Limitations on Coverage

Unnecessary language

- Delete “or an application for an individual permit or alternative general permit” in the sixth paragraph on page 3.
- Delete the entirety of paragraph 7 on page 3.

Section 2 Special Conditions

The sub-sections in Section 2 fail to include data required in the permit application. In accordance with 40 C.F.R. § 122.26(2)(iii), the application should contain estimates of annual pollutant loads from all municipal outfalls as well as the quantitative data from past monitoring of designated representative outfalls. This existing data is necessary to continue assessing compliance with TMDLs and/or water quality standards. The current data, as well as specific requirements for future quantitative monitoring of representative outfalls, must be included in this permit for both the implementation of Section 2 and monitoring requirements in Section 3.

Section 2.1 Discharges to Water Quality Impaired Waters

Include “continue to” between “MS4 must” and “determine whether...” in the first sentence.

Section 2.2 Discharges into Waterbodies with EPA-Approved or Established TMDLs

- Several requirements included in the EPA Region 4 letter to TDEC dated April 15, 2010 (the EPA letter) regarding expectations for MS4 permits are noticeably absent in this section. Most importantly, this section lacks the “clear, specific, measurable performance standards” requested by EPA.
 - The permit does not contain “clear and specific requirements related to the identification, evaluation, and implementation of appropriate water quality controls...necessary to address any applicable WLAs.” The language in this section is vague and was lifted verbatim from Tennessee’s draft MS4 general permit.
 - This is an individual permit, and should contain specific language for the City of Chattanooga and its applicable TMDLs. The first sentence should be changed to acknowledge this MS4 discharges into several water bodies with approved TMDLs. Then this section should list all receiving waters, applicable TMDLs and WLAs. The rationale should explain how the permit will ensure implementation of the specific WLAs. Again, the EPA letter from EPA notes that permits must include language clearly describing “the specific actions required on the part of the permittee” to achieve WLAs.
 - The second paragraph should be slightly re-worded to say “Not later than 6 months following the adoption of any new TMDL, ...” just to clarify that the permittee is, and has been, required to comply with the preexisting TMDLs.
 - The failure to include specific information about the TMDLs and WLAs applicable to this permit limits TCWN’s ability to adequately comment on this draft. However, from what we can find on TDEC and EPA websites, the following TMDLs, at a minimum, apply to this permit. These comments are intended to generally apply to any other TMDLs we might have missed:
 - Total Maximum Daily Load for Siltation and Habitat Alteration in the Lower Tennessee River Watershed (HUC06020001) (Sections 6.1.5 & 7.3.4).
 - TCWN disagrees with the TMDL language that states “WLA’s should not be construed as numeric permit limits.” Section 7.3.4. If there are applicable WLAs, then numeric effluent limits are required as the most stringent effluent limits necessary to protect water quality. Tenn. Code Ann. 69-3-108(g)(1). The WLAs are in numeric form and set concrete and measurable objectives that TDEC has already determined are necessary to protect water quality. TCWN believes that given these WLAs, numeric water quality based effluent limits are both feasible and mandatory. *See* 40 C.F.R. § 122.44(k); Tenn. Comp. R. & Regs. 1200-4-5-.08(i) & (k).

- Even if TDEC chooses not to impose numeric effluent limits, then the narrative effluent limits in the permit must still be sufficiently stringent to protect water quality, Tenn. Code Ann. 69-3-108(g)(1), and must be “consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA,” 40 C.F.R. § 122.44(d)(1)(vii)(B). The TMDL language applicable to MS4s is “WLAs apply to MS4 discharges in the impaired subwatershed for which the WLA was developed and will be implemented as Best Management Practices (BMPs) as specified in Phase I and II MS4 permits.” TMDL Section 7.3.4. This draft Phase I MS4 permit and rationale do not explain in any fashion how the BMPs are designed to actually implement any of the applicable WLAs. For example, the WLA for Dobbs Branch is a 78.9% reduction in sediment loading from the existing sediment load of 1,799 pounds per acre per year. TMDL Tables 8 & 9. TCWN has been unable to identify any analysis of the BMPs that would ensure such a reduction or any permit condition that would require Chattanooga’s SWMP to achieve this goal. Please explain in detail how TDEC has determined how the narrative conditions of this permit implement each applicable WLA. Specifically, how are this permit’s narrative requirements consistent with the assumptions and requirements of the applicable WLAs? Because the allowable sediment loading, and the applicable percent reduction, varies by subwatershed, TCWN would expect this analysis to be provided separately for each affected water body.
 - From the list of impaired waterbodies included in the draft permit in Section 7.3.1, it appears that this TMDL includes WLAs for the following HUC-12 subwatersheds that are covered by this permit: **(06020001___)...0502; 0503; 0701; 0702; and 0804**. Again, from the limited information about the receiving waters in the draft permit, it is possible that this list is not inclusive, and TCWN’s comments incorporate all other receiving waters in this draft permit covered by this TMDL.
- Total Maximum Daily Load for E. coli in the Lower Tennessee River Watershed (HUC06020001) (see Section 7.1.2)
 - TCWN does not understand why this TMDL states on its cover it is both “proposed” and “final,” but we assume it was finalized on the date listed on its cover sheet, June 14, 2006.
 - The WLAs applicable to MS4s are listed on pages xii-xiii and in Table 9. From the list of impaired waterbodies included in the draft permit in Section 7.3.1, it appears that this TMDL includes WLAs for the following HUC-12 subwatersheds that are covered by this draft permit: **(06020001___)...0502 (Citico Creek); 0503 (Dobbs Branch, Chattanooga Creek); 0803; and 0804 (Friar**

