



## Implementation Plan

### Permanent Stormwater Management Program, 4.2.5.1. City of Murfreesboro

The below implementation plan describes existing components of Murfreesboro’s permanent stormwater management program and how the program will be modified to comply with new permit. The plan is outlined with each element heading of section 4.2.5 of the new permit. Planned changes and timeline are found in table format. Key roles and responsibilities are detailed at end of the document.

MWRD: Murfreesboro Water Resources Department

#### 4.2.5.2. Permanent Stormwater Standards.

**Existing regulatory mechanisms and program elements:**

- Design standards established in city code 27 ½ -7.
- 80% TSS removal from WQTV required in city code 27 ½ -7 (F).
- The City adopted stormwater controls design manual that presumes facilities designed, constructed, and maintained according to manual will meet performance standards 27 ½ -7, (A), (2).

**Program modifications and timeline:**

Revise ordinance	<ul style="list-style-type: none"> <li>- Draft ordinance revisions by 8-1-2023.</li> <li>- Implement ordinance revisions no later than 8-1-2024.</li> </ul>
c. Specify design storm: 1 year, 24 hours.	With ordinance revisions
c. Include in ordinance, regulation and/or design manual the permit chart: “Water Quality Treatment Volume and corresponding SCM” for treatment types.	With ordinance revisions
f. WQTV reduction incentive for redevelopment and vertical development incorporated in ordinance revisions.	With ordinance revisions
Modify ordinance to clarify roof runoff is to be presumed contaminated unless demonstrated otherwise.	With ordinance revisions
Incorporate procedures, planning notes, etc.	<ul style="list-style-type: none"> <li>- Draft procedures by 8-1-2023.</li> </ul>

	- Implementation no later than 8-1-2024.
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### 4.2.5.3. Stormwater Mitigation and Public Stormwater Fund.

The City may investigate mitigation options/design alternatives for sites with constraints due to karst topography but has no plans to develop a mitigation program at the time of this document.

### 4.2.5.4. Water Quality Riparian Buffers.

#### Existing regulatory mechanisms and program elements:

- Water Quality Protection Area (WQPA) defined in city code 27 ½ -2 and 27 ½ -17.
- “Top of bank” defined in ordinance 27 ½ -2.
- WQPA’s required in development plans and subdivision plats in city code 27 ½ -7 and 27 ½ -27.
- Development inclusion and protection of WQPA in city code 27 ½-18 and 27 ½ -20, 27 ½ -27.
- WQPA management responsibilities defined in city code 27 ½ -23.
- Variance policy defined in city code 27 ½-30.
  - a. City requires variance request package where applicant must demonstrate hardship and show adequate mitigation.
  - b. Variance requests are heard by the Murfreesboro Water Resources board.
- Buffers maintained through education programs, inspections during visual stream assessments, and with SCM inspection when possible.
- SCM inspectors monitor WQPAs during construction with installation of SCMs. This supplements EPSC priority site inspections and Codes Department building inspections.

#### Program modifications and timeline:

Revise ordinance	- Draft ordinance revisions by 8-1-2023. - Implement ordinance revisions by 8-1-2024.
<b>a.</b> Incorporate sheet flow from discharges to buffer in ordinance revisions	With ordinance revisions

<p><b>b.</b> Define new buffer widths as described in Small MS4 General Permit 4.2.5.4. (waters with available parameters for siltation, habitat alteration, or unassessed: average 30 feet/minimum 15 feet, exceptional water or unavailable parameters for siltation or habitat alteration: average 60 feet/minimum 30 feet). Discuss whether to adopt averaging.</p>	<p>With ordinance revisions</p>
<p><b>c.</b> Incorporate provisions for biking and walking trails in ordinance revisions. Include standard that requires trails made of impervious material to direct runoff to infiltration based SCM's or expand buffer width by width of impervious trail ordinance in revisions.</p>	<p>With ordinance revisions</p>
<p>Implement process where MWRD SCM inspectors inspect WQPA's from groundbreaking to beyond completion as part of post construction inspections. Intended to supplement EPSC staff inspections.</p>	<p>By 8-1-2023</p>
<p>Implement procedures, planning notes, etc.</p>	<ul style="list-style-type: none"> <li>- Draft changes by 8-1-2023</li> <li>- Implement changes by 8-1-2024</li> </ul>

**4.2.5.5. Codes and Ordinance Review and Update**

a. City of Murfreesboro previously completed scorecard.

**4.2.5.6. Development Project Plan Review, Approval, and Enforcement.**

The City complies with this section as described below with the exception of incentives and water buffer changes described above.

**Existing regulatory mechanisms, program elements, and procedures:**

- Ordinance grants city general regulation authority over the planning, location, construction, and operation and maintenance of stormwater facilities in the city code 27 ½ -1 (F), (1-7).
- Ordinance grants city authority to review plats and plans for stormwater management in proposed subdivisions or commercial developments. 27 ½ - 1(F), (4).
- Ordinance grants city authority to establish standards to regulate stormwater contaminants in city code in 27 ½ - 1(F), (3).
- Performance standards defined in ordinance 27 ½ -7 (B).
- City requires the review and approval of stormwater management plans containing key elements as described previously 27 ½ -7 (D).
- Enforcement: ordinance requires design engineer submit certification that stormwater is complete and functional upon completion 27 ½ -11 (A).
- MWRD final inspection of SCMs.

