NPDES MS4 Annual Report

version 1.8

(Submission #: HQ6-3PFP-SS4S3, version 1)

Details

Submission ID	HQ6-3PFP-SS4S3
MS4 Owner Name	Williamson County

Form Input

General Information

Permit Number
TNS075795

MS4 Owner/Operator (e.g. City of ...)
Williamson County

County
Williamson

Reporting Period

Per subpart 5.1
a. The Annual Report shall cover the period beginning on July 1st and ending on June 30th;
b. The Annual Report shall be due on September 30th after the end of the reporting period.

Reporting Period Start Date
07/01/2023

Reporting Period End Date
06/30/2024

MS4 Population At NOI Submittal
Population greater than or equal to 50,001

Name and contact information of MS4 Responsible Authority (e.g. Mayor ...)

Prefix
Hon.

First Name	Last Name
Rogers	*Anderson*

Title
County Mayor

Company Name
Williamson County Government

Phone Type	Number	Extension
Business	615-790-5700	

Email
rogers.anderson@williamsoncounty-tn.gov

Address
1320 W. Main St., Ste 125
Franklin, TN 37064

Designated MS4 Stormwater Management Program Contact

Prefix
Mr.

First Name	Last Name
Mario	*Forgione*

Title
Storm Water Quality Coordinator

Company Name
Williamson County Government

Phone Type	Number	Extension
Home	6157905725	

Email
Mario.Forgione@williamsoncounty-tn.gov

Address
1320 W MAIN ST
STE 400
FRANKLIN, TN 37064

MCM 1: Public Education

Below report on the educational activities completed during the reporting year. Delete unused rows (click X at end of row). Add rows (add row button on bottom of table) to report add activities.

Provide the number of activities completed during the reporting year for the Public (Subpart 4.2.1.1. of the permit).
24

Provide the number of activities completed during the reporting year for the Engineering and Development Community (Subpart 4.2.1.2. of the permit).
5

In the Permit, the question below is phrased "How many employees (that are new to the MS4 or new to the job category) have NOT been educated in accordance with the in accordance with the permit sub-part 4.2.1.3 within 6 months?" In order to make this calculation, count how many employees are new to the MS4 or their Job Category. Subtract the number of employees that were trained in accordance with the PIE plan within 6 months. That result is what is reported in this field. If no employees with applicable job categories/responsibilities hired in this reporting cycle, enter 0.

For new employees: provide the total number of employees NOT educated in accordance with the PIE plan within 6 months?
0

For existing employees: provide the total number of employees NOT educated in accordance with the PIE plan within the permit term.
0

A population of greater than or equal to 50,001 at NOI submittal was selected in the General Information Section. Per Subpart 4.2.1.1. the MS4 is required to conduct six (6) activities during the reporting year addressing each of the four (4) management measures for the public. A single activity may address multiple management measures.

You may need to use the scroll bars to view the whole table.

To Add a Row - Click Add Row near the bottom right of the table

To Delete a Row - Click the "X" at the far right end of the row.

Column Descriptions

Target Audience (This column is fixed and cannot be changed.)

Activity Description: (Provide details as to the specific activity that was conducted.)

Management Measure: Impacts on Water Quality (Select Yes if the activity listed in this row addressed the 4.2.1.1.a.General awareness of the impacts on water quality.)

Management Measure: SCM/BMP Maintenance (Select Yes if the activity listed in this row addressed the 4.2.1.1.b. Awareness of the importance of maintenance activities for operators of permanent Best Management Practices (BMPs)/Stormwater Control Measures (SCMs).)

Management Measure: Storage, Use, Disposal of Fluids (Select Yes if the activity listed in this row addressed the 4.2.1.1.c. Awareness of the proper storage, use, and disposal of pesticides, herbicides, fertilizers oil and other automotive-related fluids.)

Management Measure: Illicit Discharges (Select Yes if the activity listed in this row addressed the 4.2.1.1.d. Awareness of identifying and reporting procedures for illicit connections/discharges, sanitary sewer seepage, spills, etc.)

Date of Activity (Enter the date the activity took place. If the activity took place across multiple days enter the Date of the first day of the activity.)

Specifically Targeted Audience (This column is used to provide more details as to the audience the activity was targeting e.g. school age children, Homeowners with SCMs) A broad based event such as tabling at a festival may list general public as the specifically targeted audience.

# of Audience (Enter the approximate number of individuals that were reached with this activity.)

Sponsored Activities (Identify if the event sponsored
monetarily e.g. money or as a donation in kind e.g. goods or services by the MS4 program. If it was not a sponsored activity, leave N/A in the cell.)

Provide the status of your MS4 program's public education and outreach activities for the Public audience during the reporting period.

Target Audience	Activity Description	Management Measure: Impacts on Water Quality	Management Measure: SCM/BMP Maintenance	Management Measure: Storage, Use, Disposal of Fluids	Management Measure: Illicit Discharges	Date of Activity	Specifically Targeted Audience	# of Audience	Sponsored Activities
Public	Tennessee Stormwater Association (TNSA) Social Media Campaign	Yes	Yes	Yes	Yes	07/01/2023	General Public	100000	Monetary

A population of greater than or equal to 50,001 at NOI submittal was selected in the General Information Section. Per Subpart 4.2.1.2. the MS4 is required to conduct two (2) activities during the reporting year addressing each of the two (2) management measures for the Engineering and Development Community. A single activity may address multiple management measures.

You may need to use the scroll bars to view the whole table.

To Add a Row - Click Add Row near the bottom right of the table

To Delete a Row - Click the "X" at the far right end of the row.

Column Descriptions

Target Audience (This column is fixed and cannot be changed.)

Activity Description: (Provide details as to the specific activity that was conducted.)

Management Measure: Long Term Water Quality Impacts (Select Yes if the activity listed in this row addressed the 4.2.1.2.a Awareness of the stormwater ordinances, regulations, and guidance
materials related to long-term water quality impacts.)

Management Measure: Construction Water Quality Impacts (Select Yes if the activity listed in this row addressed the 4.2.1.2.b. Awareness of stormwater ordinances, regulations, and guidance materials
related to construction phase water quality impacts.)

Date of Activity (Enter the date the activity took place. If the activity took place across multiple days enter the Date of the first day of the activity.)

Specifically Targeted Audience (This column is used to provide more details as to the audience the activity was targeting e.g. restaurants, Engineers, Developers) A broad based event such as tabling at a local trade show may list commercial and development community as the specifically targeted audience.

# of Audience (Enter the approximate number of individuals that were reached with this activity.)

Provide the status of your MS4 program's public education and outreach activities for the Engineering and Development Community during the reporting period.

Target Audience	Activity Description	Management Measure: Long Term Water Quality Impacts	Management Measure: Construction Water Quality Impacts	Date of Activity	Specifically Targeted Audience	# of Audience
Engineering and Development Community	Property Assessors Stormwater Pollution Development Training	Yes	Yes	07/28/2023	Realtors, property assessors, contractors, developers	22
Engineering and Development Community	Emergency Management Agency Stormwater, Floodplain, and Outreach Methodology	Yes	Yes	12/04/2023	Emergency Managers and Public Information Officers	3

Target Audience	Activity Description	Management Measure: Long Term Water Quality Impacts	Management Measure: Construction Water Quality Impacts	Date of Activity	Specifically Targeted Audience	# of Audience
Engineering and Development Community	Ornament Making Contest and Stormwater Complaints Presentation	Yes	Yes	12/08/2023	Departments of Planning, Sewage Disposal Management, Codes Compliance	20
Engineering and Development Community	Hazard Mitigation Planning Committee Construction and Floodplain Management Stormwater Presentation	Yes	Yes	01/08/2024	First responders, community stakeholders (leaders), churches, emergency managment professionals, community planners, developers	45
Engineering and Development Community	Williamson County Community Development/Planning Lobby Stormwater Literature	Yes	Yes	04/05/2024	Surveyors, Engineers, Contractors, homebuilders, Developers, landscapers	91

Supporting Documentation for Activities described in this section.

TNSA 2023-24 Outreach Report.pdf - 09/27/2024 08:21 AM
WC Community Outreach Google Sheets.pdf - 09/27/2024 01:33 PM
Comment
NONE PROVIDED

Notes:
NONE PROVIDED

MCM 2: Public Involvement And Participation

Below report on the involvement/participation activities completed during the reporting year. Delete unused rows (click X at end of row). Add rows (add row button on bottom of table) to report add activities.

Is your Stormwater Management Program Plan documentation available online?
Yes

Provide the web address for the Stormwater Management Program plan documentation
https://www.williamsoncounty-tn.gov/109/Stormwater-Management

Was the MS4 program documentation formally placed on public notice during the reporting year?
Yes

Provide a copy of the public notice and response to comments.

MS4 Public Hearing 2023-24.pdf - 09/27/2024 01:10 PM
Comment
NONE PROVIDED

Subpart 4.2.2. requires the following in the annual report

Detail applicable changes as directed in subpart 4.4.1

This requirement will be located in the Program Modifications Section

Is information for all construction site projects accessible to the public?
Yes

Number of comments received from the public on construction site projects.
0

Are all comments from the public on construction site projects considered?
Yes

Number of reports (or complaints) during the reporting period received from the public via public reporting system (IDDE reports)?
0

Provide the number of activities completed during the reporting year for the General Public (Subpart 4.2.2.1. of the permit).
12

Provide the number of activities completed during the reporting year for the Commercial and Development Community (Subpart 4.2.2.2. of the permit).
7

A population of greater than or equal to 50,001 at NOI submittal was selected in the General Information Section. Per Subpart 4.2.2.1. the MS4 is required to conduct six (6) activities during the reporting year addressing each of the four (4) management measures for the general public. A single activity may address multiple management measures.

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To Delete a Row - Click the "X" at the far right end of the row.

Column Descriptions

Target Audience (This column is fixed and cannot be changed.)

Activity Description: (Provide details as to the specific activity that was conducted.)

Management Measure: Pollution Prevention (Select Yes if the activity listed in this row addressed the 4.2.2.1.a Pollution Prevention Management Measure.)

Management Measure: Impacts on Water Quality (Select Yes if the activity listed in this row addressed the 4.2.2.1.b. Impacts on water quality or local stormwater management issues.)

Management Measure: Storage, Use, Disposal of Fluids (Select Yes if the activity listed in this row addressed the 4.2.2.1.c. Storage, use, and disposal of household hazardous waste, automotive related fluids, pesticides, herbicides, and fertilizers use.)

Management Measure: Illicit Discharges (Select Yes if the activity listed in this row addressed the 4.2.2.1.d. Identifying and reporting procedures for illicit connections/discharges, sanitary sewer seepage, spills, etc.)

Date of Activity (Enter the date the activity took place. If the activity took place across multiple days enter the Date of the first day of the activity.)

Specifically Targeted Audience (This column is used to provide more details as to the audience the activity was targeting e.g. school age children, Homeowners with SCMs) A broad based event such as tabling at a festival may list general public as the specifically targeted audience.

# of Audience (Enter the approximate number of individuals that were reached with this activity.)

Sponsored Activities (Identify if the event sponsored
monetarily e.g. money or as a donation in kind e.g. goods or services by the MS4 program. If it was not a sponsored activity, leave N/A in the cell.)

Provide the status of your MS4 program's public involvement/participation activities for the General Public audiences during the reporting period.

Target Audience	Activity Description	Management Measure: Pollution Prevention	Management Measure: Impacts on Water Quality	Management Measure: Storage, Use, Disposal of Fluids	Management Measure: Illicit Discharges	Date of Activity	Specifically Targeted Audience	# of Audience	Sponsored Activities
General Public	Leipers Fork Public Library "Stormwater and Native American History"	Yes	Yes	Yes	Yes	07/07/2023	General Public	20	N/A
General Public	Fairview Public Library "Rooted in Fun"	Yes	Yes	No	Yes	07/26/2023	General Public	15	N/A
General Public	Brentwood Environmental Education Day at Deerwood Park	Yes	Yes	Yes	Yes	10/18/2023	High School Students	220	N/A
General Public	Bricks & Minifigs Nature LEGO Photography Contest	Yes	Yes	No	No	01/02/2024	General Public	82	N/A
General Public	Spring Station Middle School Career Day	Yes	Yes	Yes	Yes	03/22/2024	Middle School Students	558	N/A
General Public	Page High School Environmental Career Presentation	Yes	Yes	Yes	Yes	03/25/2024	High School Honors Society Students	15	N/A

Target Audience	Activity Description	Management Measure: Pollution Prevention	Management Measure: Impacts on Water Quality	Management Measure: Storage, Use, Disposal of Fluids	Management Measure: Illicit Discharges	Date of Activity	Specifically Targeted Audience	# of Audience	Sponsored Activities
General Public	Williamson County Community Development Department: Lobby Stormwater Literature	Yes	Yes	Yes	Yes	04/05/2024	General Public, Surveyors, Engineers, Contractors, homebuilders, Developers, landscapers	91	N/A
General Public	City of Franklin: Arbor Day Festival	Yes	Yes	Yes	Yes	04/13/2024	General Public, landscapers, City of Franklin Parks and Rec, City of Franklin Stormwater	60	N/A
General Public	Junior Master Gardeners Camp: Native American and Early Settler Farming in the Floodplain	Yes	Yes	Yes	Yes	06/06/2024	K-8 Students	70	N/A
General Public	Junior Naturalist Camp: City Building and Loss of Natural Resources/Habitat (Pollution & Destruction)	Yes	Yes	Yes	Yes	06/12/2024	K-8 Students	45	N/A
General Public	Farm Camp: Native American and Early Settler Farming in the Floodplain	Yes	Yes	Yes	Yes	06/21/2024	K-8 Students	50	N/A
General Public	Art Camp: Capillary Action and Rooted in Fun!	Yes	Yes	Yes	Yes	06/26/2024	K-8 Students	50	N/A

A population of greater than or equal to 50,001 at NOI submittal was selected in the General Information Section. Per Subpart 4.2.2.2. the MS4 is required to conduct two (2) activities during the reporting year addressing each of the two (2) management measures for the Commercial and Development Community. A single activity may address multiple management measures.

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To Delete a Row - Click the "X" at the far right end of the row.

Column Descriptions

Target Audience (This column is fixed and cannot be changed.)

Activity Description: (Provide details as to the specific activity that was conducted.)

Management Measure: Pollution Prevention (Select Yes if the activity listed in this row addressed the 4.2.2.2.a Pollution Prevention Management Measure.)

Management Measure: Impacts on Water Quality (Select Yes if the activity listed in this row addressed the 4.2.2.2.b. Impacts on water quality or local stormwater management issues.)

Date of Activity (Enter the date the activity took place. If the activity took place across multiple days enter the Date of the first day of the activity.)

Specifically Targeted Audience (This column is used to provide more details as to the audience the activity was targeting e.g. restaurants, Engineers, Developers) A broad based event such as tabling at a local trade show may list commercial and development community as the specifically targeted audience.

# of Audience (Enter the approximate number of individuals that were reached with this activity.)

Provide the status of your MS4 program's public involvement/participation activities for the Commercial and Development Community during the reporting period.

Target Audience	Activity Description	Management Measure: Pollution Prevention	Management Measure: Impacts on Water Quality	Date of Activity	Specifically Targeted Audience	# of Audience
Commercial and Development Community	Property Assessors Stormwater Pollution Development Training	Yes	Yes	07/28/2023	Property Assessors Office, realtors, contractors, developers	22
Commercial and Development Community	EMA Stormwater, Floodplain, and Outreach Methodology	Yes	Yes	12/04/2023	Emergency Managment Agency, Emergency planner, and Public Information Officers	3
Commercial and Development Community	Ornament Contest	Yes	Yes	12/08/2023	Williamson County Departments of Planning, Sewage Disposal Management, and Codes Compliance	20
Commercial and Development Community	Hazard Mitigation Planning Committee Construction and Floodplain Management Presentation	Yes	Yes	01/08/2023	First responders, community planners, emergency managment professionals, churches, and community stakeholders	45
Commercial and Development Community	Williamson County Community Development Department: Office Egg Hunt	Yes	Yes	03/28/2024	Community Development Department	20
Commercial and Development Community	Williamson County Community Development Department: Lobby Stormwater Literature	Yes	Yes	04/05/2024	General Public, Surveyors, Engineers, Contractors, homebuilders, Developers, landscapers	91
Commercial and Development Community	City of Franklin: Arbor Day Festival	Yes	Yes	04/13/2024	General Public, landscapers, City of Franklin Parks and Rec, City of Franklin Stormwater	60

Supporting Documentation for Activities described in this section.

WC Community Outreach Google Sheets.pdf - 09/27/2024 01:33 PM

Comment

NONE PROVIDED

Notes:

NONE PROVIDED

MCM 3: Illicit Discharge Detection & Elimination (IDDE)

Is the storm sewer map available through Spatial Rest Services?

No

Attach Most Recent Copy of Storm Sewer Map in accordance with subpart 4.2.3

Outfall Map.pdf - 09/27/2024 01:42 PM

Comment

NONE PROVIDED

The number of potential illicit discharges reported by the public.

40

The number of potential illicit discharges reported by internal personnel.

5

Total number of potential Illicit discharges reported (from any source) that are under investigation at the time of the annual report.

0

Were all potential illicit discharges investigated within 7 days of receipt?

Yes

Number of identified illicit discharges

6

Were all initial enforcement actions on confirmed illicit discharges taken within seven (7) calendar days of the investigation?

Yes

Number of corrective actions plans received for confirmed illicit discharges.

6

Were all corrective actions plans reviewed in accordance with established procedures?

Yes

Total number of non-stormwater discharges or flows investigated.
0

Significant Contributor of Pollutants to the MS4

1.3.3.2. Non-stormwater Discharges
The permittee is authorized to discharge the following non-stormwater sources provided that the permittee has not determined these sources to be significant contributors of pollutants to the MS4:

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated groundwater infiltration (Infiltration is defined as water other than wastewater that enters a sewer system, including sewer service connecti and foundation drains, from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.)
- Uncontaminated pumped groundwater
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensate
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual residential car washing
- Flows from riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Street wash water
- Discharges or flows from firefighting activities

Subpart 8.1 Definitions
Significant Contributor is defined as a source of pollutants where the volume, concentration, or mass of a pollutant in a stormwater discharge can cause or threaten to cause pollution, contamination, or nuisance that adversely impact human health or the environment and cause or contribute to a violation of any applicable water quality standards for receiving water.

MCM 4: Construction Site Stormwater Runoff Pollutant Control

For reporting construction activities in this section, count all activities e.g., projects, sites that were active during the reporting period. It is understood that activities will overlap multiple reporting years. For example: If a project plan is submitted and reviewed in reporting year 1, that plan review will go only on the report for that year. If that same project begins construction in reporting year 2, it would be included in the year 2 report for active construction activity, but not the year 1 report. If a construction activity is terminated in the beginning of a reporting year before the first inspection for that reporting year is required, that activity may be left off the count.