Branch and South Chickamauga Creek). Again, from the limited information about the receiving waters in the draft permit, it is possible that this list is not inclusive, and TCWN’s comments incorporate all other receiving waters in this draft permit covered by this TMDL.

- Nothing in this TMDL indicates that these WLAs are to be implemented without numeric effluent limits. TDEC has numeric in-stream water quality criteria for E. coli., and these should be protected by this permit. Again, TCWN believes that numeric effluent limits are necessary to ensure protection of water quality. TCWN believes that given these WLAs, numeric water quality based effluent limits are both feasible and mandatory. *See* 40 C.F.R. § 122.44(k); Tenn. Comp. R. & Regs. 1200-4-5-.08(i) & (k).
- But, even if narrative effluent limits are to be used in lieu of numeric effluent limits, these narrative limits must be consistent with the assumptions and requirements of applicable WLAs. 40 C.F.R. § 122.44(d)(1)(vii)(B). Nothing in the draft permit or the rationale explains how this requirement is implemented for E. coli. For example, there is no indication of how this permit will ensure a 94.7% reduction in E. coli loading from the Chattanooga MS4 to Dobbs Branch. *See* Table 9. With respect to each subwatershed or drainage area covered by this TMDL, please explain precisely how this permit implements the individual WLAs applicable to this MS4.
 - The permit fails to incorporate the necessary monitoring components for assessments of load contributions. EPA expects permits to have specific monitoring provisions, first establishing a baseline to characterize pollutant contributions. This language needs to be included.

Section 2.3 Discharges to Impaired Waterbodies without EPA-Approved TMDLs

Change language from “discharge will not further the impairment” to “discharge will not cause or contribute to a water quality violation.”

Section 2.4 Protection of State or Federally Listed Species

Again, both of these sections are verbatim from the MS4 general NPDES permit for stormwater. The requirements of these sections must be specific to the individual permittee.

Section 2.5 Co-permittees and Coordinated Programs

- Section 2.5.1: The opening sentence states this is a general permit, which it clearly is not.
- If there are co-permittees, they should be listed here. This entire section needs to either be eliminated if no co-permittees exist, or re-written to include the specifics of these co-permittees and their responsibilities. Obviously, if Chattanooga were to later decide to add co-permittees, it would need to do so through a permit modification.

Section 3.1 Program Requirements

- The City of Chattanooga has had MS4 permit coverage previously and should be well into implementing these program requirements. This section needs to detail specifically what the City of Chattanooga must do, including what is necessary for compliance with the Consent Order. The language is not specific to Chattanooga’s MS4 coverage.
- Section 3.1.2: The implementation schedule is far too lenient. Modifications to construction site run-off ordinances can be achieved in six months, updates to construction site run-off control programs can be completed within 12 months, and revisions to permanent stormwater management programs can be completed within 24 months. As noted throughout these comments, the permittee should be far enough along in this process as to not require such relaxed time-frames.

Section 3.2.2 Public Involvement/Participation

The language in these sections is verbatim from the general MS4 permit. The City of Chattanooga must detail its existing public education and outreach and public involvement/participation programs, and the permit must contain continued requirements and specific actions the permittee will take in the next five years under this permit.

Section 3.2.3 Illicit Discharge Detection and Elimination

The language in this section is too broad for an individual permit. Local specifics should be included in this section along with the requirements in the EPA letter.