Planning department project engineers manage the review and approval of stormwater management plans, including the review of design standards. MWRD staff offers supplemental review comments. MWRD inspectors begin documenting/inspecting sites for proper installation of SCMs at onset of construction. Upon completion of project, inspectors submit final inspection to stormwater manager. Sites or subdivisions failing final inspection, or not certified by design engineer, will have bonds and securities held and are prevented from getting certificate of occupancy or having plat signed.

#### **4.2.5.7. Maintenance of Permanent Stormwater Control Measure Assets**

The City complies with this section as described below.

##### **Existing regulatory mechanisms, program elements, procedures:**

- Required maintenance of all stormwater management facilities defined in ordinance 27 ½-7 (D), (4).
- Stormwater facility maintenance plan and agreement required in ordinance 27 ½ -7 (D), (4-6).
- Authority to inspect stormwater facilities in ordinance 27 ½ -11 (D).
- Enforcement for failing to maintain stormwater manage facilities described in ordinance 27 ½ -11 (E).
- Provision for City to repair private facilities if enforcement fails in ordinance 27 ½-11 (E).

MWRD requires maintenance plans and agreements for stormwater facilities. Plans include estimated maintenance expenses and frequency. Additionally, inspection sheets are included with most plans. Staff uses education programs to raise awareness about SCM maintenance responsibility with owners, operators, HOA's, property managers, and landscapers. Ultimately staff uses inspection software to inspect SCMs once every five years. Findings are stored on cloud and used to analyze trends for future planning and manual updates.

#### **4.2.5.8. Inventory and Tracking of Permanent Stormwater Measure Assets**

The City complies with this section by maintaining a SCM geodatabase accessible from public web maps. Sites and subdivisions containing SCMs get a central SCM site indicator point. This feature contains file numbers, inspection dates, fee credit information, status (planning, construction, post), etc. Additionally, all SCM features are mapped in points and polygons. Staff uses GIS to query acres of permeable pavers in a sub watershed, for example. Streamside buffer polygons are also mapped in GIS.

##### **Roles and Responsibilities**

Plans review of stormwater management facilities	Planning Department
Plans review of streamside buffers (WQPAs)	MWRD
Inspection of installation of SCMs	MWRD
Maintenance inspections of SCMs	MWRD
Archiving of SCM maintenance documents and engineering certifications	MWRD
Enforcement of streamside buffers during construction	Engineering and Codes departments
Education programs for those responsible for maintenance of SCMs and owners of streamside buffers	MWRD

## **Water Quality Protection Area Variance Request Procedure (Alternative Width)**

Permanent Stormwater Management Program, 4.2.5.4.  
City of Murfreesboro

This document describes the procedure and the criteria the City has for authorizing alternative buffer widths to water quality riparian buffers, known in Murfreesboro as Water Quality Protection Areas (WQPA).

Alternative widths are considered by way of a variance request that is heard before the City's Water Resources Board. Staff are involved in the process but cannot authorize alternative widths administratively. Article II of the Stormwater Management chapter of City Code, 27 ½–17 and following, and section 27 ½–30 in particular, set forth the procedure for granting variances. The following provides details of the process.

- 1. Pre-application meeting** (MWRD staff and prospective applicant)
  - a. Discussion about demonstrating hardship and impracticality. City code: 27 ½ -30.
    1. City may deny application for inadequate justification or if subject property is located along stream with defined waste load allocation or TMDL.
    2. Full listing of variance provisions found in city code 27 ½ -30 (A-D).
  - b. Discussion about potential mitigation.
  - c. Decision made whether to proceed with application.
- 2. Application/Submittals**
  - a. Applicant submits "Application to Appear Before the Water Resource Board" to Stormwater Manager.
  - b. Applicant submits variance request checklist to Stormwater Manager.
  - c. Mitigation plan submitted to Stormwater Manager.
  - d. Required checklist items submitted.
- 3. Staff Review**
  - a. Stormwater Manager reviews completeness of application.
  - b. Stormwater Manager evaluates sufficiency of proposed mitigation.
    1. Impairments/TMDLs should be considered.
    2. Mitigation does not negate water quality standards.
    3. Staff may request professional analysis or a demonstration of effectiveness of mitigation.
  - c. Stormwater Manager creates pros and cons/justification page.
  - d. Stormwater Manager by memo and exhibit requests comments from staff of other City departments.
  - e. Staff comments considered.
  - f. Requests/concerns conveyed to applicant.
- 4. Final Submittals**
  - a. Applicants submits final plans/mitigation for inclusion in Water Resources Board agenda.

## **5. Water Resources Board**

- a. Stormwater Manager prepares memo detailing request, including exhibits and mitigation plan, for Water Resources board agenda.
- b. Stormwater Manger presents request to board.
- c. Stormwater Manager recommends to board whether to deny the variance, or to approve or approve it with conditions.
- d. If Water Resources Board grants variance, Stormwater Manager drafts letter of record to be signed by the Director of MWRD.
  1. Letter reiterates mitigation elements and conditions.
  2. Letter expresses need for developer to adhere to water quality standards and existing permits.
- e. Stormwater Manager sends letter of record to applicant.
- f. Stormwater Manager sends letter of record to relevant staff, especially Planning Department.

## **6. Record Keeping**

- a. All variance request documents to be kept in MWRD project filing system.

### Attachments

- Variance Request Checklist
- Application to Appear Before Water Resources Board
- Copy of 27 ½ - 30 of City Code