Identify if the regulatory mechanisms for construction site runoff control have been updated to be consistent with the CGP?
In Effect

Total number of active construction activities (or sites).
60

Number of new development and redevelopment projects reviewed in accordance with established policies and procedures.
60

Were all new development and redevelopment projects reviewed in accordance with the established policy and procedure?
Yes

Number of active non-priority construction activities.
46

Were all nonpriority active construction activities inspections conducted accordance with Stormwater Management Program.
Yes

Number of active priority construction activities.
14

Total number of active non-priority construction activities with incomplete inventory information.
0

Did all Priority Construction Activities have Pre-Construction meetings?
Yes

Were all priority Construction Activities inspected at least once per calendar month?
Yes

MCM 5: Post Construction/ Permanent Stormwater Management

Has an offsite mitigation program or payment in lieu into a public stormwater fund been developed as outlined in subpart 4.2.5.3.?
No

Did all of the projects approved meet the buffer requirements of subpart 4.2.5.4?
Yes

Does the Stormwater Management Program implement alternative buffer widths?
No

The 2009 scorecard can be found on TDEC's website.
Water Quality Scorecard

Scorecard
NONE PROVIDED
Comment
NONE PROVIDED

Number of all new development and redevelopment projects reviewed.
27

Number of new development and redevelopment projects reviewed in accordance with the established policy and procedure.
27

Number of sites verified that 100% of SCMs are installed per design specifications in accordance with approved plan.
4

Were all SCMs verified to be installed per design specifications in accordance with approved plan within 90 days of installation?
No

Does the permittee have adequate legal authority as required by 4.2.5.7 for all SCMs installed?
Yes

Number of SCMs that have not been properly operated or maintained.
0

Number of public requests for SCM inventory.
0

Are all SCMs in the inventory tracking system?
No

Do all SCMs in the inventory tracking system have complete information?
Yes

SCM inventory tracking system information
SCM Survey123.pdf - 09/27/2024 04:39 PM
SCM Tracking.pdf - 09/27/2024 04:39 PM
Comment
NONE PROVIDED

MCM 6: Pollution Prevention/Good Housekeeping For Municipal Operations

Number of applicable Municipal Operations and Facilities under subpart 4.2.6.2.
35

Do all applicable Municipal Operations and Facilities have a O&M Facility Plan?
Yes

Number Municipal Operations Facilities NOT inspected in accordance with the Stormwater Management Program in the previous 12 months.
0

Stormwater Management Program Modification

Have any municipal facilities covered under this permit been added during the reporting term?
No

In the table below identify if any changes were made to your Stormwater Management Program during the reporting period.

For minor modifications that add, but neither subtract nor replace, components, controls, or requirements to the Stormwater Management Program provide a description of that modification. - See Subpart 4.4.1.1.a

For minor modifications that replace an ineffective or infeasible BMP, or SCM which is specifically identified in the Stormwater Management Program provide a description of the analysis of why the former BMP was ineffective or infeasible; Expectations on the effectiveness of the replacement BMP or SCM; and an analysis, if applicable, of why the replacement BMP or SCM will ensure the optimization of equipment use. a description of that modification. - See Subpart 4.4.1.1.e

For major modifications that subtract BMPs, SCMs, components, controls, or requirements of the Stormwater Management Program provide a description of the analysis of why the component was ineffective or infeasible; and detailed explanation of why, with the elimination of this component, the Stormwater Management Program will continue to achieve a reduction in pollutants to the MEP and shall not cause or contribute to violations of State water quality standards in the receiving stream. - See Subpart 4.4.1.2.a.

Where any changes were made to the program elements during the reporting period?

Program Elements	Changes	Modifications that Add Components	Replaced an Ineffective or Infeasible BMP or SCM	Subtracted BMP, SCM, Components, Controls etc.
MCM 1	No	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED
MCM 2	No	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED
MCM 3	No	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED
MCM 4	No	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED
MCM 5	No	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED
MCM 6	No	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED
QLP	No	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED
Enforcement	No	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED
Monitoring & Program Evaluation	No	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED

Other Program Changes not Identified above
NONE PROVIDED

Summary Of Enforcement Actions

Note: Non-traditional MS4s may not have legal authority to enforce one or more MS4 permit requirements. For example, a university campus regulated as a MS4 permittee or co-permittee may not have the legal authority to enforce MS4 permit requirements against another entity.

Summary of Enforcement Actions Taken during the reporting year

Action	IDDE	Construction	Permanent Stormwater/Post-Construction	Total
Verbal Warnings	0	5	0	5
Written Notice of Violation	8	33	0	41
Citations or Administrative Orders	8	32	0	40
Stop Work Orders	2	14	0	16
Withholding of Plan Approvals or Other Authorizations	2	8	0	10
Civil Penalties	7	32	0	39
Additional Measures	1	8	0	9
				Sum: 160

Results Of Information Collected And Analyzed (Monitoring)

Was monitoring for the reporting year performed in accordance with either 4.6.1.1.1 (Option 1) or 4.6.1.1.2 (Option 2)?
Yes

Provide a summary describing the results of information collected and analyzed, including monitoring data (analytical and non-analytical), if any, during the reporting period. If no monitoring was completed, explain.
10 Assessments were performed this reporting year.

For your convenience, links to the required standard templates for reporting the results of your monitoring data are provided below. EDD Sheets (Field Stream Survey and Habitat Sheets, Macroinvertebrate Taxa Report, and the TDEC E. coli and Field Water Parameter Report) are in the section labelled Water Quality Assessment Publications as excel files.
Publications

Attach results of all analytical and non-analytical monitoring data collected during this reporting period.
VSA FIDs.pdf - 09/27/2024 04:36 PM
Comment
NONE PROVIDED

Legal Authority

Per subpart 4.7.1.The initial solicitor's statement is required in the 2024 annual report for existing permittees and in the third annual report for new permittees.

If modifications are made to the legal authority that necessitate a new evaluation by a solicitor, a new certification statement must be submitted.
Per subpart 4.1.2. All updates to the legal authority (ordinances/resolutions etc.) required by changes to the permit shall be fully implemented and adopted.

Attach a signed solicitor's certification statement.
MS4-Solicitors Certification Statement-K.Ransom-Williamson County.pdf - 09/27/2024 04:03 PM
Comment
NONE PROVIDED

In order to facilitate the review of the legal authority, please indicate if you used the 2023 MTAS MS4 Model Ordinance?
NONE PROVIDED

Attach Legal Authority - Ordinances, Resolutions, etc
Storm Water Mgmt Regs-FINAL-Approved 9-11-23_202309120900501110.pdf - 09/27/2024 04:15 PM
Storm Water Guidelines Form.PDF - 09/27/2024 04:15 PM
Zoning Ordinance, SW Management.pdf - 09/30/2024 12:54 PM
Comment
NONE PROVIDED

Attach Legal Authority - Enforcement Response Plan and List or Table of Progressive Enforcement Actions
NOV Template.pdf - 09/27/2024 04:19 PM
NOV email template.pdf - 09/27/2024 04:19 PM
Enforcement Response Plan.pdf - 09/30/2024 10:43 AM
Violations and Enforcement Stormwater-Regulation-Final.pdf - 09/30/2024 12:49 PM
Comment
NONE PROVIDED

Stormwater Management Program Evaluation

Stormwater Management Program Evaluation

In accordance with subpart 4.6.2. The permittee shall conduct an annual evaluation of the Stormwater Management Program to evaluate compliance with the terms and conditions of the permit, including the effectiveness of the BMPs, components, or controls of its stormwater management program, and the status of achieving the measurable requirements in the permit.

Summarize the results of the permittee's annual evaluation of the current Stormwater Management Program.
Fewer Stormwater Complaints were received this year, despite increased outreach. This may be due to an increased emphasis on children's outreach programs and outreach to the professional development community.

Identify modifications or replacement of an ineffective activity/control measure/component/BMP.
None identified.

Summarize the assessment results, and any modifications and improvements scheduled to be implemented in the next reporting period to improve the program or remedy deficiencies or weaknesses
Greater emphasis will be placed on monitoring and education/outreach to identify, address, and prevent future stormwater management infractions.

Is MCM 1: Public Education and Outreach on Stormwater Impacts compliant with Permit Requirements?
Yes

Is MCM 2: Public Involvement/Participation compliant with Permit Requirements?
Yes

Is MCM 3: Illicit Discharge Detection and Elimination (IDDE) compliant with Permit Requirements?
Yes

Is MCM 4: Construction Site Stormwater Runoff Control compliant with Permit Requirements?
Yes

Is MCM 5: Post-Construction/Permanent Stormwater Management in New Development and Redevelopment compliant with Permit Requirements?
Yes

Is MCM 6: Pollution Prevention/Good Housekeeping compliant with Permit Requirements?
Yes

Is Monitoring Program (subpart 4.6.1.1) compliant with Permit Requirements?
Yes

The following questions are from subpart 5.2 Annual Report Requirements.

Is the permittee compliant with the permit terms and conditions?
Yes

This determination should be made as to the status of the program at the end of the reporting period and the requirements applicable at that date. For example, the permanent stormwater program changes are not required to be implemented until 24 months after the effective date of the permit. So if the MS4 has not yet implemented those changes at the first annual report, they would still be in compliance, if their program meets the previously established requirements.

Please Explain
NONE PROVIDED

Is the permittee relying on another governmental entity to satisfy some of the permit obligations?
No

Enter additional or clarifying information not elsewhere reported in this document.
NONE PROVIDED

Any other data specifically requested by the Division to substantiate statements and conclusions reached in the Annual Reports.
NONE PROVIDED
Comment
NONE PROVIDED

Tennessee Stormwater Association

2023-2024 Reports

From Ripley PR

TN Stormwater Association 2023-2024 Facebook Ads Report

		Impressions	Post Interactions*	Link Clicks	Total Clicks**		
July Ad 1	Parking lots are a great place to install green infrastructure. During heavy downpours, green infrastructure can capture stormwater. This reduces the amount of stormwater that flows into our drains and protects our fresh water supply.	91,458	68	1,214	2,203		
July Ad 2	Summer is a great season for growing vegetables. While pests can be problematic, please be cognizant of the pesticides you use. If available, consider bio-friendly alternatives to protect both your plants and our clean water supply.	83,831	31	745	891		
August Ad 1	Did you know August is National Water Quality Month? Having clean water is vital to our individual health. Lead by example and take extra steps to preserve our freshwater supply.	100,571	33	614	790		
August Ad 2	Enjoying picnics is a great family-friendly activity. While having a nice lunch on a greenway, please dispose of your trash properly. Wrappers, water bottles, napkins and other small items can easily be washed in our storm drains.	84,466	48	573	782		

September Ad 1	Fall is quickly approaching and is a great time to look at the beautiful trees as they change colors. It is also a time when our yards become covered with large amounts of leaves. Properly dispose of your leaves to prevent them from clogging storm drains. Clogged drains can become a flooding hazard.	46,818	74	586	1,145		
September Ad 2	Did you know Stormwater Awareness Week is Sept. 25-29? Stormwater management is an important aspect of protecting our environment and providing clean water to communities. What have you done to support more sustainable communities lately?	26,922	19	733	825		
October Ad 1	Fall is upon us, which may present a great time to complete that remodeling project. However, paint and other remodeling chemicals can be hazardous to our stormwater. Please keep all wash and rinse water away from storm drains. This will help keep our water clean.	32,596	15	552	659		
October Ad 2	Halloween is fun for children to dress up and go trick or treating. Keep it spooky, but be careful not to let candy wrappers haunt our storm drains. If you are eating candy on the go, please throw away your wrappers!	56,491	23	450	652		

November Ad 1	Dumpsters are necessary for businesses to store garbage and other non-recyclable items. But, did you know that any leaks can potentially impact our waterways? A great tip is to position these safely away from storm drains as another measure to help keep our water clean.	52,437	9	473	566		
November Ad 2	A great home-cooked meal is just what the doctor ordered on Thanksgiving. When it's time to clean up, properly dispose of your grease. Don't toss it in edge of the yard near storm drains. Not only can it clog plumbing systems, but it can also be harmful to animals and pollute our fresh water.	50,909	3	467	498		
December Ad 1	Plastic is a part of our daily lives; unfortunately, littered plastic can end up in the ocean where it breaks down into small particles called microplastics. These can be confused as food to marine life and result in harm. You can help prevent this by recycling and choosing refillable water bottles and reusable grocery bags over disposable ones.		2				

December Ad 2	Did you know that there is 55% more litter near water? This not only impacts our water supply, but it can also be harmful to aquatic life in those areas. As you are making your New Year's Resolutions, make recycling one of your goals for 2024.	55,016	33	588	944		
January Ad 1	We all love the look and smell of freshly cut Christmas trees, but what do you do with it after the holidays? Most communities have a tree recycling program. Trees are used to create mulch or fish habitats.	135,414	11	773	880		
January Ad 2	Snow plows are excellent for clearing roadways when snow falls. But it's important to be cognizant of where you plow the snow. Compacting snow in storm drains can be a flood hazard once the snow melts. Please keep compact snow away from storm drains.	67,473	67	932	2,023		
February Ad 1	Did you know that next week is National Green Week? National Green Week is a time when schools join forces to help write the narrative of what a sustainable future will be. A more sustainable future means a clean water future and protection for our stormwater.	384,199	65	2,104	2,473		

February Ad 2	Permeable pavements are an excellent solution to help protect stormwater. These pavements allow water to infiltrate into the ground, which reduces the amount of runoff. They also help filter pollutants in the water.						
March Ad 1	Today is #ArborDay in Tennessee! Trees can provide great benefits for stormwater. From soaking up excess runoff to filtering out toxins, trees are very important to our freshwater supply. Consider planting a tree today!	315,977	399	1,938	3,555		
March Ad 2	It's almost time to begin planting those gardens. When protecting fruits and vegetables from pests, consider using eco-friendly methods. Pesticides may kill pests, but they can also be washed into our stormwater. Protect our stormwater by using alternative methods to protect your garden.	283,876	131	1,709	2,456		
April Ad 1	April is Keep America Beautiful Month, which is a great opportunity to begin thinking about protecting our water. Simply throwing your trash away can help keep the community beautiful while protecting water. How can you do your part in keeping America Beautiful and our water safe? #keepamericabeautiful	246,361	60	1,661	1,893		

April Ad 2	Rain can be relaxing during the spring months. But it can also create flooding if too much falls at one time. Installing a rain garden can reduce the amount of runoff water in your yard while helping nourish beautiful flowers.	311,377	292	2,042	3,643		
May Ad 1	Now is the perfect weather to go fishing with friends. But did you know that stormwater can play a large role in fish health? When trash and fishing line enter our waterways, it harms the wildlife. Keeping these items out of our water can protect our fish and clean water supply. What are you doing to keep our water clean while fishing this year?	226,430	87	2,459	2,954		
May Ad 2	Using compostable products can be a great alternative to single-use plastic or polystyrene products. Compostable products can break down into non-toxic, natural elements while also reducing the amount of litter we produce. What are some frequently used items you could replace with compostable versions?	212,105	81	2,004	2,448		

June Ad 1	Did you know that scientists estimate that 7.5 million straws pollute US coastlines? Yet, plastic straws make up 99% of the global drinking straw market. Straws can easily be washed into our clean water and harm our aquatic life. Consider using paper or other alternatives when ordering takeout.						
June Ad 2	When skies are clear, firing up the grill is great for social gatherings. If you eat outside, make sure that all your trash ends up in the garbage. Rain can carry lightweight items into storm drains and our clean water. Enjoy your cookout, but be responsible when it's time to clean up.	198,406	32	1,721	1,888		
		3,063,133	**1,583**	**24,338**	**34,168**		
Reach in Top DMAs		**Middle**	**West & North West**	**East & North East**	**South East**	**Total Reach Among Top DMAs**	**Percentage of Reach in Top DMAs**
July Ad 1	Parking lots are a great place to install green infrastructure. During heavy downpours, green infrastructure can capture stormwater. This reduces the amount of stormwater that flows into our drains and protects our fresh water supply.	1,127	761	1,261	469	**3,618**	**4%**

July Ad 2	Summer is a great season for growing vegetables. While pests can be problematic, please be cognizant of the pesticides you use. If available, consider bio-friendly alternatives to protect both your plants and our clean water supply.	14,864	9,392	13,776	4,888	**42,920**	**98%**
August Ad 1	Did you know August is National Water Quality Month? Having clean water is vital to our individual health. Lead by example and take extra steps to preserve our freshwater supply.	18,176	12,736	18,272	6,544	**55,728**	**98%**
August Ad 2	Enjoying picnics is a great family-friendly activity. While having a nice lunch on a greenway, please dispose of your trash properly. Wrappers, water bottles, napkins and other small items can easily be washed in our storm drains.	11,897	6,904	13,489	4,624	**36,914**	**98%**
September Ad 1	Fall is quickly approaching and is a great time to look at the beautiful trees as they change colors. It is also a time when our yards become covered with large amounts of leaves. Properly dispose of your leaves to prevent them from clogging storm drains. Clogged drains can become a flooding hazard.	8,360	5,152	10,512	3,088	**27,112**	**98%**

September Ad 2	Did you know Stormwater Awareness Week is Sept. 25-29? Stormwater management is an important aspect of protecting our environment and providing clean water to communities. What have you done to support more sustainable communities lately?	4,927	3,967	3,551	1,812	**14,257**	**98%**
October Ad 1	Fall is upon us, which may present a great time to complete that remodeling project. However, paint and other remodeling chemicals can be hazardous to our stormwater. Please keep all wash and rinse water away from storm drains. This will help keep our water clean.	6,063	4,291	6,167	2,000	**18,521**	**98%**
October Ad 2	Halloween is fun for children to dress up and go trick or treating. Keep it spooky, but be careful not to let candy wrappers haunt our storm drains. If you are eating candy on the go, please throw away your wrappers!	11,198	7,727	12,341	3,295	**34,561**	**98%**
November Ad 1	Dumpsters are necessary for businesses to store garbage and other non-recyclable items. But, did you know that any leaks can potentially impact our waterways? A great tip is to position these safely away from storm drains as another measure to help keep our water clean.	13,160	9,960	12,120	3,800	**39,040**	**98%**

November Ad 2	A great home-cooked meal is just what the doctor ordered on Thanksgiving. When it's time to clean up, properly dispose of your grease. Don't toss it in edge of the yard near storm drains. Not only can it clog plumbing systems, but it can also be harmful to animals and pollute our fresh water.	10,007	8,599	9,127	2,776	**30,509**	**98%**
December Ad 1	Plastic is a part of our daily lives; unfortunately, littered plastic can end up in the ocean where it breaks down into small particles called microplastics. These can be confused as food to marine life and result in harm. You can help prevent this by recycling and choosing refillable water bottles and reusable grocery bags over disposable ones.					**0**	**98%**
December Ad 2	Did you know that there is 55% more litter near water? This not only impacts our water supply, but it can also be harmful to aquatic life in those areas. As you are making your New Year's Resolutions, make recycling one of your goals for 2024.	9,876	6,021	8,453	3,191	**27,541**	**98%**
January Ad 1	We all love the look and smell of freshly cut Christmas trees, but what do you do with it after the holidays? Most communities have a tree recycling program. Trees are used to create mulch or fish habitats.	26,364	14,654	27,405	4,415	**72,838**	**98%**

January Ad 2	Snow plows are excellent for clearing roadways when snow falls. But it's important to be cognizant of where you plow the snow. Compacting snow in storm drains can be a flood hazard once the snow melts. Please keep compact snow away from storm drains.	12,563	6,165	11,148	2,767	**32,643**	**98%**
February Ad 1	Did you know that next week is National Green Week? National Green Week is a time when schools join forces to help write the narrative of what a sustainable future will be. A more sustainable future means a clean water future and protection for our stormwater.	68,119	45,818	59,769	20,701	**194,407**	
February Ad 2	Permeable pavements are an excellent solution to help protect stormwater. These pavements allow water to infiltrate into the ground, which reduces the amount of runoff. They also help filter pollutants in the water.						
March Ad 1	Today is #ArborDay in Tennessee! Trees can provide great benefits for stormwater. From soaking up excess runoff to filtering out toxins, trees are very important to our freshwater supply. Consider planting a tree today!	48,755	23,961	48,979	15,324	**137,019**	**98%**

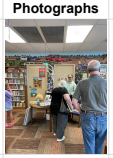
March Ad 2	It's almost time to begin planting those gardens. When protecting fruits and vegetables from pests, consider using eco-friendly methods. Pesticides may kill pests, but they can also be washed into our stormwater. Protect our stormwater by using alternative methods to protect your garden.	46,168	26,971	39,993	13,950	**127,082**	**98%**
April Ad 1	April is Keep America Beautiful Month, which is a great opportunity to begin thinking about protecting our water. Simply throwing your trash away can help keep the community beautiful while protecting water. How can you do your part in keeping America Beautiful and our water safe? #keepamericabeautiful	41,206	25,850	36,534	11,805	**115,395**	**98%**
April Ad 2	Rain can be relaxing during the spring months. But it can also create flooding if too much falls at one time. Installing a rain garden can reduce the amount of runoff water in your yard while helping nourish beautiful flowers.	44,135	22,771	43,432	14,168	**124,506**	**98%**

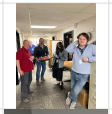
May Ad 1	Now is the perfect weather to go fishing with friends. But did you know that stormwater can play a large role in fish health? When trash and fishing line enter our waterways, it harms the wildlife. Keeping these items out of our water can protect our fish and clean water supply. What are you doing to keep our water clean while fishing this year?	20,246	12,474	17,143	5,214	**55,077**	**98%**
May Ad 2	Using compostable products can be a great alternative to single-use plastic or polystyrene products. Compostable products can break down into non-toxic, natural elements while also reducing the amount of litter we produce. What are some frequently used items you could replace with compostable versions?	35,544	24,379	32,281	10,686	**102,890**	**98%**
June Ad 1	Did you know that scientists estimate that 7.5 million straws pollute US coastlines? Yet, plastic straws make up 99% of the global drinking straw market. Straws can easily be washed into our clean water and harm our aquatic life. Consider using paper or other alternatives when ordering takeout.						