- An ERP should be developed within 12 months.
- If the Chattanooga MS4 has an existing IDDE program the components of that program must be included here, as well as how to expand on those activities.
- Specifics required in the EPA letters are noticeably absent:
 - There are no program requirements noted, such as inspections, on-going field screening activities, investigation when field screening or other information indicates reasonable potential of illicit discharge or procedures for removal of identified illicit discharges or improper disposal.
 - There are no requirements to assess program effectiveness.

Section 3.2.3.1 MS4 Mapping

The current map should be included in the rationale for this permit. This requirement should be re-worded to discuss the conditions and timetables for revising the outfall map. EPA requires submission of a USGS topographic map (or equivalent) that includes outfall locations, land use activities, landfills, NPDES-permitted dischargers to the MS4, locations of major structural controls, and park locations as part of the NPDES permit application. 40 C.F.R. § 122.26(d)(1)(B). Therefore, TDEC should already have this information. If this permit is imposing a compliance schedule to meet this requirement, it must do so explicitly.

Section 3.2.4 Construction Site Stormwater Runoff Control

- Paragraph 1: Program updates must be completed within 12 months rather than 24
- Paragraph 1, 2 and 4: The current Tennessee Construction Stormwater General Permit expires this year. This permit must address the inclusion of the updated general construction permit into the City of Chattanooga’s construction stormwater program after the new CGP has been approved.

- Paragraph 5: The last sentence should be changed to “The MS4 must submit this inventory to TDEC once per quarter.” This is the only way the public can have access to this important document, and the only way TDEC can be certain this permit requirement is met.
- Paragraph 8: Include language guaranteeing public access to proposed projects prior to permit coverage as well as during construction.
- Paragraph 9: The EPA letter requests more specific requirements for site plan review, including thorough evaluation to ensure adequate measures will be implemented to protect water quality.
- Paragraph 10: In accordance with the EPA letter the following must be included: initial site plan review prior to construction initiation, site inspection time intervals with a minimum inspection frequency, minimum percentage of sites inspected over a specific timeframe and coordinating inspections to rain events.

Section 3.2.5 Permanent Stormwater Management in New Development and Redevelopment

Overall this section lacks specific requirements for the Chattanooga MS4. This entire section needs specific, measurable, and enforceable language.

Section 3.2.5.1 Permit Requirements

The stream buffer language should be clarified for the permittee. It is recommended the third paragraph state: “water quality buffer along all waters of the state, excluding wet weather conveyances.” This language would clarify buffers are required for lakes, wetlands, and other waterbodies not thought of as “streams.” We know the permit defines the term “streams,” but that definition is counter-intuitive. Also, because the term “streams” is not capitalized here, the reader would not know to look to the definitions section of the permit.

Section 3.2.5.2 Performance Standards

- This section should note the use of infiltration, reuse, and evapotranspiration to the maximum extent practicable.
- The last sentence in paragraph 1 should read “...then the MS4 may propose off-site mitigation within the same HUC 12, with preference given to projects upstream of the site.”

Section 3.2.5.2.1 Runoff Reduction (infiltration or green infrastructure)

- In accordance with the EPA letter, sites should capture and retain all storm events up to and including the 95th percentile, which most often exceed an inch of rainfall. Individual site inability to meet this requirement must be determined prior to site plan approvals and should be the exception, not the norm.
- Intensity is also an important dimension not addressed, as a 1” rain that falls in thirty minutes has different run-off and erosive characteristics than a 1” rain over a 24 or 48 hour period.
- Remove “Presence of sinkholes or other karst features” from the limitations of application.

Section 3.2.5.2.3 Off-site mitigation

- It must be clearly stated new development is ineligible for off-site mitigation. Language in the final sentence requesting avoidance is unclear. Since the land for new development has no pre-existing limitations, permanent stormwater controls must be incorporated into the site design. There is no excuse for new development not to comply with this component of the permit. If the site is not suitable for stormwater controls, then it should not be developed, or should be developed less intensively.
- It is not enough to require off-site mitigation to be in the same HUC 12. Preference must be granted to off-site mitigation upstream of the project in the same HUC 12. Many HUC 12 streams have multiple branches so the best form of mitigation is to have the compensatory mitigation occur on the same branch. If a suitable site is not available, the next best choice would be another site within the same HUC 12, and the third and least desirable site would be outside the HUC 12. In order to clearly indicate this preference, escalating mitigation requirements would be appropriate. For example, if on the same branch 1.5 times the unmanaged water, on a different branch 2 times the unmanaged water, and if outside the HUC 12, but within the same HUC 10, 2.5 times the unmanaged water.
- What constitutes an acceptable mitigation project is unclear. Since the permit refers to mitigating for “the amount of water not managed on site,” this suggests a quantitative determination that may limit the kind of mitigation projects acceptable. Presumably, since this mitigation requirement is tied to the failure to capture the first 1” of rain (or the 95th percentile standard, if revised), mitigation alternatives would need to be tied to increasing the management of that same amount of rainfall on a site where it is currently not managed. Mitigation projects such as streambank stabilization or restoration would therefore not be eligible, regardless of their contribution to water quality. The criteria for acceptable mitigation must be clearly stated.