June Ad 2	When skies are clear, firing up the grill is great for social gatherings. If you eat outside, make sure that all your trash ends up in the garbage. Rain can carry lightweight items into storm drains and our clean water. Enjoy your cookout, but be responsible when it's time to clean up.	33,098	22,460	27,244	8,399	**91,201**	**98%**
	Total	**485,853**	**301,013**	**452,997**	**143,916**	**1,383,779**	

* Post Interactions include: Reactions (likes, loves, laughs, etc.), comments, shares and page likes

** Total clicks include clicks on any part of the ad

Date	Event Name	Community	Education/Involvement	Description	Lesson	Duration	Age Groups	Participation	Photographs	Notes
7/7/23	Leipers Fork Public Library "Stormwater and Native American History"	General Public	Education	Watershed and stormwater runoff demonstration, local native american artifacts, floodplain farming, and Q&A	Stormwater runnoff greatly impacts water quality, county regulated construction and reccommended agricultural Best Managment Practices	1 hour	8-12, 50+	20		
7/26/23	Fairview Public Library "Rooted in Fun"	General Public	Education/Involvement	Root system stabilization and purpose for prevention erosion from stormwater. Capillary action, Science of water travels from roots to leaves	Root systems mitigate the damaging effects of erosion and provide habitat for wildlife, and help prevent flooding	1 hour	5-8, 30+	15		Young children ~age 5 require extra supervision, bring extra assistant
7/28/23	Property Assessors Stormwater Pollution Development Training	Professional	Education	A Watershed and stormwater runoff demonstration was performed in the Property Assessors Office	Identification of types of illicit stormwater discharge utilizing a watershed model, necessity of implimenting effective erosion controls, stablization, and other Best Managment Practices (BMPs). Department of Engineering regulations on Waterway Natural Area (WNA) protection, how to identify/report stormwater violations, and water biology Q&A	1 hour	21+	22		Encourage interdepartmental communication/relationships. Property Assessors are interested in participating in a Stream Clean up
10/18/23	Brentwood Environmental Education Day at Deerwood Park	General Public	Education/Involvement	Ravenwood High School students participated in a Visual Stream Assessment (VSA)	Bank stabilization, identification of the healthy vs impaired riperian habitat, the importance of monitoring stormwater quality, and how maintaining a Waterway Natural Area (WNA) buffer helps to improve water quality and ecological health	5 hours	16-18	220		Survey the site days/weeks prior to the presentation. Have multiple things to talk about so you do not become bored memorizing/repeating a script.
12/4/23	EMA Stormwater, Floodplain, and Outreach Methodology	Professional	Education/Involvement	Williamson County Emergency Managment Agency and Public Information Officers gathered for a stormwater presentation and to divise methods to increase community outreach and education	MS4 Definition, floodplain managment, and methods/examples of effective community outreach and interdepartamental collaboration with Williamson County EMA	1.5 hours	28+	3		To effectively foster a relationship with other departments, periodically check in, share relevant information changes, be willing to assist them.
12/8/23	Ornament Contest	Professional	Education/Involvement	Williamson County Departments of Planning, Sewage Disposal Management, and Codes Compliance attended a stormwater quality presentation followed by an ornament decorating contest	Williamson County water quality concerns, importance of erosion control measures, and how to report noncompliance	45 minutes	21+	20		Prize support and the option to bring or create an ornament had increased attendence
1/2/24	Bricks & Minifigs Nature LEGO Photography Contest	General Public	Involvement	Bricks & Minifigs Brentwood collaborated with Williamson County Department of Engineering to organize a Nature themed LEGO Photography Contest	LEGO enthusiasts were invited to take photographs of their LEGOs outdoors to raise awareness of environmental health and to help recognize the impacts of litter on nature, wildlife, and water quality	1 month	5-30	82		It is very difficult to manage multi jurisdictional cooperation while working with a private company. Progress slows while waiting for multiple levels of approval between all groups. May recommend completeing a flyer prior to encouraging collaboration
1/8/24	Hazard Mitigation Planning Committee Construction and Floodplain Managment Presentation	Professional	Education	Stormwater Managment Presentation of relevant water quality and floodplain managment presenation delivered to first responders, community stakeholders, and planners	First responders, community planners, emergency managment professionals, and community stakeholders learned about water quality, BMPs, construction, and development regulations protect water quality and reduce flood risk and encourage interdepartemental communication and planning	30 minutes	21+	45		
3/22/24	Spring Station Middle School Career Day	General Public	Education	Spring Station Middle School students learned about careers in environment and conservation	Students learned about how Waterway Natural Area buffers (WNAs) help protect native habitats for wildlife, how Williamson County protects these buffers by creating a no mow/disturbance buffer, and about a day in the life as a biologist working for local government. Students learned also how to read topography in grading and construction plans.	3.5 hours	12-14	558		

3/25/24	Page High School Environmental Career Presentation	General Public	Education	Honors Society Page High School students learned about careers in environment and conservation	Students learned about how Waterway Natural Area buffers (WNAs) help protect native habitats for wildlife, how Williamson County protects these buffers by creating a no mow/disturbance buffer, and about a day in the life as a biologist working for local government. Students learned also how to read topography in grading and construction plans.	45 minutes	17-18	15		Very early set up time for high school students. 7:30AM presentation start time.
3/28/24	Williamson County Community Development Department: Office Egg Hunt	Professional	Education/Involvement	Stormwater presentation, how to report violations, and egg Hunt with gardening and nature themed prizes	Prior to Egg Hunt, presentation to the Community Development office for reporting stormwater violations and the importance of both citizen and staff stormwater complaints was delivered	1 hour	21+	20		Multiple rounds, 8:30 and 11:30am. Before Building Codes, Septic, and Codes Compliance inspectors leave for the field. Second round was for office personel
4/5/24	Williamson County Community Development Department: Lobby Stormwater Literature	General Public/Professional	Education	20 Discover Waters of Tennessee, 15 Children's Stormwater Activity Books and Stickers, 12 Waterway Natural Area (WNA) Brochures, 12 Homeowner Stormwater Brochures, 12 Construction Stormwater Brochures	Discover Waters of Tennessee, Children's Stormwater Activity Books and Stickers, Waterway Natural Area (WNA) Brochures, Homeowner Stormwater Brochures, Construction Stormwater Brochures were left in the highly trafficed Community Development main Lobby.	2 Months	5+	91		91 brochures books were distributed 3 months!
4/13/24	City of Franklin: Arbor Day Festival	General Public/Professional	Education/Involvement	Table presentation to highlight the importance and protection of riparian zones for both communities and natural habitats for wildlife. Presented to landcaping, jurisdictional, and consulting companies in addition to the general public	Table presentations on riparian zones, Williamson County native seed packets, animals that live within riparian corridors, feather identification guessing, feather design, root stabilization helps prevent sedimentation, and distribution of brochures	2 hours	5+	60		
6/6/24	Junior Master Gardeners Camp: Native American and Early Settler Farming in the Floodplain	General Public	Education/Involvement	Watershed and stormwater runoff of construction and agriculture demonstration, local native american artifacts, floodplain farming	Stormwater runnoff greatly impacts water quality (construction and agriculture), county regulated construction erosion and pollutant controls and reccommended agricultural Best Managment Practices through the NRCS (watering facility), pesticides and herbacides of early settlers and native americans versus today	4 hours	5+	70		
6/12/24	Junior Naturalist Camp: City Building and Loss of Natural Resources/Habitat (Pollution & Destruction)	General Public	Education/Involvement	City building excercise, Deer skull, mussels, fossils, and other resources found in riparian corridors/Waterway Natural Areas	Reckless city building destroys natural habitat, strains resources (for people and animals), and pollutes the environment. Williamson County Stormwater Regulations help!	2 hours	5+	45		
6/21/24	Farm Camp: Native American and Early Settler Farming in the Floodplain	General Public	Education/Involvement	Watershed and stormwater runoff of construction and agriculture demonstration, local native american artifacts, floodplain farming	Stormwater runnoff greatly impacts water quality (construction and agriculture), county regulated construction erosion and pollutant controls and reccommended agricultural Best Managment Practices through the NRCS (watering facility), pesticides and herbacides of early settlers and native americans versus today	2 hours	5+	50		
6/26/24	Art Camp: Capillary Action and Rooted in Fun!	General Public	Education/Involvement	Root system stabilization and purpose for prevention erosion from stormwater. Capillary action, Science of water travels from roots to leaves	Root systems mitigate the damaging effects of erosion and provide habitat for wildlife, and help prevent flooding. Capillary action brings water and nutrients to the top of the tree for survival and other animals to eat/utilize	2 hours	5+	50		

PUBLIC HEARING

The Williamson County Storm Water Appeals Board will hold its meeting Wednesday, September 28, 2022 at 8:30 a.m. in the Main Auditorium of the Williamson County Administrative Complex.

Complete files are available for review at the Engineering Office. Anyone requesting an accommodation due to disabilities should contact Risk Management, at 790-5466. This request, if possible, should be made three (3) working days prior to the meeting.

PUBLIC HEARINGS

1. Bryan Richter (C & I Design, Inc.), on behalf of Williamson County, is requesting waivers of Section 4 of the Williamson County Storm Water Management Regulations regarding the Waterway Natural Area (WNA) for property located at 6990 Giles Hill Road (Peacock Hill Nature Park).

2. MS4 Annual Report.

AGENDA
STORM WATER APPEALS BOARD (SWAB)
WILLIAMSON COUNTY ADMINISTRATIVE COMPLEX
MAIN AUDITORIUM AT THE ADMINISTRATIVE COMPLEX
September 28, 2022 AT 8:30 A.M.

MINUTES

1. Approval of the August 24, 2022 minutes.

PUBLIC HEARINGS

2. Bryan Richter (C & I Design, Inc.), on behalf of Williamson County, is requesting waivers of Section 4 of the Williamson County Storm Water Management Regulations regarding the Waterway Natural Area (WNA) for property located at 6990 Giles Hill Road (Peacock Hill Nature Park).

3. MS4 Annual Report.

OTHER BUSINESS

4. 2021 Storm Water Appeals Board waiver / appeal updates.

5. Storm Water Appeals Board 2023 Calendar.

6. Any old or new business.

MINUTES OF THE
STORM WATER APPEALS BOARD (SWAB)
MEETING OF SEPTEMBER 28, 2022

1. **OPENING** – The Storm Water Appeals Board (SWAB) met in session on Wednesday, September 28, 2022 at 8:30 a.m. in the Auditorium of the Williamson County Administrative Complex. A quorum was present. Attendees were:

1.1 Board Members

Rob Adams, Builders Representative
John Kinnie, Agricultural Representative, Vice Chairman
Davis Lamb, Development Representative
Brad Hoot, Homeowner Representative, Secretary
Liz McLaurin, Environmental Representative
Betsy Hester, County Commissioner

1.2 Staff

Michael Scott, Storm Water Quality Coordinator
Floyd Heflin, County Engineer
Kristi Ransom, County Attorney
Debbie Smith, Office Manager

2. **APPROVAL OF MINUTES** – Vice Chair John Kinnie opened the floor for comments on the August 24, 2022 minutes. Brad Hoot made a motion to approve as presented; seconded by Liz McLaurin. The motion was unanimously approved.

3. **09-28-2022-02– Bryan Richter (C & I Design, Inc.), on behalf of Williamson County, is requesting a waiver of Section 4 of the Williamson County Storm Water Management Regulations regarding the WNA for property located at 6990 Giles Hill Road (Peacock Hill Nature Park).**

Liz McLaurin recused herself from this item.

3.1 Introduction by Staff - Mr. Scott reviewed the report for the record.

3.2 Applicant – Bryan Richter stated the property was gifted to the County by the Oglesby Family and was originally a Bed and Breakfast. The property has several miles of existing trails and natural areas that the County intends to clean up so visitors can enjoy. There is also a pond on the property where the County would like to build a fishing pier for use by the park visitors, as well as a couple

of planned walking bridges built over the WNA so allow access to all the trails on the property.

3.4 Public Hearing – No comments.

3.5 Board Discussion – Rob Adams stated that if these waivers were not granted, it appears as though more would be done to the WNA if the existing trails have to be relocated.

Brad Hoot asked for more details on the 5 items being requested. Bryan Richter stated the existing barn would be upgraded and used for storage of equipment needed for the property. The trails would be cleaned up and anywhere there is runoff damage, there would be bars installed to slow down the runoff and eliminate runoff into the WNA. The covered bridge is located behind the pond and will be used to enhance the existing creek crossing.

Brad Hoot asked what a trail tie-in was. Brian Richter stated it was a pedestrian crossing over the creek to keep citizens out of the WNA. The fishing pier will be installed to keep citizens off the banks of the pond to maintain stability of those banks.

Betsy Hester asked if horses would be allowed in the future. Bryan Richter stated that currently Parks and Rec will not be allowing horses on these trails, but is unsure of any future plans.

John Kinnie indicated he had visited it site and noted the improvements being done making the property even more beautiful.

3.6 Board Action – Brad Hoot moved to approve the request as presented, seconded by Betsy Hester. The motion was approved.

4. 09-28-2022-03 – MS4 Permit.

4.1 Introduction by Staff - Mr. Scott reviewed the report for the record.

4.2 Board Discussion – Brad Hoot asked if there has been a better awareness from the community. Michael Scott stated he believed there was.

Rob Adams asked how accurate the testing on waterways is. Michael Scott indicated it depends on the timing, however Staff tries to be consistent with conditions at the time of testing.

4.3 Board Action – Davis Lamb moved to approve the report as presented, seconded by Rob Adams. The motion was unanimously approved.

5. Update on 2021 SWAB approvals?

5.1 Introduction by Staff – Mr. Scott presented a powerpoint outlining updates and current status of waivers granted by the SWAB in 2021.

5.2 Board Action- No Board action was required.

6. 09-28-2022-04 – 2023 SWAB Schedule.

6.1 Introduction by Staff - Mr. Scott indicated a need to change the October submittal date to October 18th, 2023 to allow more time for review.

6.2 Board Action – Davis Lamb moved to approve as revised, seconded by Brad Hoot. The motion was unanimously approved.

ADJOURNMENT - There being no further business Brad Hoot moved for adjournment. The motion was unanimously approved.

_____ _____

Chairman Date

Sponsors: Jimmy Wiseman

9. *Consideration Of Resolution 2023-55, A Resolution Authorizing The Use Of A Competitively Sealed Proposal Procurement Methods Related To The Selection Of Owner's Representation Consulting Services For The New City Hall Project
Sponsors: Eric Stuckey, Vernon Gerth

10. *Consideration Of Amendment 4 To COF Contract No. 2020-0041, With Orchard, Hiltz & McCliment, Inc. D/B/A OHM Advisors Regarding The New City Hall Project At No Cost To The City
Sponsors: Eric Stuckey, Vernon Gerth

11. *Consideration Of COF Contract No. 2023-0223, With The Tennessee Department Of Transportation To Enter Into A License Agreement To Provide Secondary Access To The Water Reclamation Facility At No Cost To The City
Sponsors: Mark Hilty, Chris Franklin

12. *Consideration Of Ordinance 2023-29, An Ordinance to Rezone 0.10 Acres From Residential 6 (R6) District To Planned (PD 20) District For The Property Located South Of Mount Hope Street And West Of 9th Avenue North, At 611 Mount Hope Street (611 Mt. Hope PUD Subdivision). Establishing A Public Hearing On September 12, 2023 FMPC 7/27/23, 9-0
Sponsors: Emily Wright, Amy Diaz-Barriga, Joseph Bryan

13. Consideration Of Resolution 2023-50, A Resolution Approving A Development Plan For 611 Mt. Hope PUD Subdivision With 1 Modifications Of Development Standards (Parking), For The Property Located South Of Mount Hope Street And West Of 9th Avenue North, Located At 611 Mount Hope Street. Establishing A Public Hearing On September 12, 2023 FMPC 7/27/23, 9-0
Sponsors: Emily Wright, Amy Diaz-Barriga, Joseph Bryan

14. Consideration Of Resolution 2023-51, A Resolution Approving A Revised Development Plan For Westhaven PUD Subdivision, For The Property Located South Of Highway 96 West And West Of Boyd Mill Pike. Establishing A Public Hearing On September 12, 2023 FMPC 7/27/23, 8-1
Sponsors: Emily Wright, Amy Diaz-Barriga, Chelsea Randolph

15. *Consideration Of COF Contract No. 2023-0225, With Travelers Insurance To Renew The City Of Franklin's Fiduciary Liability Policy Effective July 1, 2023
Sponsors: Kevin Townsel

16. Consideration Of Ordinance 2022-18, An Ordinance To Amend The City Of Franklin Municipal Code Title 20, Chapter 2 Alarm Systems –Burglary/Holdup/Panic And To Amend - Appendix A – Chapter 20 - Miscellaneous WS 7/11/23, deferred
Sponsors: Shauna Billingsley, Deb Faulkner

OTHER BUSINESS
ADJOURN

Anyone needing accommodations due to disabilities please contact the ADA Coordinator at 615-791-3277 at least 24 hours prior to the meeting.

PUBLIC HEARINGS

The **Williamson County Storm Water Appeals Board** will hold its regular meeting on **Wednesday, August 23, 2023 at 8:30 a.m.** in the Auditorium of the Williamson County Administrative Complex, 1320 W. Main Street, Franklin, TN 37064. A public hearing will be held on the following:

Proposed Amendments to the Williamson County Storm Water Management Regulations related to:

1. General revisions– Section 1
2. Storm Water Quantity/Quality Standards (updating storm water quality control measures) – Section 2
3. Waterway Natural Areas (how WNAs are determined, what uses are permitted within WNAs) – Section 4
4. Storm Water Systems Long-term Operation and Maintenance (related to frequency of inspections) – Section 5
5. Land Disturbance Permits (revising what activities require a land disturbance permit)– Section 6
6. Inspections (related to storm water controls)– Section 7
7. Penalties (clarifying standards for imposing penalties)– Section 9
8. Administration and Miscellaneous (including revisions related to amendment procedure) – Section 11
9. Definitions and Abbreviations (update and add definitions)– Section 12

The **Williamson County Board of County Commissioners** will hold its regular meeting on **Monday, September 11, 2023, at 7:00 p.m.** in the Auditorium of the Williamson County Administrative Complex, 1320 W. Main Street, Franklin, TN 37064, where it will hold a public hearing and consider a Resolution to adopt these proposed amendments to the Williamson County Storm Water Management Regulations as described above.

Copies of the amendments are available for review on the Storm Water Management page on the Williamson County website, at the Office of the Department of Engineering, 1320 W. Main Street, Suite 400, Franklin, TN 37064 or by contacting Michael Scott at 615-790-5809 or michael.scott@williamsoncounty-tn.gov. Anyone requesting an accommodation due to disabilities should contact Risk Management, at 615-790-5466. This request, if possible, should be made three (3) working days prior to the meeting.

Sponsors: Emily Wright, Amy Diaz-Barriga, Chelsea Randolph

10. Consideration Of Ordinance 2023-24, An Ordinance To Zone 5 Acres Estate Residential (ER) District, For The Property Located South Of The Intersection Of Peytonsville Road And Pratt Lane, At 4436 Pratt Lane. Establishing A Public Hearing On September 12, 2023. FIRST OF THREE READINGS FMPC 6/22/23, 7-0 WS 7/11/23
Sponsors: Emily Wright, Amy Diaz-Barriga, Chelsea Randolph

11. *Consideration Of Amendment 2 To COF Contract No. 2019-0031, With Clayton Properties Group, Inc. And Reese Farms, LLC For Road Impact Fee Reimbursement Agreement In An Amount Not To Exceed $200,000 WS 8/8/23
Sponsors: Jimmy Wiseman

12. *Consideration Of Amendment 4 To COF Contract No. 2020-0041, With Orchard, Hiltz & McCliment, Inc. D/B/A OHM Advisors Regarding The New City Hall Project At No Cost To The City WS 8/8/23
Sponsors: Eric Stuckey, Vernon Gerth

13. *Consideration Of Resolution 2023-55, A Resolution Authorizing The Use Of A Competitively Sealed Proposal Procurement Methods Related To The Selection Of Owner's Representation Consulting Services For The New City Hall Project WS 8/8/23
Sponsors: Eric Stuckey, Vernon Gerth

14. *Consideration Of COF Contract No. 2023-0223, With The Tennessee Department Of Transportation To Enter Into A License Agreement To Provide Secondary Access To The Water Reclamation Facility At No Cost To The City WS 8/8/23
Sponsors: Mark Hilty, Chris Franklin

15. *Consideration Of COF Contract No. 2023-0225, With Travelers Insurance To Renew The City Of Franklin's Fiduciary Liability Policy Effective July 1, 2023 Ws 8/8/23
Sponsors: Kevin Townsel

16. Consideration Of Ordinance 2023-16, An Ordinance To Amend Title 8, Chapter 2, Section 211 Of The Franklin Municipal Code Relative To Special Event Beer Permits. FIRST OF TWO READINGS Beer 6/13/23, 2-0 WS 6/27/23, deferred; 7/11/23
Sponsors: Shauna Billingsley, Jessica Davey

ALL OTHER CONSENT ITEMS
17. Consideration Of Ordinance 2023-25, An Ordinance To Reduce The Speed Limit On Blossom Trail Lane From Del Rio Pike To The Roadway Terminus To Twenty Miles Per Hour (20 MPH). FIRST OF TWO READINGS CIC 6/22/23, 3-0
Sponsors: Adam Moser, Paul Holzen

18. Consideration Of Ordinance 2023-26, An Ordinance To Reduce The Speed Limit Of Liberty Pike From Knoll Top Lane To Turning Wheel Lane To Thirty-Five Miles Per Hour (35 MPH). FIRST OF TWO READINGS CIC 6/22/23, 3-0
Sponsors: Adam Moser, Paul Holzen

19. Consideration Of Resolution 2023-53, A Resolution Approving The City's On-Call Title Opinion Professional Services Agreements, COF Contracts 2023-0190, 2023-0191, 2023-1092, 2023-1093, And 2023-0194 And Authorizing The Use Of These Contracts Once Executed WS 7/11/23
Sponsors: Bill Squires

20. Consideration Of Amendment 3 To COF Contract No. 2019-0007, With Reese Farms, LLC For Parkland Impact Fee And Greenway Trail System Construction Agreement For Reese Farms (Change In Owner Only) WS 6/13/23
Sponsors: Lisa Clayton, Heather Eusebio

21. Consideration Of Amendment 3 To COF Contract No. 2020-0124, With Kimley-Horn And Associates, Inc. For The Final Design Of The Harlinsdale Main Barn At A Cost Increase Not To Exceed $48,500 CIC 6/22/23, 3-0
Sponsors: Lisa Clayton, Paul Holzen, Jonathan Marston, Shahad Abdulrahman

22. Consideration Of COF Contract No. 2021-0119, With Franklin Special School Voluntary Group Term Life Insurance And Short Term Disability Insurance
Sponsors: Kevin Townsel

42. Amendment 1 To Procurement Agreement With BlueCross BlueShield Of Tennessee For The Year Beginning July 1, 2023 For Stop-Loss Insurance For Group Health And Prescription Drug Programs For Employees And Retirees For A Term Of Award, For The Human Resources Department (Purchasing Office Procurement Solicitation No. 2023-017; Contract No. 2023-0126)
Sponsors: Kevin Townsel, Sara Sylvis

43. COF Contract No. 2023-0134, With Presidio CrowdStrike Falcon EPP Platform Agreement
Sponsors: Jason Potts

44. COF Contract No. 2023-0164 With M2 Group, LLC (M2G) For The Federal Main Breastworks Survey Project For A Not-to-Exceed Amount Of $24,500
Sponsors: Paul Holzen

45. COF Contract No. 2023-0168, With Drury Hotels For Group Rates For Assessors Participating In The FFD Lieutenant Assessment Center
Sponsors: Glenn Johnson

46. COF Contract No. 2023-0169, With Drury Hotels For Group Rates For Assessors Participating In The FFD Engineer Assessment Center
Sponsors: Glenn Johnson

47. COF Contract No. 2023-0170, With Tennessee Department Of Transportation Title VI No Change Affidavit
Sponsors: Kevin Townsel

48. Administrative Services Agreement With BlueCross BlueShield Of Tennessee, Inc. Of Chattanooga, Tennessee In The Total Estimated Annual Amount Of $393,717 For Administrative Services Only For Group Health, Prescription Drug, And Vision Benefits For Employees And Retirees For A Term Of Award, For The Human Resources Department (Purchasing Office Procurement Solicitation No. 2022-018; Contract No. 2023-0185)
Sponsors: Kevin Townsel, Sara Sylvis

49. COF Contract No. 2023-0212, With Poteat Place Ventures, LLC For Parkland Impact Fee (Payment Of Fee Only) Agreement For Poteat Place South
Sponsors: Lisa Clayton, Heather Eusebio

50. Sole-Source Purchase From Infor Public Sector, Inc. Of Alpharetta, Georgia For Software Maintenance Renewal In The Total Amount Of $312,262.88 For The Year Beginning August 15, 2023 ($315,000 Budgeted In 110-82510-41350 For Fiscal Year 2024)
Sponsors: Brandi Arnett

EXECUTIVE SESSION

51. Motion To Recess Into Executive Session

RETURN FROM EXECUTIVE SESSION
52. Actions From Executive Session

SCHEDULED MEETINGS & EVENTS

August 11	8:00 a.m.	Franklin Sustainability Commission
August 14	5:00 p.m.	Historic Zoning Commission
August 21	4:00 p.m.	Historic Zoning Design Review Committee
August 22	5:00 p.m.	BOMA Work Session
August 22	7:00 p.m.	Board of Mayor and Aldermen

OTHER BUSINESS
ADJOURN

Anyone needing accommodations due to disabilities please contact the Risk Manager at 615-791-3277 24-hours prior to the meeting.

REQUEST FOR QUALIFICATIONS (RFQ) TDEC ARP NON-COLLABORATIVE GRANT -STATE WATER INFRASTRUCTURE GRANTS PROJECT

NOTICE IS HEREBY GIVEN The Town of Nolensville is seeking a **STATEMENT OF QUALIFICATIONS** from professional engineering firms for a Tennessee Department of Environment and Conservation Division of Water Resources American Rescue Plan Non-Collaborative Grants-State Water Infrastructure Grants Program Project. All submittals should be mailed to Montique Luster, Town Hall, 7218 Nolensville Road, Nolensville, Tennessee, 37135.

DEADLINE FOR SUBMITTALS IS FRIDAY, AUGUST 18, 2023 AT 2:00 PM (Central Time). A complete RFQ is available on the Town's website: www.nolensvilletn.gov. The envelope containing the Statement of Qualifications must be sealed and addressed to Montique Luster, Town Recorder, and plainly marked "Statement of Qualifications –ARP Plan". Statements of Qualification that do not adhere to these submittal requirements will be considered non-responsive. Submittals received after the deadline will not be accepted. Faxed or emailed proposals will not be accepted.

The Town of Nolensville shall reserve the right to reject any and all Statements of Qualifications if said body deems it necessary and in the best interest of the citizens of Nolensville, Tennessee. Questions regarding the RFQ should be directed to Victor Lay, Town Manager, via email at vlay@nolensvilletn.gov or Don Swartz, Town Engineer via email at dswartz@nolensvilletn.gov.

Rogers C. Anderson
Williamson County Mayor

Engineering
Floyd Heflin
Director

WILLIAMSON COUNTY GOVERNMENT

On September 1, 2022, The Tennessee Department of Environment and Conservation (TDEC) issued a new Small Municipal Separate Storm Sewer System (MS4) Permit. On March 1, 2023, Williamson County Tennessee received coverage under that permit. As part of the coverage, Williamson County is required to revise the Storm Water Management Regulations to be consistent with State standards.

Most notably, the regulations regarding water quality design standards are being revised. For the past ten (10) years, the water quality standards in Williamson County for development has been focused on infiltration of stormwater, however, the proposed regulations shift the design standards to 80% Total Suspended Solids (TSS) removal. Infiltration may still be used, but under the new regulations, development and re-development projects have additional options for water quality treatment approaches, including wet ponds, manufactured treatment devices, etc. to meet the water quality goals.

Other notable changes to the regulations include updates to definitions, storm water management facility inspections, and assessments of civil penalties. In addition, permitted uses within the Waterway Natural Area has been expanded. On August 23, 2023, a public hearing was held regarding the proposed changes, and the Storm Water Appeals Board recommends the revisions for adoption.

PUBLIC HEARINGS

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MINUTES OF THE
STORM WATER APPEALS BOARD (SWAB)
MEETING OF AUGUST 23, 2023

1. **OPENING** – The Storm Water Appeals Board (SWAB) met in session on Wednesday, August 23, 2023 at 8:30 a.m. in the Auditorium of the Williamson County Administrative Complex. A quorum was present. Attendees were:

1.1 Board Members

Rob Adams, Builders Representative
Davis Lamb, Development Representative
Betsy Hester, County Commissioner
Andy Reese, Engineering Representative, Chairman
John Kinnie, Agricultural Representative, Vice Chairman
Liz McLaurin, Environmental Representative

1.2 Staff

Michael Scott, Storm Water Quality Coordinator
Kristi Ransom, County Attorney
Debbie Smith, Office Manager
Mario Forgione, Storm Water Compliance Specialist
Nicholas Parks, Storm Water Compliance Specialist

2. **APPROVAL OF MINUTES** – Chairman Andy Reese opened the floor for comments on the July 26, 2023 minutes. Debbie Smith indicated Board member Brad Hoot had called with minor changes. Rob Adams made a motion to approve as corrected; seconded by Davis Lamb. The motion was unanimously approved.

(Liz McLaurin was not present for this vote)

3. **08-23-23-02– Approval of the Revisions to the Storm Water Management Regulations.**

3.1 Introduction by Staff - Mr. Scott reviewed the notable changes for the record.

3.2 Public Hearing – Greg Harrison with Kimley-Horn Engineering stated there is one item in 2.2.F.1 that needs to be clarified whether the depth of 1.1 inches is for impervious surfaces or whether it applies to the entire drainage area.

3.3 Board Discussion – Michael Scott indicated it was normally applied to impervious surfaces.

Andy Reese also suggested a modification to the definition and also to add (see definition and table) in order to eliminate any confusion.

Andy Reese stated the digital version did not have the Sections labeled. Michael Scott indicated that was a formatting issue that has been addressed.

Kristi Ransom reviewed the proposed changes to the Regulations in addition to those shown in the draft version, based on the Board and Staff discussion; 1) Add in Section 2.2 Storm Water Quality (#15 Diverted Stream Flows), 2) # the Water Quality Treatment Table to 2.2 and add clarification that it's impervious surface; 3) Section 4.2.M. adding the letter subheading F, Infiltration based Storm Water Control Measurers; and 4) replace the Water Quality Treatment Definition.

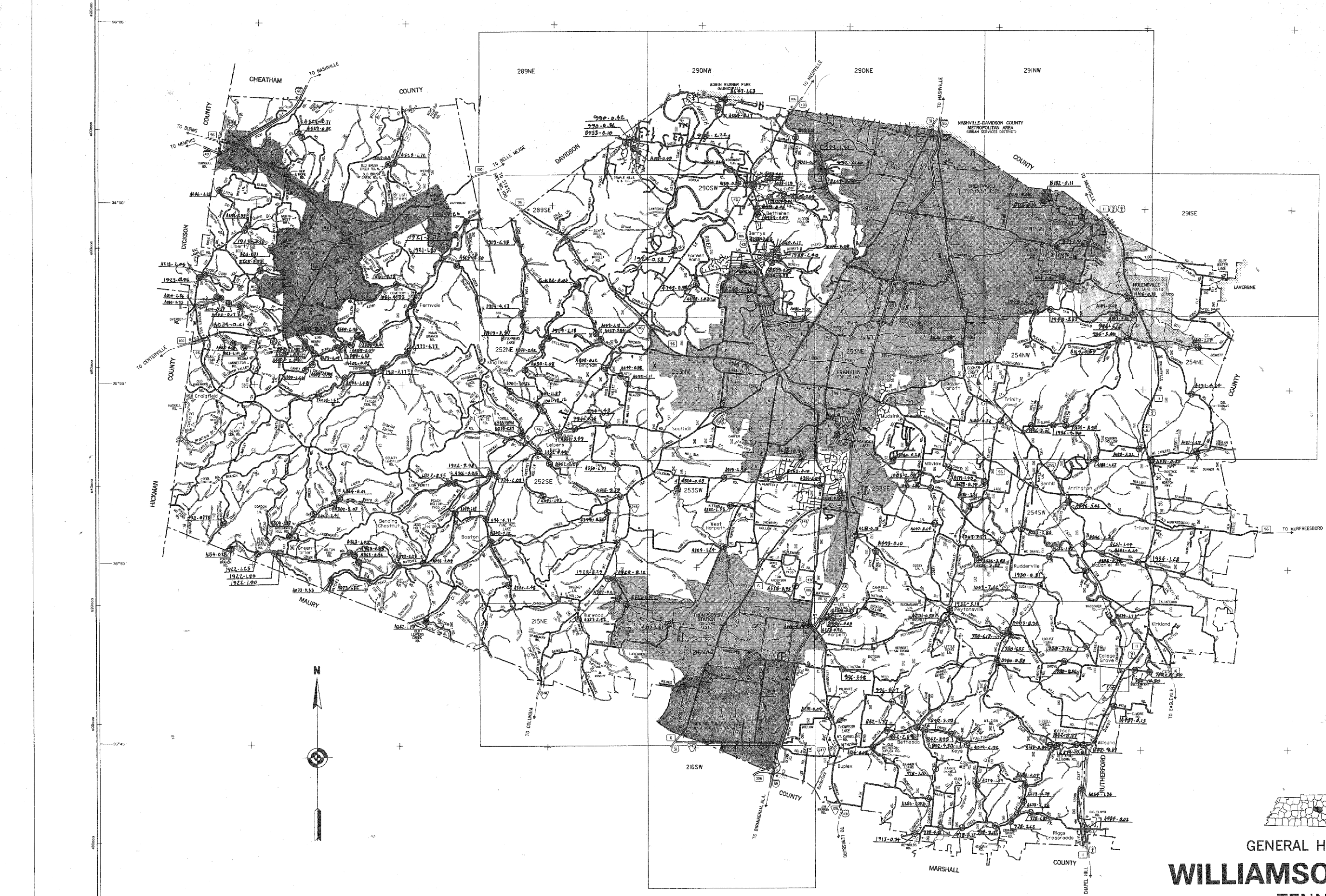
3.4 <u>Board Action</u> – John Kinnie made a motion to accept the modified definitions and tables, Rob Adams seconded. The motion was unanimously approved.

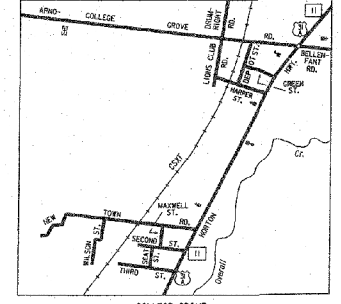
Liz McLaurin made a motion to amend as noted by Kristi Ransom, John Kinnie seconded. The motion was unanimously approved.

<u>ADJOURNMENT</u> - There being no further business John Kinnie moved for adjournment. The motion was unanimously approved.