Section 3.2.5.2.4 Payment into Public Stormwater Project Fund

Eliminate this section. Developers should not be able to pay their way out of stormwater controls. This defeats the intent of the MS4 program. Mitigation must be required if on-site controls can not be implemented.

Section 3.2.5.3 Codes and Ordinances Review and Update

It should take no longer than 24 months to update codes and ordinances.

Section 3.2.5.4 Plan Review, Approval and Enforcement

Include a requirement for pre-approval public notice and comment period.

3.2.5.7 Owner/Operator Inspections

Include a requirement for owners/operators to inspect BMPs after any storm even exceeding a 2-year storm which may have affected the control’s ability to adequately function.

Section 3.3 Stormwater Monitoring Program

The coordinates for Mackey Branch, Dobbs Branch and Citico Creek appear to conflict with those in the rationale (pg. 59). The correct coordinates need to be determined and included in the permit itself.

Section 3.3 Monitoring – comments applicable to entire section

This section is incredibly vague and conflicts with the rationale (pg. 59), which requires annual monitoring. Regardless, monitoring must be conducted on a more frequent basis. In accordance with the EPA letter, measurable compliance with TMDLs and demonstrating quantifiable improvements is a priority. The monitoring components of this permit will not provide adequate data to demonstrate program effectiveness and/or improvements in water quality, compliance with TMDLs, or other important metrics of success.

The following requirements must be included for the monitoring to serve makes the permit effective. :

- Each ¼” rain event should be sampled.
- Sampling must include end of pipe outfall/construction site discharges. This is the only method one can use to assess the effectiveness of best management practices and the permit requirements. In addition, this sample provides a numeric for the pollution loading.
- In-stream sampling must be included, both an upstream of the outfall reference sample and downstream (test) sample for comparison. In stream samples are necessary to determine discharge effect on water quality standards.
- Impaired waters (303(d) or other waters known to be impaired) as well as immediate tributaries to those waterbodies should be sampled annually for 303(d) listed or known pollutants. This waterbodies and sampling points should be listed in the permit.
- The City of Chattanooga should be required to annually sample all major tributaries within its jurisdiction for turbidity, E. coli, and any other pollutant as listed on the 303(d) list or otherwise known to the jurisdiction to document problem areas. Once these problem areas are identified, the permittee must develop a sub-watershed sampling plan to further document and remediate problems within the targeted sub watersheds.
- Biological Monitoring
 - BMI monitoring plans should include sampling stations generally representative of the jurisdictions geographic coverage. This should be established in the permit to assess the overall effectiveness of the jurisdictions permit program. In addition the City of Chattanooga should establish BMI reference stations as a point of comparison.
 - The permittee should be allowed to use an order level benthic macroinvertebrate survey on a routine schedule, and move to a genus or species level only when low scores indicate a problem. This level of monitoring would allow more sites to be covered on an annual basis in a cost effective manner, increasing effective coverage. (See “Using Aquatic Macroinvertebrates to Assess Water Quality in East Tennessee Stream”, Tennessee Conservationist, Jan/Feb 2008. Note: SOS protocols have been modified for other regions of Tennessee, and Quality Assurance Project Plans have been approved by EPA).
 - Section 7.10.4 in the rationale (pg. 60) provides specific biological monitoring sites. These should be included within this section as well.

The EPA letter dedicates a significant portion of the instruction to addressing those MS4 waterbodies for which a TMDL has been approved. As discussed previously, the City of

Chattanooga must demonstrate compliance with the WLA in any applicable TMDL. In order for the MS4 to do this, more frequent and accurate monitoring requirements are necessary. As noted in the letter, EPA expects language in the permit which describes specific actions by the permittee. The language in this section falls short of this expectation. The current language does not provide for sampling data which will demonstrate compliance with a WLA nor will it show measurable improvements if sampling is conducted on an infrequent and inadequate basis.

Section 3.3.5 Watershed Characterization

This section requires more detail. The required components of a “watershed characterization” must be included.