_____ _____

Chairman Date





SCALE OF INSETS

0.2 0 0.1 0.2 0.3 0.4 0.5 MILES

LEGEND

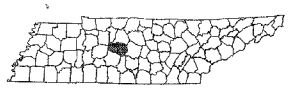
- SCHOOL
- CHURCH
- CHURCH WITH CEMETERY
- CEMETERY
- HOSPITAL
- POST OFFICE
- HIGHWAY PATROL STATION
- CITY HALL OR COMMUNITY CENTER
- MONUMENT
- AIRPORT, COMPLETE FACILITIES
- AIRPORT, LIMITED FACILITIES
- LANDING AREA OR STRIP
- POWER PLANT
- WEIGHT STATION
- HIGHWAY GARAGE (S-STATE, C-COUNTY)
- TRIANGULATION STATION
- OBSERVATION OR LOOKOUT TOWER
- COUNTY SEAT
- OTHER CITIES AND VILLAGES
- RADIO OR TELEVISION STATION
- POINT OF INTEREST
- DOT TO INDICATE LOCATION OF ANY CULTURAL FEATURE OUT OF PLACE
- INTERSTATE HIGHWAY MARKER
- U S NUMBERED HIGHWAY MARKER
- STATE HIGHWAY MARKER (FEDERAL AID PRIMARY SYSTEM)
- STATE HIGHWAY MARKER (FEDERAL AID SECONDARY SYSTEM)
- 2578 PROMINENT PEAK WITH ELEVATION
- LAKE WITH DAM
- RESERVOIR, POND OR LAKE
- LEVEE OR DYKE
- DRAINAGE CANAL
- NARROW STREAM
- WIDE STREAM
- DAM WITH LOCK
- HEAD OF NAVIGATION
- NAVIGABLE STREAM
- GRADE CROSSING
- UNDERPASS-ROAD BELOW
- OVERHEAD-ROAD ABOVE
- RAILROAD TUNNEL
- GRADE SEPARATION
- FORD
- LOW WATER BRIDGE
- FREE FERRY OR TOLL FERRY
- HIGHWAY BRIDGE-OVER 20 FEET
- HIGHWAY BRIDGE-LONG RIVER CROSSING (C-CONCRETE, S-STEEL, W-WOOD)
- PRIMITIVE OR UNIMPROVED ROAD
- GRADED AND DRAINED, SOIL, GRAVEL OR STONE SURFACED ROAD
- PAVED ROAD
- PAVED HIGHWAY OR ROAD
- DIVIDED ROADWAY
- 0.5 DISTANCE IN MILES BETWEEN DESIGNATED POINTS
- (FCA) FULL CONTROL OF ACCESS
- NPS NATIONAL PARK SERVICE HIGHWAY
- HIGHWAY INTERCHANGE
- COUNTY LINE
- STATE LINE
- MONUMENTED BOUNDARY MARKER
- INCORPORATED CITY BOUNDARY
- RESERVATION BOUNDARY

INDEX TO STATEWIDE PLANIMETRIC MAPS FOR WILLIAMSON COUNTY

289NE	290NW	290NE	291NW
289SE	290SW	290SE	291SW, 291SE
252NE	253NW	253NE	254NW, 254NE
252SE	253SW	253SE	254SW
215NE	216NW		
216SW			

MAP RECORD
FIELD DATA OBTAINED IN 1993
FIELD EXAMINATION MADE IN 1996

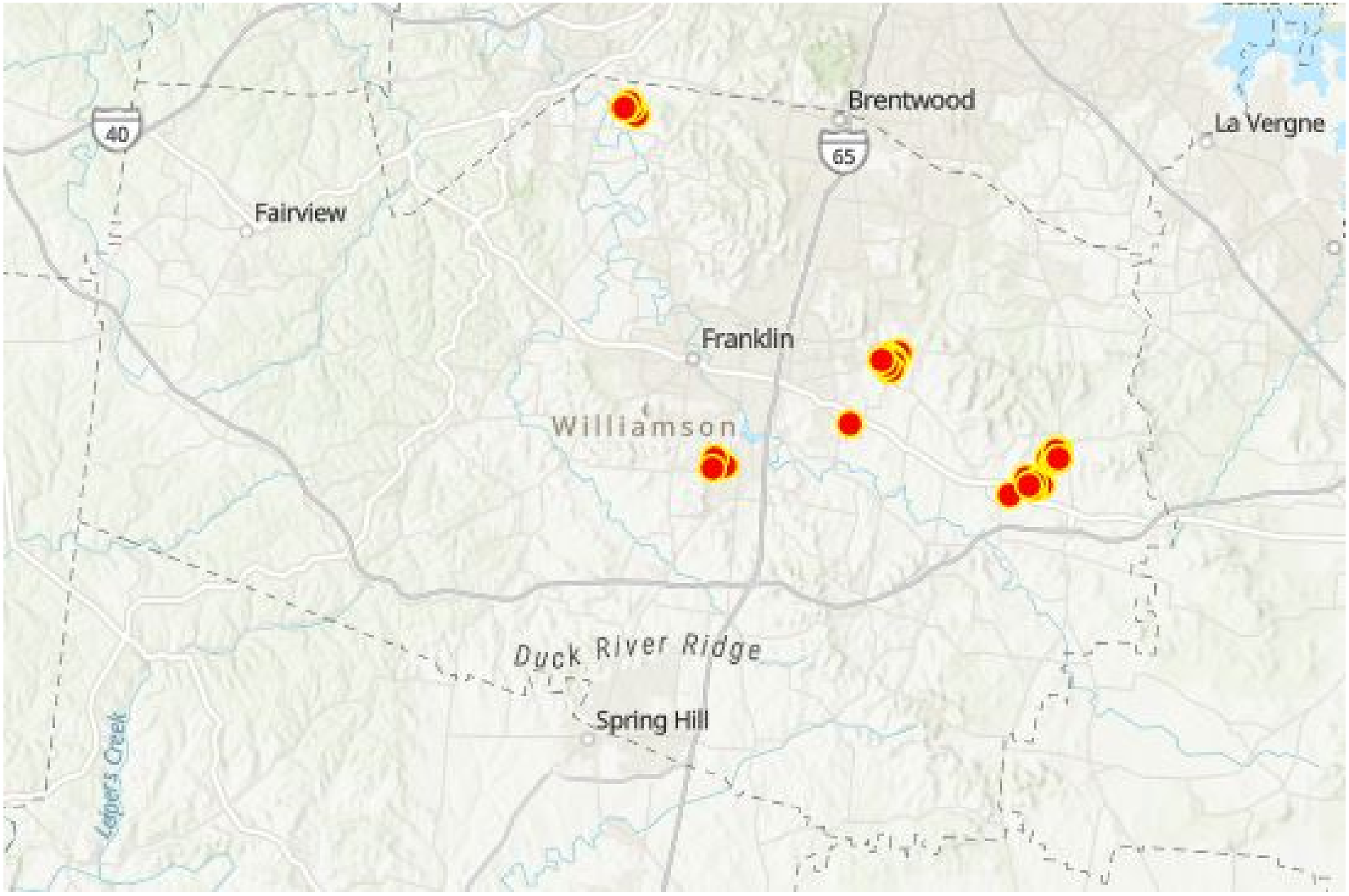
REVISIONS	
FEATURE	DATE



GENERAL HIGHWAY MAP
WILLIAMSON COUNTY
TENNESSEE

PREPARED BY THE
TENNESSEE DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING AND DEVELOPMENT
PLANNING DIVISION
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

SCALE
1 0 1 2 3 4 MILES


Brentwood
La Vergne
40
65
Fairview
Franklin
Williamson
Duck River Ridge
Spring Hill
Leiper's Creek

SCM Tracking – Williamson County

Site	Inspection Date	Responsible Party	Storm Water Control Type	Storm Water Description	Asset Condition
Durham Manor SW pond	Oct 23, 2019, 2:48 PM	HOA	Dry Detention	GOOD COND	Acceptable
Durham Manor NW pond	Oct 23, 2019, 2:56 PM	HOA	Dry Detention	GOOD COND	Acceptable
Durham Manor SE pond	Oct 23, 2019, 3:07 PM	HOA	Dry Detention	GOOD COND	Acceptable
Kings Chapel 2a/2b/2c	Oct 16, 2019, 3:00 PM	HOA	Other	N/a	Acceptable
King Chapel sec 4 north pond	Oct 16, 2019, 3:09 PM	HOA	Dry Detention	North pond - good cond	Acceptable
Kings Chapel sec 4 south east pond	Oct 16, 2019, 3:16 PM	HOA	Dry Detention	Not draining -wet	Unacceptable
Kings Chapel sec 4 - south west pond	Oct 16, 2019, 3:18 PM	HOA	Dry Detention	Not draining - wet	Unacceptable
Kings Chapel sec 6 wet pond	Oct 16, 2019, 3:28 PM	HOA	Wet Detention	Good cond	Acceptable
Kings Chapel sec 3	Oct 16, 2019, 3:33 PM	HOA	Other	N/a	Acceptable
Chardonnay sec 6 north pond	Oct 8, 2019, 2:45 PM	HOA	Wet Detention	North pond good cond	Acceptable
Chardonnay sec 6 middle pond	Oct 8, 2019, 2:49 PM	HOA	Wet Detention	Middle pond good cond	Acceptable
Chardonnay sec 5 pond	Oct 8, 2019, 2:55 PM	HOA	Wet Detention	Pond grown up but still functional	Acceptable
Chardonnay sec 6 south pond	Oct 8, 2019, 3:03 PM	HOA	Wet Detention	South pond - grown up	Acceptable
Chardonnay sec 4 wet pond	Oct 8, 2019, 3:11 PM	HOA	Wet Detention	South pond - undercutting at outlet	Unacceptable
Chardonnay - sec 4 dry pond	Oct 8, 2019, 3:23 PM	HOA	Dry Detention	Dry pond - needs mowing	Unacceptable
Chardonnay sec 3 - east pond	Oct 8, 2019, 3:25 PM	HOA	Dry Detention	Dry pond - good cond	Acceptable
Chardonnay sec 3 north pond	Oct 8, 2019, 3:29 PM	HOA	Dry Detention	North pond - good cond	Acceptable
Chardonnay sec 2 east pond	Oct 8, 2019, 3:35 PM	HOA	Dry Detention	East pond good cobd	Acceptable
Chardonnau sec 2 se pond	Oct 8, 2019, 3:45 PM	HOA	Dry Detention	South east pond - good cond	Acceptable
Chardonnay sec 2 s pond	Oct 8, 2019, 3:53 PM	HOA	Dry Detention	South pond - undercutting at pipe	Unacceptable
Chardonnay sec 2 - west pond	Oct 8, 2019, 4:02 PM	HOA	Dry Detention	West pond - pipe filled with rock - fixed	Acceptable
Abinton Ridge sec 2/3	Oct 4, 2019, 2:51 PM	HOA	Dry Detention	Pond - good cond	Acceptable
Blackhawk	Oct 4, 2019, 3:11 PM	HOA	Other	None	Acceptable
Stockett Creek sec 1 south pond	Oct 1, 2019, 1:49 PM	HOA	Dry Detention	South Pond -good cond	Acceptable

Stockett creek sec 1 middle pond	Oct 1, 2019, 1:54 PM	HOA	Dry Detention	Middle pond good cond	Acceptable
Stockett creek sec 1 north pond	Oct 1, 2019, 1:58 PM	HOA	Dry Detention	North pond good cond	Acceptable
Stockett Creek sec 2	Oct 1, 2019, 2:04 PM	HOA	Other	None	Acceptable
Stockett creek sec 3 pond	Oct 1, 2019, 2:08 PM	HOA	Dry Detention	Pond - good cond	Acceptable
Arrington Retreat sec 3	Sep 9, 2019, 2:52 PM	Arrington Ridge hoa	Wet Detention	Micropool	Acceptable
Arrington Retreat Sec 2	Sep 9, 2019, 2:43 PM	Arrington Retreat Hoa	Dry Detention	Pond 3b - water in pond	Acceptable
Arrington retreat Amenity Center	Sep 9, 2019, 1:54 PM	Arrington Retreat HOA	Permeable Pavers	Relatively good condition, could use a sweeping.	Acceptable
Arrington Retreat Sec1	Sep 9, 2019, 2:05 PM	Arrington Retreat HOA	Dry Detention	Pond 3A - well maintained	Acceptable
Arrington Retreat sec 1	Sep 9, 2019, 2:12 PM	Arrington Ridge HOA	Dry Detention	Pond 2a - rip rap scour	Acceptable
Arrington Retreat sec 1	Sep 9, 2019, 2:16 PM	Arrington Retreat HOA	Dry Detention	Pond 2b	Acceptable
Arrington retreat sec 1	Sep 9, 2019, 2:19 PM	Arrington retreat hoa	Dry Detention	Pond 2c	Acceptable
Arrington Retreat sec 4	Sep 9, 2019, 2:28 PM	Arrington Ridge Hoa	Wet Detention	EXT Det pond - wood blocking entrance	Unacceptable

Name	Creation Date	Last Modified	Template Name
Water Leaf, Sec 1	11/9/2016 9:54	11/9/2016 9:56	
1200 Old Hillsboro Rd	4/12/2023 12:22	4/12/2023 12:22	Stormwater Agreement
Abington Ridge, Section 2	8/29/2011 13:41	8/20/2014 9:31	Stormwater Agreement
Abington Ridge, Section 3B	8/29/2011 13:41	8/20/2014 9:31	Stormwater Agreement
Arno Storage	8/29/2011 13:41	8/20/2014 9:31	Stormwater Agreement
Arrington Retreat Amenity Ctr	8/20/2014 10:32	8/20/2014 10:41	Stormwater Agreement
Arrington Retreat, Section 1	8/29/2011 13:41	12/8/2015 9:34	Stormwater Agreement
Arrington Retreat, Section 2	4/24/2013 9:11	4/24/2013 9:11	Stormwater Agreement
Arrington Retreat, Section 3	8/20/2014 10:37	8/20/2014 10:38	Stormwater Agreement
Arrington Retreat, Section 3 (2)	6/30/2017 10:14	6/30/2017 10:15	Stormwater Agreement
Arrington Retreat, Section 4	7/17/2015 9:07	7/17/2015 9:09	Stormwater Agreement
Arrington Retreat, Section 5	9/27/2022 15:08	9/27/2022 15:08	Stormwater Agreement
Arrington Retreat, Section 5 Revised	3/9/2023 9:12	3/9/2023 9:12	Stormwater Agreement
Arrington Ridge, Section 1	1/11/2021 14:25	1/11/2021 14:26	Stormwater Agreement
Arrington Vineyards	8/29/2013 12:11	8/20/2014 9:32	Stormwater Agreement
Auto Clinic of Franklin	4/15/2013 15:11	8/20/2014 10:50	Stormwater Agreement
Belle Vista Section 3	5/20/2013 8:46	8/20/2014 13:16	Stormwater Agreement
Belle Vista, Section 2	8/29/2011 13:41	8/20/2014 13:16	Stormwater Agreement
Berry's Chapel Church of Christ Addition	8/29/2011 13:41	8/20/2014 9:33	Stormwater Agreement
Blackhawk, Section 3 & 4	8/29/2011 13:41	10/8/2009 10:38	Stormwater Agreement
Bonnie's Barnyard O & M Agreement	9/7/2011 11:20	8/20/2014 9:34	Stormwater Agreement
Bonterra	1/6/2023 10:56	1/6/2023 10:56	Stormwater Agreement
Brandon Park Down	8/29/2011 13:41	8/20/2014 9:34	Stormwater Agreement
Breinz Valley, Section 1	8/29/2011 13:41	10/8/2009 10:39	Stormwater Agreement
Breinz Valley, Section 1, Additions	8/29/2011 13:41	10/8/2009 10:39	Stormwater Agreement
Breinz Valley, Section 2	8/29/2011 13:41	10/8/2009 10:43	Stormwater Agreement
Breinz Valley, Section 3	8/29/2011 13:41	10/8/2009 10:43	Stormwater Agreement
Brienz Valley Addition, Section 2	2/4/2016 13:06	2/4/2016 13:07	Stormwater Agreement
Brightstone Campus	1/11/2021 12:48	1/11/2021 12:48	Stormwater Agreement
Brightstone Campus (2)	7/26/2021 13:59	7/26/2021 14:00	Stormwater Agreement
Burning Tree Farms, Sec 2	11/9/2018 12:39	11/9/2018 12:39	Stormwater Agreement
Cartcon Air Soft Fields	8/20/2014 12:36	8/20/2014 13:11	Stormwater Agreement
Cartwright Close	8/29/2011 13:41	10/8/2009 10:43	Stormwater Agreement
Cascade Estates	8/29/2011 13:41	10/8/2009 10:58	Stormwater Agreement
Chardonnay, Section 1	8/29/2011 13:41	2/10/2015 8:11	Stormwater Agreement
Chardonnay, Section 2	8/20/2014 10:54	8/20/2014 13:27	Stormwater Agreement
Chardonnay, Section 3	9/14/2011 14:08	9/14/2011 14:08	Stormwater Agreement
Chardonnay, Section 4	9/24/2012 13:15	9/24/2012 13:16	Stormwater Agreement
Chardonnay, Section 5	8/2/2013 8:19	8/30/2013 12:38	Stormwater Agreement
Chardonnay, Section 6	8/20/2014 10:55	8/20/2014 10:57	Stormwater Agreement
Clovercroft Animal Hospital	8/29/2011 13:41	8/20/2014 9:36	Stormwater Agreement
Clovercroft Preserve, Section 1	5/17/2016 13:30	5/17/2016 13:30	Stormwater Agreement
Clovercroft Preserve, Section 2	8/24/2021 9:23	8/24/2021 9:23	Stormwater Agreement
Conduit Church	8/24/2021 8:35	8/24/2021 8:35	Stormwater Agreement
Curray Ingram Academy	11/25/2019 10:41	11/25/2019 10:41	Stormwater Agreement
Daventry, Section 1	8/26/2019 15:21	8/26/2019 15:22	Stormwater Agreement

Daventry, Section 2	8/26/2019 15:22	8/26/2019 15:23	Stormwater Agreement
Daventry, Section 3	8/24/2021 8:14	8/24/2021 8:14	Stormwater Agreement
Daventry, Section 4	1/3/2023 8:51	1/3/2023 8:51	Stormwater Agreement
Daventry, Section 5	1/3/2023 8:52	1/3/2023 8:52	Stormwater Agreement
Delta Springs	8/29/2011 13:41	10/8/2009 10:59	Stormwater Agreement
Dolan's Commercial Venue	8/20/2014 12:11	8/20/2014 13:31	Stormwater Agreement
Dunblane	2/10/2015 8:14	10/21/2019 12:23	Stormwater Agreement
Durham Manor	8/29/2011 13:41	3/21/2018 10:09	Stormwater Agreement
Enclave at Dove Lake, Section 1	8/24/2021 9:13	8/24/2021 9:13	Stormwater Agreement
Enclave at Dove Lake, Section 2	8/24/2021 10:32	8/24/2021 10:33	Stormwater Agreement
Falls Grove, Section 1	8/20/2014 12:19	8/20/2014 12:20	Stormwater Agreement
Falls Grove, Section 2	11/4/2015 9:57	11/4/2015 9:57	Stormwater Agreement
Falls Grove, Section 3	3/3/2017 10:12	3/3/2017 10:12	Stormwater Agreement
Falls Grove, Section 4	8/24/2021 10:27	8/24/2021 10:27	Stormwater Agreement
Falls Grove, Section 5	8/24/2021 9:06	8/24/2021 9:06	Stormwater Agreement
Falls Grove, Section 6	8/24/2021 10:26	8/24/2021 10:26	Stormwater Agreement
Falls Grove, Section 7	8/24/2021 10:25	8/24/2021 10:25	Stormwater Agreement
Farms at Clovercroft, Section 1	9/2/2015 10:10	9/2/2015 10:11	Stormwater Agreement
Farms at Clovercroft, Section 2	6/24/2016 10:00	6/24/2016 10:00	Stormwater Agreement
Farms at Clovercroft, Section 3	10/9/2017 9:36	10/9/2017 9:36	Stormwater Agreement
Fernvale Community Church	8/29/2011 13:41	8/20/2014 9:38	Stormwater Agreement
Fiddlers Glen, Section 1	4/12/2023 11:09	4/12/2023 11:10	Stormwater Agreement
Franklin Christian Church	9/10/2020 8:04	9/10/2020 8:05	Stormwater Agreement
Gainango Farms	8/20/2014 12:10	8/20/2014 13:27	Stormwater Agreement
Gateway Church	8/20/2014 12:08	8/20/2014 13:28	Stormwater Agreement
Gathering Church	11/10/2021 8:58	11/10/2021 8:59	Stormwater Agreement
Grace Chapel Church	8/29/2011 13:41	8/20/2014 9:38	Stormwater Agreement
Grove Park, Addition One	8/29/2011 13:41	10/8/2009 11:00	Stormwater Agreement
Hardeman Springs, Section 1	8/24/2021 9:11	8/24/2021 9:11	Stormwater Agreement
Hardeman Springs, Section 2	8/24/2021 9:22	8/24/2021 9:22	Stormwater Agreement
Hardeman Springs, Section 3	7/14/2021 8:32	7/14/2021 8:32	Stormwater Agreement
Hart's Landmark	8/20/2014 12:22	8/20/2014 12:22	Stormwater Agreement
Hideaway @ Arrington, Section 1	12/7/2015 10:39	12/7/2015 10:40	Stormwater Agreement
Hideaway @ Arrington, Section 2	12/7/2015 10:41	12/7/2015 10:42	Stormwater Agreement
Hideaway @ Arrington, Section 3	2/28/2017 10:56	2/28/2017 11:01	Stormwater Agreement
High Park Hill, Section 1	6/27/2022 9:25	6/27/2022 9:26	Stormwater Agreement
High Park Hill, Section 2	5/2/2023 9:44	5/2/2023 9:45	Stormwater Agreement
Hillsboro Cove	8/20/2014 12:21	8/20/2014 12:21	Stormwater Agreement
Holy Trinity Lutheran Church	8/29/2011 13:41	8/20/2014 10:44	Stormwater Agreement
Ivan Creek	8/29/2011 13:41	3/21/2018 10:08	Stormwater Agreement
King's Chapel Association	8/24/2021 10:19	8/24/2021 10:19	Stormwater Agreement
King's Chapel, Section 10	8/24/2021 8:13	8/24/2021 8:13	Stormwater Agreement
King's Chapel, Section 11	8/24/2021 8:11	8/24/2021 8:11	Stormwater Agreement
Kings Chapel, Section 2B	8/29/2011 13:41	12/8/2015 9:37	Stormwater Agreement
King's Chapel, Section 3A	8/20/2014 12:29	8/20/2014 12:30	Stormwater Agreement
King's Chapel, Section 3A (2)	8/24/2021 10:18	8/24/2021 10:18	Stormwater Agreement
King's Chapel, Section 3B	8/20/2014 12:31	8/20/2014 12:31	Stormwater Agreement

King's Chapel, Section 3C	8/24/2021 10:17	8/24/2021 10:17	Stormwater Agreement
King's Chapel, Section 4A	8/20/2014 12:32	8/20/2014 12:33	Stormwater Agreement
King's Chapel, Section 4B	8/20/2014 12:34	8/20/2014 12:34	Stormwater Agreement
King's Chapel, Section 5	8/24/2021 10:16	8/24/2021 10:16	Stormwater Agreement
King's Chapel, Section 6	12/8/2015 10:06	12/8/2015 10:07	Stormwater Agreement
King's Chapel, Section 7	8/24/2021 10:14	8/24/2021 10:14	Stormwater Agreement
King's Chapel, Section 8	8/24/2021 10:16	8/24/2021 10:16	Stormwater Agreement
Leiper's Fork Distillery	2/9/2015 14:58	2/9/2015 14:58	Stormwater Agreement
Libery Hills Church of Christ	10/9/2014 10:53	8/20/2014 10:44	Stormwater Agreement
Locust Ridge Primitive Baptist	10/9/2014 10:53	8/20/2014 13:15	Stormwater Agreement
Lookaway Farms, Sec 1	4/13/2017 9:30	4/13/2017 9:30	Stormwater Agreement
Lookaway Farms, Section 2	10/11/2021 13:51	10/11/2021 13:51	Stormwater Agreement
Lucy Covington Commercial Site	7/14/2021 8:30	7/14/2021 8:31	Stormwater Agreement
McDaniel Estates, Section 1	11/9/2018 12:40	11/9/2018 12:41	Stormwater Agreement
McDaniel Estates, Section 2	8/26/2019 15:23	8/26/2019 15:24	Stormwater Agreement
McDaniel Estates, Section 3	1/5/2021 12:30	1/5/2021 12:30	Stormwater Agreement
McDaniel Estates, Section 4	8/24/2021 10:43	8/24/2021 10:43	Stormwater Agreement
McDaniel Farms, Sec 2	11/9/2018 12:41	11/9/2018 12:42	Stormwater Agreement
Mint Spring Farms	8/20/2014 10:22	8/20/2014 10:45	Stormwater Agreement
Nashville Catholic Campus	10/31/2022 12:32	10/31/2022 12:32	Stormwater Agreement
Nolen Hills Church	10/19/2022 14:43	10/19/2022 14:44	Stormwater Agreement
Oak Valley Baptist Church	2/28/2017 11:00	2/28/2017 11:01	Stormwater Agreement
Pine Creek, Section 2	8/18/2023 8:39	8/18/2023 8:39	Stormwater Agreement
Reeds Vale, Section 1	6/7/2023 16:02	6/7/2023 16:02	Stormwater Agreement
Saddle Springs Equestrian Ctr	8/29/2011 13:41	8/20/2014 13:14	Stormwater Agreement
Saddle Springs, Section 7	8/29/2011 13:41	8/20/2014 13:17	Stormwater Agreement
Security Central Storage	8/29/2011 13:41	8/20/2014 10:45	Stormwater Agreement
Silver Stream Farm, Sec 4B	7/21/2020 14:34	7/21/2020 14:34	Stormwater Agreement
Silver Stream Farm, Section 1B	8/29/2011 13:41	8/20/2014 13:18	Stormwater Agreement
Silver Stream Farm, Section 2	8/29/2011 13:41	8/20/2014 13:18	Stormwater Agreement
Silver Stream Farm, Section 3	8/29/2011 13:41	8/20/2014 13:18	Stormwater Agreement
Silver Stream Farm, Section 4A	8/20/2014 12:50	8/20/2014 12:51	Stormwater Agreement
Silver Stream Farm, Section 4C	11/12/2015 10:22	11/12/2015 10:22	Stormwater Agreement
Silver Stream Farm, Section 4D	8/20/2014 12:49	8/20/2014 12:50	Stormwater Agreement
Silver Stream Farm, Section 4E	2/9/2015 13:27	2/9/2015 13:27	Stormwater Agreement
Silver Stream Farm, Section 4F	12/8/2015 9:58	12/8/2015 9:59	Stormwater Agreement
Silver Stream Farm, Section 5	8/29/2011 13:41	8/20/2014 13:19	Stormwater Agreement
Silver Stream Farm, Section 6A	8/20/2014 12:48	12/8/2015 9:36	Stormwater Agreement
Silver Stream Farm, Section 6B	9/28/2012 15:42	12/8/2015 9:36	Stormwater Agreement
Silver Stream Farm, Section 8	8/29/2011 13:41	8/20/2014 13:19	Stormwater Agreement
Southern Preserve, Section 1	6/30/2016 12:13	6/30/2016 12:14	Stormwater Agreement
Southern Preserve, Section 2	8/22/2016 10:35	8/22/2016 10:37	Stormwater Agreement
Spring Meadow Church of Christ	8/29/2011 13:41	8/20/2014 9:51	Stormwater Agreement
St Marlo, Section 1	6/15/2022 8:51	6/15/2022 8:52	Stormwater Agreement
St Marlo, Section 2	9/8/2022 9:00	9/8/2022 9:00	Stormwater Agreement
St Marlo, Section 4	4/25/2023 8:29	4/25/2023 8:29	Stormwater Agreement
St. Ignatius Church	10/9/2014 10:53	2/10/2015 8:58	Stormwater Agreement

Stag's Leap, Section 1	8/29/2011 13:41	3/21/2018 10:07	Stormwater Agreement
Stag's Leap, Section 2A	8/29/2011 13:41	7/14/2016 10:20	Stormwater Agreement
Stag's Leap, Section 2B	8/20/2014 12:56	7/14/2016 10:20	Stormwater Agreement
Stag's Leap, Section 3A	8/20/2014 12:55	7/14/2016 10:21	Stormwater Agreement
Stag's Leap, Section 3B	4/24/2013 9:30	7/14/2016 10:21	Stormwater Agreement
Starnes Creek, Section 1	1/3/2023 8:53	1/3/2023 8:53	Stormwater Agreement
Starnes Creek, Section 2	8/25/2023 10:23	8/25/2023 10:24	Stormwater Agreement
Stephens Valley Community Center	1/11/2021 14:27	1/11/2021 14:27	Stormwater Agreement
Stephens Valley, Section 1	5/11/2023 9:18	5/11/2023 9:19	Stormwater Agreement
Stephens Valley, Section 11	1/19/2023 16:00	1/19/2023 16:00	Stormwater Agreement
Stephens Valley, Section 2	8/24/2021 9:07	8/24/2021 9:08	Stormwater Agreement
Stephens Valley, Section 3	8/24/2021 9:09	8/24/2021 9:09	Stormwater Agreement
Stephens Valley, Section 4	8/24/2021 9:10	8/24/2021 9:10	Stormwater Agreement
Stephens Valley, Section 5	5/11/2023 9:20	5/11/2023 9:21	Stormwater Agreement
Stephens Valley, Section 6	4/7/2020 11:22	4/7/2020 11:22	Stormwater Agreement
Stephens Valley, Section 8	1/19/2023 16:00	1/19/2023 16:01	Stormwater Agreement
Stockett Creek, Section 2	8/29/2011 13:41	3/1/2016 12:56	Stormwater Agreement
Stockett Creek, Section 3	8/29/2011 13:41	3/1/2016 12:57	Stormwater Agreement
Swanson Ridge	11/9/2018 12:42	11/9/2018 12:43	Stormwater Agreement
Sycamore Farms Event Center	5/15/2015 13:35	5/15/2015 13:36	Stormwater Agreement
Terravista Section 1	6/9/2022 14:31	6/9/2022 14:31	Stormwater Agreement
Terravista, Section 2	10/25/2022 11:27	10/25/2022 11:27	Stormwater Agreement
The Grove, Sec 11	11/9/2018 12:44	11/9/2018 12:45	Stormwater Agreement
The Grove, Section 1 and 2	8/20/2014 13:08	8/20/2014 13:09	Stormwater Agreement
The Grove, Section 12	11/25/2019 10:45	11/25/2019 10:46	Stormwater Agreement
The Grove, Section 13	11/25/2019 10:43	11/25/2019 10:44	Stormwater Agreement
The Grove, Section 14	1/5/2021 12:32	1/5/2021 12:33	Stormwater Agreement
The Grove, Section 15	1/27/2022 16:17	1/27/2022 16:18	Stormwater Agreement
The Grove, Section 16	9/8/2022 9:01	9/8/2022 9:01	Stormwater Agreement
The Grove, Section 17	8/25/2023 10:21	8/25/2023 10:21	Stormwater Agreement
The Grove, Section 3	8/20/2014 13:10	8/20/2014 13:10	Stormwater Agreement
The Grove, Section 4	8/20/2014 13:06	8/20/2014 13:06	Stormwater Agreement
The Grove, Section 5	9/9/2014 14:24	9/9/2014 14:25	Stormwater Agreement
The Grove, Section 6	2/5/2015 12:17	2/5/2015 12:17	Stormwater Agreement
The Grove, Section 7	12/7/2015 10:43	12/7/2015 10:44	Stormwater Agreement
The Grove, Section 8	10/5/2016 7:55	10/5/2016 7:56	Stormwater Agreement
The Grove, Section 9	8/24/2021 10:37	8/24/2021 10:37	Stormwater Agreement
The Mill at Bond Springs, Section 1	8/24/2021 8:37	8/24/2021 8:37	Stormwater Agreement
The Mill at Bond Springs, Section 2	1/5/2021 12:33	1/5/2021 12:34	Stormwater Agreement
The Mill at Bond Springs, Section 3	4/12/2022 10:59	4/12/2022 10:59	Stormwater Agreement
Trace Creek Heights	10/9/2014 10:53	8/20/2014 13:23	Stormwater Agreement
Troubadour Club Amenity	8/26/2019 15:30	8/26/2019 15:31	Stormwater Agreement
Troubadour, Section 1	8/24/2021 9:25	8/24/2021 9:25	Stormwater Agreement
Troubadour, Section 10	8/2/2023 11:04	8/2/2023 11:05	Stormwater Agreement
Troubadour, Section 15	8/2/2023 11:02	8/2/2023 11:03	Stormwater Agreement
Troubadour, Section 3	8/24/2021 9:26	8/24/2021 9:26	Stormwater Agreement
Troubadour, Section 4	8/24/2021 10:39	8/24/2021 10:39	Stormwater Agreement

Troubadour, Section 6	1/11/2021 14:32	1/11/2021 14:33	Stormwater Agreement
Troubadour, Section 7	1/11/2021 14:30	1/11/2021 14:31	Stormwater Agreement
Troubadour, Section 8	8/2/2023 11:05	8/2/2023 11:06	Stormwater Agreement
Twice Daily Truine	4/7/2020 11:23	4/7/2020 11:23	Stormwater Agreement
Vale Creek	8/29/2011 13:41	10/8/2009 11:08	Stormwater Agreement
Vineyard Valley, Section 1	11/9/2018 12:51	11/9/2018 12:51	Stormwater Agreement
Vineyard Valley, Section 2	8/24/2021 9:17	8/24/2021 9:17	Stormwater Agreement
Vineyard Valley, Section 3	1/11/2021 14:34	1/11/2021 14:35	Stormwater Agreement
Watkins Creek, Section 5	9/6/2012 13:03	9/21/2012 9:32	Stormwater Agreement

Rogers C. Anderson
Williamson County Mayor

Engineering
Floyd Heflin
Director

Stormwater Pollution Prevention and Good Housekeeping Inspection Report

Facility Information

Facility: All Twenty-four (24) County Operated Facility Lots (Parks and Rec and Fire-Rescue Parking Lots)

Inspection Date(s): June 21st, 22nd, 26th, and 27th

Minimize / Prevent Exposure of Materials to Precipitation:
Has exposure of materials to precipitation been minimized/prevented? ☒Yes ☐No ☐N/A

Good Housekeeping:
Are good stormwater housekeeping practices being utilized on site? ☒Yes ☐No ☐N/A

Preventative Maintenance:
Are stormwater pollution preventative maintenance practices being utilized on site? ☒Yes ☐No ☐N/A

Spill Prevention and Response:
Are there adequate measures in place for spill prevention and control of chemicals and hazardous substances such as pesticides, herbicides, fertilizers, fuels, lubricants, and other petroleum distillates? ☒Yes ☐No ☐N/A

Erosion Prevention and Sediment Control Site Conditions:
Is the site stabilized, structures functional, and no evidence of pollutants leaving site? ☒Yes ☐No ☐N/A

Management of Runoff:
Does management of stormwater runoff appear to be appropriate? ☒Yes ☐No ☐N/A

Control Measure Maintenance:
Do stormwater controls measures appear to be adequately maintained? ☒Yes ☐No ☐N/A

Comments: All parking lots are well maintained and demonstrated good housekeeping. All hazardous materials and potential pollutants are properly stored and protected.

Inspector: Nicholas Parks

Rogers C. Anderson
Williamson County Mayor

Engineering
Floyd Heflin
Director

Stormwater Pollution Prevention and Good Housekeeping Inspection Report

Facility Information

Facility: All eleven (11) County Waste Disposal Centers (Convenience Centers)

Inspection Date(s): June 21st, 22nd, 26th, and 27th

Minimize / Prevent Exposure of Materials to Precipitation:
Has exposure of materials to precipitation been minimized/prevented? ☒Yes ☐No ☐N/A

Good Housekeeping:
Are good stormwater housekeeping practices being utilized on site? ☒Yes ☐No ☐N/A

Preventative Maintenance:
Are stormwater pollution preventative maintenance practices being utilized on site? ☒Yes ☐No ☐N/A

Spill Prevention and Response:
Are there adequate measures in place for spill prevention and control of chemicals and hazardous substances such as pesticides, herbicides, fertilizers, fuels, lubricants, and other petroleum distillates? ☒Yes ☐No ☐N/A

Erosion Prevention and Sediment Control Site Conditions:
Is the site stabilized, structures functional, and no evidence of pollutants leaving site? ☒Yes ☐No ☐N/A

Management of Runoff:
Does management of stormwater runoff appear to be appropriate? ☒Yes ☐No ☐N/A

Control Measure Maintenance:
Do stormwater controls measures appear to be adequately maintained? ☒Yes ☐No ☐N/A

Comments: College Grove Convenience Center has room for housekeeping improvements, but is still currently in compliance

Inspector: Nicholas Parks

FID 2

STREAM SURVEY INFORMATION

DWR Station ID: VSA 63	**Samplers:** NP/MF		
Monitoring Location Name: FID2 -	**Date:** 8/1/23	**Time:** 10:30	
Monitoring Location: Harpeth @ Cotton	**Organization:** WC	Drainage Area:	
County: Williamson	Ecoregion:	u/s ECO:	
Latitude: 35.968024	HUC:	WS Grp:	
Longitude: -86.900615	WBID:	Field Log #:	

Project Name: ☐ **Watershed** ☐ **303(d)** ☐ **Antideg** ☐ **ECO** ☐ **FECO** **Other:**

Project ID: TNPR

Activity Type: ☐ Sample ☐ QC Sample ☐ Habitat ☐ QC habitat ☐ QC ID

Sample Status: ☒Collected ☐Seasonally Dry ☐Frequently Dry ☐No Channel
☐Too Deep (Not Wadeable) ☐Too Deep (Temporary) ☐Permanent Barrier ☐Fenced
☐Landowner Denial: ☐Temporary Barrier ☐Posted Plan to revisit? ☐Yes ☐No

Flow Conditions: ☐Dry ☐Isolated Pools ☐Stagnant ☒Low ☐Moderate ☐High ☐Bankful ☐Flooding

Sample	Collected?	Comment	Sample	Collected?	Comment
Biorecon			Periphyton		
SQKICK			Other		
SQBANK			Describe Other Sample:		

Chemicals/Bacteria: ☐None ☐Routine ☐Nutrient ☐Metals ☐*E. coli* ☐Organics ☐Other_____

Field Parameters: Meter(s) Used: YSI Multimeter

pH (su)	7.83	7.85	Dissolved Oxygen %	71.0	76.4
Conductivity (umhos) us/cm	481.0	486.1	Turbidity (NTU)	7.80	7.02
Temperature (C°) F	76.0 F	76.0 F	TDS (mg/L) ORP	170.4	165.2
Dissolved Oxygen (ppm = mg/L)	6.47	6.46	Flow (cfs)	1.2	1.2

Meter Problems?_____

Photos Taken? ☐ No ☒Yes: Description: VSA63

Previous 48 hours precipitation: ☐Unknown ☒None ☐Slight ☐Moderate ☐Heavy ☐Flooding

Air Temperature (°F) 82

Physical Characteristics & Light Penetration:

Gradient (sample reach): ☐Flat ☒Low ☐Moderate ☐High ☐Cascades

Average Stream Width: ☐Very Small (<1.5yd) ☐Small (1.5-3yd) ☐Med. (3-10yd) ☒Large (10-25yd) ☐Very Large (>25yd)

Maximum Stream Depth: ☐Shallow (<0.3yd) ☒Medium (0.3-0.6yd) ☐Deep (0.6 – 1yd) ☐Very Deep(>1yd)

% Canopy Cover Estimated for Reach: ____%

% Canopy Cover Measured (mid-reach): 0 u/s + 25 d/s + 40 LDB + 30 RDB = Total/384*100 ___

Channel Characteristics:

Bank Height: 4 (yd.) High Water Mark: 5 (yd.)