Section 3.3.8 Industrial Monitoring Program

Requiring the City of Chattanooga to sample industrial dischargers is inappropriate. Individual industrial NPDES permits are issued by and the responsibility of TDEC. There is no justification for shifting the burden of inspections to the MS4.

Section 3.4 Qualifying Tribe, State or Local Program (QLP)

Is the City of Chattanooga MS4 working towards being a QLP or have intentions of being one during the term of this permit? If so, this needs to be mentioned and detailed. If not, this section is irrelevant and should be removed.

Section 3.6.1 Development of Enforcement Response Plan

This permit must require a more detailed enforcement plan. Specifically, this section should outline the need for enforcement actions to be progressive. There should be no more than 2 verbal warnings for violations before the respondent receives a written warning. If a written warning has been issued, but violations persist, citations with penalties must be issued. If violations persist, a stop work order must be issued. The MS4 needs the ability and the support from the state to be able to stop violations and resulting threats to water quality.

Section 3.6.2 NPDES Permit Referrals

- Remove the second sentence in the third paragraph (“At a minimum...”) to allow for the above comment regarding progressive enforcement actions.
- It is also recommended this section provide language reiterating TDEC’s and the USEPA’s final authority over violations.

Section 3.6.4 Recidivism Reduction

The permit does not define “chronic violators.” It is recommended a definition be provided to ensure the definition is applied consistently and is not site specific. An owner or operator with more than one permitted site can be considered “chronic” if violations persist at the various sites.

Section 4.1 Analytical Monitoring

- For both siltation and pathogens, samples must be collected no less than annually. Once during the life of the permit is insufficient to demonstrate and ensure improvement in water quality.
- Those waterbodies for which these monitoring requirements are applicable should be listed in this section.

- In-stream turbidity sampling should be required for those waters impaired by siltation and/or habitat alterations. It is not enough to simply measure sedimentation at the bottom of streams: turbidity is more than mere “color,” and it affects the aquatic food chain and the ability of site-feeding organisms to find food.

Section 4.2 Non-analytical Monitoring

Rewrite the second sentence to read “Visual stream surveys shall be performed...” in order to require visual stream surveys.

Section 4.3 Recordkeeping

The second paragraph should be re-written to require the City of Chattanooga MS4 to submit records at least quarterly.

Section 4.4 Annual Effectiveness Assessment

The City of Chattanooga MS4 should already have benchmarks and measurable goals to accomplish. These should be included in this section along with the timeframe of achieving these goals. These benchmarks should be modified, if necessary, to ensure compliance with applicable TMDLs.

Sections 5.3, 5.4, 5.5, 5.6, 5.7

Remove “you” and replace with “the permittee.”

Section 5.10 Inspection and Entry

Rephrase “your premises” to be applicable to the City of Chattanooga’s MS4 area of coverage.

Section 5.11 Permit Actions

Change “Your” to “The permittee.”

Section 5.17 Planned Changes

Change “permitted facility” to “City of Chattanooga MS4.”

Section 6 Definitions

- Co-permittees: This definition is not applicable to this individual permit unless there are co-permittees.
- Municipal Separate Storm Sewer (MS4): fix formatting

Section 7.3.1 Impaired Waters

The waterbodies listed should be in a format similar to that of the Section 303(d) list; therefore, providing which waterbody is impaired by what pollutant and due to what cause. This chart should also be provided within the permit in Section 2 and in the rationale.

Section 7.4.2 Co-permittees and Coordinated Programs

If the City of Chattanooga MS4 has co-permittees, they should be listed here. If not, this section should be removed.

Section 7.4.3 Discharges to Water Quality Impaired Waters

This language should be included in Section 2 of the permit.

Section 7.5.5 Permanent Stormwater Management in New Development and Redevelopment

Eliminate “Payment into Public Stormwater Project Fund” (4th bullet, page 52)

Section 7.6 Qualifying Tribe, State, or Local Program (QLP)

If the City of Chattanooga intends to become a QLP during the life of this permit this needs to be mentioned and detailed. If not, this section is irrelevant and should be removed.

Section 7.7 Antidegradation Review

- This section clearly states the intent of this permit is a reduction in the current level of pollution discharged by the MS4. In order to demonstrate this, the increased monitoring procedures recommended above must be included in the permit.
- If co-permittees are applicable to the adaptive management process they should be listed. Again, this is an individual permit, so TDEC should know whether such entities exist. If not, language in this section must be revised.

Section 7.10.2 Wet Weather Monitoring

The annual sampling requirement conflicts with the language in Section 3.3.