Bank Slope LDB: ☐Deeply incised ☐Bluff/Wall ☐Undercut ☐Sloughing ☒Steep terrain ☐Gentle Slope

Bank Slope RDB: ☐Deeply incised ☒Bluff/Wall ☐Undercut ☐Sloughing ☐Steep terrain ☐Gentle Slope

Manmade Modification: ☐None ☐Rip-Rap ☐Cement ☐Gabions ☐Channelized ☐Dam ☐Dredging ☒Bridge ☐ATV

Stream Characteristics:

Sediment Deposits: ☐None ☒Slight ☐Moderate ☐Excessive ☐Blanket

Sediment Type: ☐None ☐Sand ☒Silt ☐Mud ☐Clay ☐Sludge ☐Mn Precipitant ☐Orange Flocculent

Turbidity: ☐Clear ☒Slightly Turbid ☐Muddy ☐Milky ☐Tannic ☐Planktonic Algae ☐Dyed

Foam/Surface Sheen: ☒None ☐Nutrient ☐Surfactant ☐Bacteria

Algae: ☐None ☒Slight ☐Moderate ☐High ☐Choking **Type:** ☐Diatoms ☐Green ☐Filamentous ☒Blue-green

TDEC-DWR Stream Survey Field Sheet (Back)

DWR Station ID: Date: Assessors:

Dominate Substrate: (More than 25%) Check all that apply

Riffle	Run	Pool
☐ Boulders (>10")	☒ Boulders (>10")	☒ Boulders (>10")
☐ Cobble (2.5-10")	☒ Cobble (2.5-10")	☒ Cobble (2.5-10")
☐ Gravel (0.1-2.5")	☐ Gravel (0.1-2.5")	☐ Gravel (0.1-2.5")
☐ Bedrock	☐ Bedrock	☐ Bedrock
☐ Sand	☐ Sand	☒ Sand
☐ Silt (not gritty)	☒ Silt (not gritty)	☒ Silt (not gritty)
☐ Clay (Slick)	☐ Clay (Slick)	☐ Clay (Slick)

Surrounding Land Uses (list additional land uses under comments)

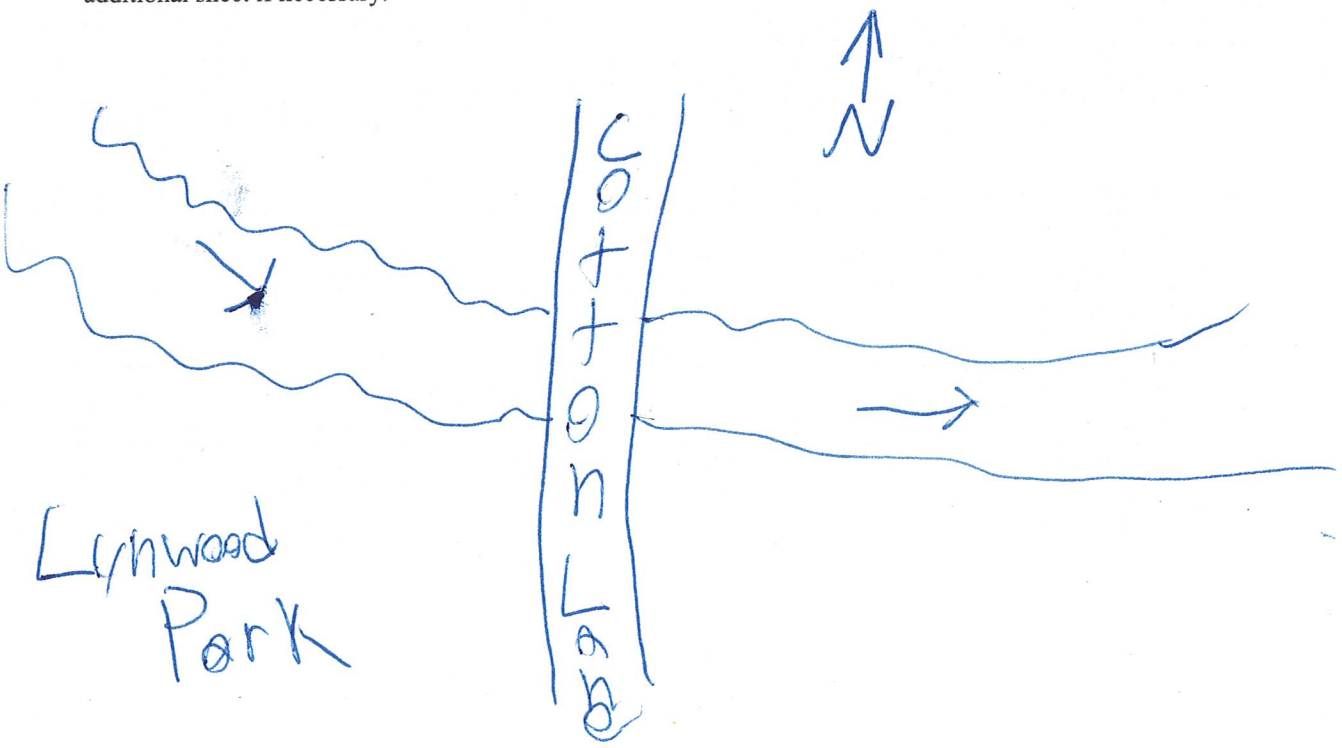
☐ Forest	☐ Grazing	☐ Stormwater	☐ STP/WWTP	☐ Construction
☐ Wetland	☐ Row Crops	☐ Urban	☐ Industry	☐ Impoundment
☒ Park	☐ CAFO/Dairy	☐ Commercial	☐ Mining/Dredging	☐ ATV/OHV
☐ Hay/Fields	☐ Logging	☐ Residential	☒ Road/Hwy/RR	☐ Golf Course

Observed Human Disturbance to Stream: Blank (not observed) S (Slight) M (Moderate) H (High)

Riparian Loss	S	**Logging**		**Industry**		**ATV/OHV**	
Channelization	S	Urban	M	Mining/ Dredging		Golf Course	
Active Grazing		Commercial		Road/Hwy/RR	M	Garbage/Trash	
Row Crops		Residential		Construction		Landfill	
CAFO/Dairy		STP/WWTP		Impoundment		Water Withdrawal	

Other Stream Information and Stressors:

Stream Sketch: (include road name or landmark, flow direction, reach distance, distance from bridge or road, sampling points, tributaries, outfalls, livestock access, riparian, potential impacts, north arrow, immediate land use, buildings, etc.) Use additional sheet if necessary.



FID 2

HABITAT ASSESSMENT FIELD SHEET- MODERATE TO HIGH GRADIENT STREAMS (FRONT)
(See Protocol E for detailed descriptions and rank information)

DWR Station ID: VSA 63		**Habitat Assessment By:** NP/MS	
Monitoring Location Name: Haworth @ Cotton Lane		**Date:** 8/1/23	**Time:** 10:30
Monitoring Location: Lynnwood Parks		**Field Log Number:**	
HUC:	WS Group:	Ecoregion:	QC: ☐ Duplicate ☐ Consensus

	Optimal	**Suboptimal**	**Marginal**	**Poor**
1. Epifaunal Substrate/ Available Cover	Over 70% of stream reach has natural stable habitat suitable for colonization by fish and/or macroinvertebrates. Four or more productive habitats are present.	Natural stable habitat covers 40-70% of stream reach. Three or more productive habitats present. (If near 70% and more than 3 go to optimal.)	Natural stable habitat covers 20 -40% of stream reach or only 1-2 productive habitats present. (If near 40% and more than 2 go to suboptimal.)	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE	20 19 18 17 16	15 (14) 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				
2.Embeddedness of Riffles	Gravel, cobble, and boulders 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space. If near 25% drop to suboptimal if riffle not layered cobble.	Gravel, cobble and boulders 25-50% surrounded by fine sediment. Niches in bottom layers of cobble compromised. If near 50% & riffles not layered cobble drop to marginal.	Gravel, cobble, and boulder s are 50-75% surrounded by fine sediment. Niche space in middle layers of cobble is starting to fill with fine sediment.	Gravel, cobble, and boulders are more than 75% surrounded by fine sediment. Niche space is reduced to a single layer or is absent.
SCORE	20 19 18 17 16	(15) 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				
3. Velocity/ Depth Regime	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow).	Only 3 of the 4 regimes present (if fast-shallow is missing score lower). If slow-deep missing score 15.	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/depth regime. Others regimes too small or infrequent to support aquatic populations.
SCORE	20 19 18 17 16	15 14 13 12 (11)	10 9 8 7 6	5 4 3 2 1
Comments				
4. Sediment Deposition	Sediment deposition affects less than 5% of stream bottom in quiet areas. New deposition on islands and point bars is absent or minimal.	Sediment deposition affects 5-30% of stream bottom. Slight deposition in pool or slow areas. Some new deposition on islands and point bars. Move to marginal if build-up approaches 30%.	Sediment deposition affects 30-50% of stream bottom. Sediment deposits at obstruction, constrictions and bends. Moderate pool deposition.	Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE	20 19 18 17 16	15 14 13 12 11	(10) 9 8 7 6	5 4 3 2 1
Comments				
5. Channel Flow Status. .	Water reaches base of both lower banks and streambed is covered by water throughout reach. Minimal productive habitat is exposed.	Water covers > 75% of streambed or 25% of productive habitat is exposed.	Water covers 25-75% of streambed and/or productive habitat is mostly exposed.	Very little water in channel and mostly present as standing pools. Little or no productive habitat due to lack of water.
SCORE	20 19 18 (17) 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				

HABITAT ASSESSMENT FIELD SHEET- MODERATE TO HIGH GRADIENT STREAMS (BACK)

DWR Station ID_____ Date_____ Assessors_____

	Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization, dredging rock removal or 4-wheel activity (past or present) absent or minimal; natural meander pattern. NO artificial structures in reach. Upstream or downstream structures do not affect reach.	Channelization, dredging or 4-wheel activity up to 40%. Channel has stabilized. If larger reach, channelization is historic and stable. Artificial structures in or out of reach do not affect natural flow patterns.	Channelization, dredging or 4-wheel activity 40-80% (or less that has not stabilized.) Artificial structures in or out of reach may have slight affect.	Over 80% of reach channelized, dredged or affected by 4-wheelers. Instream habitat greatly altered or removed. Artificial structures have greatly affected flow pattern.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				
7. Frequency of re-oxygenation zones. Use frequency of riffle or bends for category. Rank by quality.	Occurrence of re-oxygenation zones relatively frequent; ratio of distance between areas divided by average stream width <7:1.	Occurrence of re-oxygenation zones infrequent; distance between areas divided by average stream width is 7 - 15.	Occasional re-oxygenation area. The distance between areas divided by average stream width is over 15 and up to 25.	Generally all flat water or flat bedrock; little opportunity for re-oxygenation. Distance between areas divided by average stream width >25.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				
8. Bank Stability (score each bank) Determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion. If approaching 30% score marginal if banks steep.	Moderately unstable; 30-60 % of bank in reach has areas of erosion; high erosion potential during floods, If approaching 60% score poor if banks steep.	Unstable; many eroded area; raw areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
Comments				
9. Vegetative Protective (score each bank) includes vegetation from top of bank to base of bank. Determine left or right side by facing downstream	More than 90% of the bank covered by undisturbed vegetation. All 4 classes (mature trees, understory trees, shrubs, groundcover) are represented and allowed to grow naturally. All plants are native.	70-90% of the bank covered by undisturbed vegetation. One class may not be well represented. Disruption evident but not effecting full plant growth. Non-natives are rare (< 30%)	50-70% of the bank covered by undisturbed vegetation. Two classes of vegetation may not be well represented. Non-native vegetation may be common (30-50%).	Less than 50% of the bank covered by undisturbed vegetation or more than 2 classes are not well represented or most vegetation has been cropped. Non-native vegetation may dominate (> 50%)
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
Comments				
10. Riparian Vegetative Zone Width (score each bank.) Zone begins at top of bank.	Average width of riparian zone > 18 meters. Unpaved footpaths may score 9 if run-off potential is negligible.	Average width of riparian zone 12-18 meters. Score high if areas < 18 meters are small or are minimally disturbed.	Average width of riparian zone 6-11 meters. Score high if areas less than 12 meters are small or are minimally disturbed.	Average width of riparian zone <6 meters. Score high if areas less than 6 meters are small or are minimally disturbed.
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
Comments				

Total Score _____ Comparison to Ecoregion Guidelines (circle): ABOVE or BELOW
If score is below guidelines , result of (circle): Natural Conditions or Human Disturbance
Describe:

TN Department of Environment & Conservation

FID 4

DWR-WPP-01-QSSOP-Macroinvert-082918
Division of Water Resources
QSSOP for Macroinvertebrate Stream Surveys
Revision 7
Effective Date: December 28, 2021

STREAM SURVEY INFORMATION (see protocol E for detailed information and BSERT for Completing E-Form)

DWR Station ID:	**Samplers:** MF/NP	
Monitoring Location Name: Spencer Creek	**Date:** 8-1-23 **Time:** 11:15	
Monitoring Location: @ S Berrys Chapel	**Organization:** WC	Drainage Area:
County: Williamson	Ecoregion:	u/s ECO:
Latitude: 35.999584	HUC:	WS Grp:
Longitude: -86.839058	WBID:	Field Log #:

Project Name: ☐ Watershed ☐ 303(d) ☐ Antideg ☐ ECO ☐ FECO Other:

Project ID: TNPR

Activity Type: ☐ Sample ☐ QC Sample ☐ Habitat ☐ QC habitat ☐ QC ID

Sample Status: ☐Collected ☒Seasonally Dry ☐Frequently Dry ☐No Channel
☐Too Deep (Not Wadeable) ☐Too Deep (Temporary) ☐Permanent Barrier ☐Fenced
☐Landowner Denial: ☐Temporary Barrier ☐Posted Plan to revisit? ☐Yes ☐No

Flow Conditions: ☒Dry ☐Isolated Pools ☐Stagnant ☐Low ☐Moderate ☐High ☐Bankful ☐Flooding

Chemicals/Bacteria: ☐None ☐Routine ☐Nutrient ☐Metals ☐*E. coli* ☐Organics ☐Other_____

Field Parameters: Meter(s) Used:

pH (su)			Dissolved Oxygen %		
Conductivity (umhos)			Turbidity (NTU)		
Temperature (C°)			TDS (mg/L)		
Dissolved Oxygen (ppm = mg/L)			Flow (cfs)		

Meter Problems?_____

Photos Taken? ☐ No ☐Yes: Description: _____

Previous 48 hours precipitation: ☐Unknown ☒None ☐Slight ☐Moderate ☐Heavy ☐Flooding
Air Temperature (°F) 83°

Physical Characteristics & Light Penetration:

Gradient (sample reach): ☐Flat ☐Low ☐Moderate ☐High ☐Cascades

Average Stream Width: ☐Very Small (<1.5yd) ☐Small (1.5-3yd) ☐Med. (3-10yd) ☐Large (10-25yd) ☐Very Large (>25yd)

Maximum Stream Depth: ☐Shallow (<0.3yd) ☐Medium (0.3-0.6yd) ☐Deep (0.6 – 1yd) ☐Very Deep(>1yd)

% Canopy Cover Estimated for Reach: _____%

% Canopy Cover Measured (mid-reach): _____u/s + _____d/s + _____LDB + _____RDB = Total/384*100 ___

Channel Characteristics:

Bank Height: _____ (yd.) High Water Mark: _____(yd.)

Bank Slope LDB: ☐Deeply incised ☐Bluff/Wall ☐Undercut ☐Sloughing ☐Steep terrain ☐Gentle Slope

Bank Slope RDB: ☐Deeply incised ☐Bluff/Wall ☐Undercut ☐Sloughing ☐Steep terrain ☐Gentle Slope

Manmade Modification: ☐None ☐Rip-Rap ☐Cement ☐Gabions ☐Channelized ☐Dam ☐Dredging ☐Bridge ☐ATV

Stream Characteristics:

Sediment Deposits: ☐None ☐Slight ☐Moderate ☐Excessive ☐Blanket

Sediment Type: ☐None ☐Sand ☐Silt ☐Mud ☐Clay ☐Sludge ☐Mn Precipitant ☐Orange Flocculent

Turbidity: ☐Clear ☐Slightly Turbid ☐Muddy ☐Milky ☐Tannic ☐Planktonic Algae ☐Dyed

Foam/Surface Sheen: ☐None ☐Nutrient ☐Surfactant ☐Bacteria

Algae: ☐None ☐Slight ☐Moderate ☐High ☐Choking **Type**: ☐Diatoms ☐Green ☐Filamentous ☐Blue-green

TDEC-DWR Stream Survey Field Sheet (Back)

DWR Station ID: Date: Assessors:

Dominate Substrate: (More than 25%) Select up to 4

Riffle	Run	Pool
☐ Boulders (>10")	☐ Boulders (>10")	☐ Boulders (>10")
☐ Cobble (2.5-10")	☐ Cobble (2.5-10")	☐ Cobble (2.5-10")
☐ Gravel (0.1-2.5")	☐ Gravel (0.1-2.5")	☐ Gravel (0.1-2.5")
☐ Bedrock	☐ Bedrock	☐ Bedrock
☐ Sand	☐ Sand	☐ Sand
☐ Silt (not gritty)	☐ Silt (not gritty)	☐ Silt (not gritty)
☐ Clay (Slick)	☐ Clay (Slick)	☐ Clay (Slick)

Surrounding Land Uses (list additional land uses under comments)

☐ Forest	☐ Grazing	☐ Stormwater	☐ STP/WWTP	☐ Construction
☐ Wetland	☐ Row Crops	☐ Urban	☐ Industry	☐ Impoundment
☐ Park	☐ CAFO/Dairy	☐ Commercial	☐ Mining/Dredging	☐ ATV/OHV
☐ Hay/Fields	☐ Logging	☐ Residential	☐ Road/Hwy/RR	☐ Golf Course

Observed Human Disturbance to Stream: Blank (not observed) S (Slight) M (Moderate) H (High)

Riparian Loss		**Logging**		**Industry**		**ATV/OHV**	
Channelization		Urban		Mining/ Dredging		Golf Course	
Active Grazing		Commercial		Road/Hwy/RR		Garbage/Trash	
Row Crops		Residential		Construction		Landfill	
CAFO/Dairy		STP/WWTP		Impoundment		Water Withdrawal	

Other Stream Information and Stressors:

Stream Sketch: (include road name or landmark, flow direction, reach distance, distance from bridge or road, sampling points, tributaries, outfalls, livestock access, riparian, potential impacts, north arrow, immediate land use, buildings, etc.) Use additional sheet if necessary.

TN Department of Environment & Conservation

FID 5

DWR-WPP-01-QSSOP-Macroinvert-082918
Division of Water Resources
QSSOP for Macroinvertebrate Stream Surveys
Revision 7
Effective Date: December 28, 2021

STREAM SURVEY INFORMATION (see protocol E for detailed information and BSERT for Completing E-Form)

DWR Station ID:	**Samplers:** NP/MF	
Monitoring Location Name: Spencer Creek	**Date:** 8-1-23 **Time:** 11:26	
Monitoring Location: @ Holly Tree Gap	**Organization:** WC	Drainage Area:
County: Williamson	Ecoregion:	u/s ECO:
Latitude: 35.999209	HUC:	WS Grp:
Longitude: -86.839659	WBID:	Field Log #:

Project Name: ☐ Watershed ☐ 303(d) ☐ Antideg ☐ ECO ☐ FECO Other:

Project ID: TNPR

Activity Type: ☐ Sample ☐ QC Sample ☐ Habitat ☐ QC habitat ☐ QC ID

Sample Status: ☐Collected ☑Seasonally Dry ☐Frequently Dry ☐No Channel
☐Too Deep (Not Wadeable) ☐Too Deep (Temporary) ☐Permanent Barrier ☐Fenced
☐Landowner Denial: ☐Temporary Barrier ☐Posted Plan to revisit? ☐Yes ☐No

Flow Conditions: ☒Dry ☐Isolated Pools ☐Stagnant ☐Low ☐Moderate ☐High ☐Bankful ☐Flooding

Chemicals/Bacteria: ☐None ☐Routine ☐Nutrient ☐Metals ☐*E. coli* ☐Organics ☐Other_____

Field Parameters: Meter(s) Used:

pH (su)			Dissolved Oxygen %		
Conductivity (umhos)			Turbidity (NTU)		
Temperature (C°)			TDS (mg/L)		
Dissolved Oxygen (ppm = mg/L)			Flow (cfs)		

Meter Problems?_____

Photos Taken? ☐ No ☐Yes: Description: _____

Previous 48 hours precipitation: ☐Unknown ☒None ☐Slight ☐Moderate ☐Heavy ☐Flooding
Air Temperature (°F) 84°

Physical Characteristics & Light Penetration:

Gradient (sample reach): ☐Flat ☐Low ☐Moderate ☐High ☐Cascades

Average Stream Width: ☐Very Small (<1.5yd) ☐Small (1.5-3yd) ☐Med. (3-10yd) ☐Large (10-25yd) ☐Very Large (>25yd)

Maximum Stream Depth: ☐Shallow (<0.3yd) ☐Medium (0.3-0.6yd) ☐Deep (0.6 – 1yd) ☐Very Deep(>1yd)

% Canopy Cover Estimated for Reach: _____%

% Canopy Cover Measured (mid-reach): _____u/s + _____d/s + _____LDB + _____RDB = Total/384*100 ___

Channel Characteristics:

Bank Height: _____ (yd.) High Water Mark: _____(yd.)

Bank Slope LDB: ☐Deeply incised ☐Bluff/Wall ☐Undercut ☐Sloughing ☐Steep terrain ☐Gentle Slope

Bank Slope RDB: ☐Deeply incised ☐Bluff/Wall ☐Undercut ☐Sloughing ☐Steep terrain ☐Gentle Slope

Manmade Modification: ☐None ☐Rip-Rap ☐Cement ☐Gabions ☐Channelized ☐Dam ☐Dredging ☐Bridge ☐ATV

Stream Characteristics:

Sediment Deposits: ☐None ☐Slight ☐Moderate ☐Excessive ☐Blanket

Sediment Type: ☐None ☐Sand ☐Silt ☐Mud ☐Clay ☐Sludge ☐Mn Precipitant ☐Orange Flocculent

Turbidity: ☐Clear ☐Slightly Turbid ☐Muddy ☐Milky ☐Tannic ☐Planktonic Algae ☐Dyed

Foam/Surface Sheen: ☐None ☐Nutrient ☐Surfactant ☐Bacteria

Algae: ☐None ☐Slight ☐Moderate ☐High ☐Choking **Type**: ☐Diatoms ☐Green ☐Filamentous ☐Blue-green

TDEC-DWR Stream Survey Field Sheet (Back)

DWR Station ID: Date: Assessors:

Dominate Substrate: (More than 25%) Select up to 4

Riffle	Run	Pool
☐ Boulders (>10")	☐ Boulders (>10")	☐ Boulders (>10")
☐ Cobble (2.5-10")	☐ Cobble (2.5-10")	☐ Cobble (2.5-10")
☐ Gravel (0.1-2.5")	☐ Gravel (0.1-2.5")	☐ Gravel (0.1-2.5")
☐ Bedrock	☐ Bedrock	☐ Bedrock
☐ Sand	☐ Sand	☐ Sand
☐ Silt (not gritty)	☐ Silt (not gritty)	☐ Silt (not gritty)
☐ Clay (Slick)	☐ Clay (Slick)	☐ Clay (Slick)

Surrounding Land Uses (list additional land uses under comments)

☐ Forest	☐ Grazing	☐ Stormwater	☐ STP/WWTP	☐ Construction
☐ Wetland	☐ Row Crops	☐ Urban	☐ Industry	☐ Impoundment
☐ Park	☐ CAFO/Dairy	☐ Commercial	☐ Mining/Dredging	☐ ATV/OHV
☐ Hay/Fields	☐ Logging	☐ Residential	☐ Road/Hwy/RR	☐ Golf Course

Observed Human Disturbance to Stream: Blank (not observed) S (Slight) M (Moderate) H (High)

Riparian Loss		**Logging**		**Industry**		**ATV/OHV**	
Channelization		Urban		Mining/ Dredging		Golf Course	
Active Grazing		Commercial		Road/Hwy/RR		Garbage/Trash	
Row Crops		Residential		Construction		Landfill	
CAFO/Dairy		STP/WWTP		Impoundment		Water Withdrawal	

Other Stream Information and Stressors:

Stream Sketch: (include road name or landmark, flow direction, reach distance, distance from bridge or road, sampling points, tributaries, outfalls, livestock access, riparian, potential impacts, north arrow, immediate land use, buildings, etc.) Use additional sheet if necessary.

TN Department of Environment & Conservation

FID 6

DWR-WPP-01-QSSOP-Macroinvert-082918
Division of Water Resources
QSSOP for Macroinvertebrate Stream Surveys
Revision 7
Effective Date: December 28, 2021

STREAM SURVEY INFORMATION (see protocol E for detailed information and BSERT for Completing E-Form)

DWR Station ID:	**Samplers:** MF / NP	
Monitoring Location Name: ~~Harpe~~ Mill Creek	**Date:** 8-1-23 **Time:** 12:30	
Monitoring Location: @ Rocky Fork Rd	**Organization:** WC	Drainage Area:
County: Williamson	Ecoregion:	u/s ECO:
Latitude: 35.943230	HUC:	WS Grp:
Longitude: - 86.621370	WBID:	Field Log #:

Project Name: ☐ Watershed ☐ 303(d) ☐ Antideg ☐ ECO ☐ FECO **Other:**

Project ID: TNPR

Activity Type: ☐ Sample ☐ QC Sample ☐ Habitat ☐ QC habitat ☐ QC ID

Sample Status: ☐Collected ☒Seasonally Dry ☐Frequently Dry ☐No Channel
☐Too Deep (Not Wadeable) ☐Too Deep (Temporary) ☐Permanent Barrier ☐Fenced
☐Landowner Denial: ☐Temporary Barrier ☐Posted Plan to revisit? ☐Yes ☐No

Flow Conditions: ☒Dry ☐Isolated Pools ☐Stagnant ☐Low ☐Moderate ☐High ☐Bankful ☐Flooding

Chemicals/Bacteria: ☐None ☐Routine ☐Nutrient ☐Metals ☐*E. coli* ☐Organics ☐Other_____

Field Parameters: Meter(s) Used:

pH (su)			Dissolved Oxygen %		
Conductivity (umhos)			Turbidity (NTU)		
Temperature (C°)			TDS (mg/L)		
Dissolved Oxygen (ppm = mg/L)			Flow (cfs)		

Meter Problems?_____

Photos Taken? ☐ No ☐Yes: Description: _____

Previous 48 hours precipitation: ☐Unknown ☒None ☐Slight ☐Moderate ☐Heavy ☐Flooding
Air Temperature (°F) 86°

Physical Characteristics & Light Penetration:

Gradient (sample reach): ☐Flat ☐Low ☐Moderate ☐High ☐Cascades

Average Stream Width: ☐Very Small (<1.5yd) ☐Small (1.5-3yd) ☐Med. (3-10yd) ☐Large (10-25yd) ☐Very Large (>25yd)

Maximum Stream Depth: ☐Shallow (<0.3yd) ☐Medium (0.3-0.6yd) ☐Deep (0.6 – 1yd) ☐Very Deep(>1yd)

% Canopy Cover Estimated for Reach: _____%

% Canopy Cover Measured (mid-reach): _____u/s + _____d/s + _____LDB + _____RDB = Total/384*100 ___

Channel Characteristics:

Bank Height: _____ (yd.) High Water Mark: _____(yd.)

Bank Slope LDB: ☐Deeply incised ☐Bluff/Wall ☐Undercut ☐Sloughing ☐Steep terrain ☐Gentle Slope

Bank Slope RDB: ☐Deeply incised ☐Bluff/Wall ☐Undercut ☐Sloughing ☐Steep terrain ☐Gentle Slope

Manmade Modification: ☐None ☐Rip-Rap ☐Cement ☐Gabions ☐Channelized ☐Dam ☐Dredging ☐Bridge ☐ATV

Stream Characteristics:

Sediment Deposits: ☐None ☐Slight ☐Moderate ☐Excessive ☐Blanket

Sediment Type: ☐None ☐Sand ☐Silt ☐Mud ☐Clay ☐Sludge ☐Mn Precipitant ☐Orange Flocculent

Turbidity: ☐Clear ☐Slightly Turbid ☐Muddy ☐Milky ☐Tannic ☐Planktonic Algae ☐Dyed

Foam/Surface Sheen: ☐None ☐Nutrient ☐Surfactant ☐Bacteria

Algae: ☐None ☐Slight ☐Moderate ☐High ☐Choking **Type:** ☐Diatoms ☐Green ☐Filamentous ☐Blue-green

TDEC-DWR Stream Survey Field Sheet (Back)

DWR Station ID: Date: Assessors:

Dominate Substrate: (More than 25%) Select up to 4

Riffle	Run	Pool
☐ Boulders (>10")	☐ Boulders (>10")	☐ Boulders (>10")
☐ Cobble (2.5-10")	☐ Cobble (2.5-10")	☐ Cobble (2.5-10")
☐ Gravel (0.1-2.5")	☐ Gravel (0.1-2.5")	☐ Gravel (0.1-2.5")
☐ Bedrock	☐ Bedrock	☐ Bedrock
☐ Sand	☐ Sand	☐ Sand
☐ Silt (not gritty)	☐ Silt (not gritty)	☐ Silt (not gritty)
☐ Clay (Slick)	☐ Clay (Slick)	☐ Clay (Slick)

Surrounding Land Uses (list additional land uses under comments)

☐ Forest	☐ Grazing	☐ Stormwater	☐ STP/WWTP	☐ Construction
☐ Wetland	☐ Row Crops	☐ Urban	☐ Industry	☐ Impoundment
☐ Park	☐ CAFO/Dairy	☐ Commercial	☐ Mining/Dredging	☐ ATV/OHV
☐ Hay/Fields	☐ Logging	☐ Residential	☐ Road/Hwy/RR	☐ Golf Course

Observed Human Disturbance to Stream: Blank (not observed) S (Slight) M (Moderate) H (High)

Riparian Loss		**Logging**		**Industry**		**ATV/OHV**	
Channelization		Urban		Mining/ Dredging		Golf Course	
Active Grazing		Commercial		Road/Hwy/RR		Garbage/Trash	
Row Crops		Residential		Construction		Landfill	
CAFO/Dairy		STP/WWTP		Impoundment		Water Withdrawal	

Other Stream Information and Stressors:

Stream Sketch: (include road name or landmark, flow direction, reach distance, distance from bridge or road, sampling points, tributaries, outfalls, livestock access, riparian, potential impacts, north arrow, immediate land use, buildings, etc.) Use additional sheet if necessary.

FID 8

STREAM SURVEY INFORMATION

DWR Station ID: VSA 65	**Samplers:** NP/MF	
Monitoring Location Name: Harpeth at Trinity	**Date:** 8/1/23	**Time:** 1:00 pm
Monitoring Location: Trinity	**Organization:** WC	Drainage Area:
County: Williamson	Ecoregion:	u/s ECO:
Latitude: 35.862196	HUC:	WS Grp:
Longitude: -86.762923	WBID:	Field Log #:

Project Name: ☐ **Watershed** ☐ **303(d)** ☐ **Antideg** ☐ **ECO** ☐ **FECO** **Other:**

Project ID: TNPR

Activity Type: ☐ Sample ☐ QC Sample ☐ Habitat ☐ QC habitat ☐ QC ID

Sample Status: ☒ Collected ☐ Seasonally Dry ☐ Frequently Dry ☐ No Channel
☐ Too Deep (Not Wadeable) ☐ Too Deep (Temporary) ☐ Permanent Barrier ☐ Fenced
☐ Landowner Denial: ☐ Temporary Barrier ☐ Posted Plan to revisit? ☐ Yes ☐ No

Flow Conditions: ☐ Dry ☐ Isolated Pools ☐ Stagnant ☒ Low ☐ Moderate ☐ High ☐ Bankful ☐ Flooding

Sample	Collected?	Comment	Sample	Collected?	Comment
Biorecon			Periphyton		
SQKICK			Other		
SQBANK			Describe Other Sample:		

Chemicals/Bacteria: ☐ None ☐ Routine ☐ Nutrient ☐ Metals ☐ *E. coli* ☐ Organics ☐ Other_____

Field Parameters: Meter(s) Used: YSI Multimeter

pH (su)	8.26	8.16	Dissolved Oxygen %	104.8	106.8
Conductivity (umhos) us/cm	377.0	383.8	Turbidity (NTU)	7.45	8.51
Temperature (C°) F	79.0	79.0	TDS (mg/L) ORP	121.3	128.0
Dissolved Oxygen (ppm = mg/L)	8.48	8.64	Flow (cfs)	1.3	1.2

Meter Problems?_____

Photos Taken? ☐ No ☒ Yes: Description: VSA 65

Previous 48 hours precipitation: ☐ Unknown ☒ None ☐ Slight ☐ Moderate ☐ Heavy ☐ Flooding

Air Temperature (°F) 86°

Physical Characteristics & Light Penetration:

Gradient (sample reach): ☐ Flat ☐ Low ☒ Moderate ☐ High ☐ Cascades

Average Stream Width: ☐ Very Small (<1.5yd) ☐ Small (1.5-3yd) ☒ Med. (3-10yd) ☐ Large (10-25yd) ☐ Very Large (>25yd)

Maximum Stream Depth: ☒ Shallow (<0.3yd) ☐ Medium (0.3-0.6yd) ☐ Deep (0.6 – 1yd) ☐ Very Deep(>1yd)

% Canopy Cover Estimated for Reach: _____%

% Canopy Cover Measured (mid-reach): 45 u/s + 25 d/s + 55 LDB + 35 RDB = Total/384*100 ___

Channel Characteristics:

Bank Height: 6 (yd.) High Water Mark: 5 (yd.)

Bank Slope LDB: ☐ Deeply incised ☐ Bluff/Wall ☐ Undercut ☐ Sloughing ☐ Steep terrain ☒ Gentle Slope

Bank Slope RDB: ☐ Deeply incised ☒ Bluff/Wall ☐ Undercut ☐ Sloughing ☐ Steep terrain ☒ Gentle Slope

Manmade Modification: ☐ None ☐ Rip-Rap ☐ Cement ☐ Gabions ☐ Channelized ☐ Dam ☐ Dredging ☒ Bridge ☐ ATV

Stream Characteristics:

Sediment Deposits: ☐ None ☐ Slight ☒ Moderate ☐ Excessive ☐ Blanket

Sediment Type: ☐ None ☒ Sand ☒ Silt ☐ Mud ☐ Clay ☐ Sludge ☐ Mn Precipitant ☐ Orange Flocculent

Turbidity: ☐ Clear ☒ Slightly Turbid ☐ Muddy ☐ Milky ☐ Tannic ☐ Planktonic Algae ☐ Dyed

Foam/Surface Sheen: ☒ None ☐ Nutrient ☐ Surfactant ☐ Bacteria

Algae: ☒ None ☐ Slight ☐ Moderate ☐ High ☐ Choking **Type:** ☐ Diatoms ☐ Green ☐ Filamentous ☐ Blue-green

TDEC-DWR Stream Survey Field Sheet (Back)

DWR Station ID: Date: Assessors:

Dominate Substrate: (More than 25%) Check all that apply

Riffle	Run	Pool
☐ Boulders (>10")	☐ Boulders (>10")	☐ Boulders (>10")
☐ Cobble (2.5-10")	☑ Cobble (2.5-10")	☑ Cobble (2.5-10")
☐ Gravel (0.1-2.5")	☑ Gravel (0.1-2.5")	☑ Gravel (0.1-2.5")
☐ Bedrock	☐ Bedrock	☐ Bedrock
☐ Sand	☑ Sand	☑ Sand
☐ Silt (not gritty)	☐ Silt (not gritty)	☑ Silt (not gritty)
☐ Clay (Slick)	☐ Clay (Slick)	☐ Clay (Slick)

Surrounding Land Uses (list additional land uses under comments)

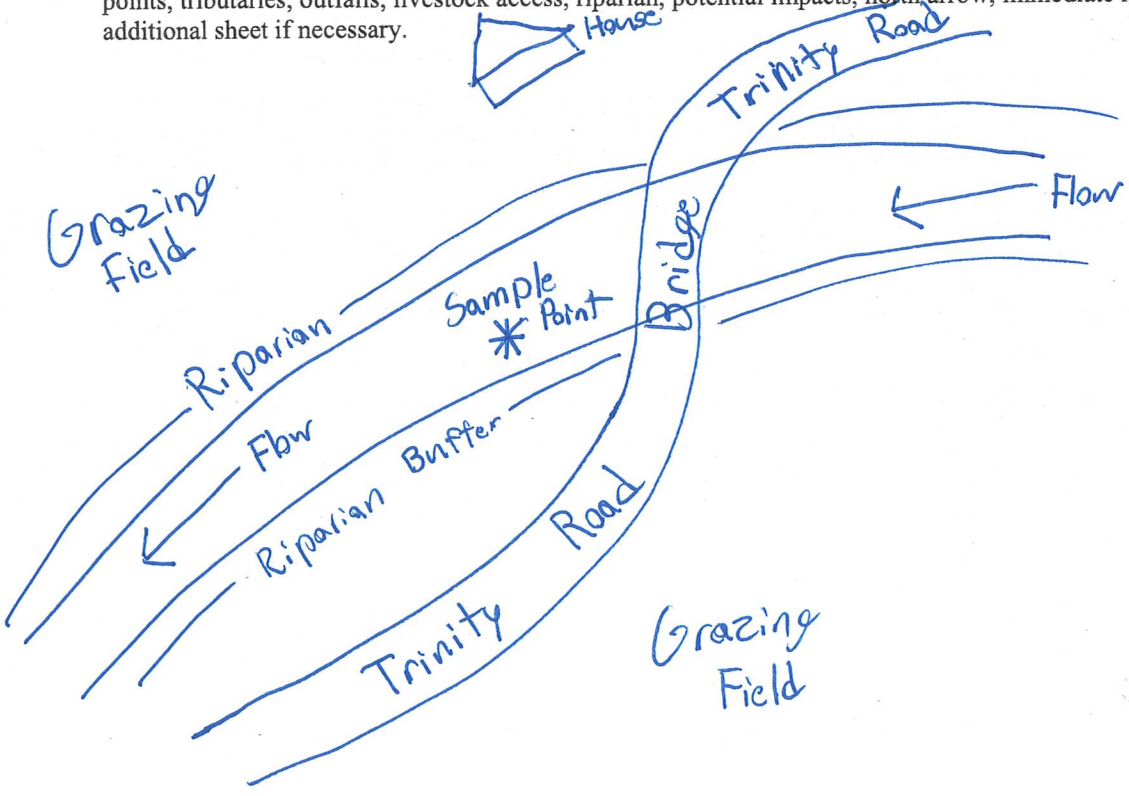
☐ Forest	☐ Grazing	☐ Stormwater	☐ STP/WWTP	☐ Construction
☐ Wetland	☐ Row Crops	☐ Urban	☐ Industry	☐ Impoundment
☑ Park	☐ CAFO/Dairy	☐ Commercial	☐ Mining/Dredging	☐ ATV/OHV
☒ Hay/Fields	☐ Logging	☐ Residential	☒ Road/Hwy/RR	☐ Golf Course

Observed Human Disturbance to Stream: Blank (not observed) S (Slight) M (Moderate) H (High)

Riparian Loss	S	**Logging**		**Industry**		**ATV/OHV**	
Channelization		Urban		Mining/ Dredging		Golf Course	
Active Grazing		Commercial		Road/Hwy/RR		Garbage/Trash	
Row Crops		Residential		Construction		Landfill	
CAFO/Dairy		STP/WWTP		Impoundment		Water Withdrawal	

Other Stream Information and Stressors:

Stream Sketch: (include road name or landmark, flow direction, reach distance, distance from bridge or road, sampling points, tributaries, outfalls, livestock access, riparian, potential impacts, north arrow, immediate land use, buildings, etc.) Use additional sheet if necessary.



FID 8

HABITAT ASSESSMENT FIELD SHEET- MODERATE TO HIGH GRADIENT STREAMS (FRONT)
(See Protocol E for detailed descriptions and rank information)

DWR Station ID:		**Habitat Assessment By:** NP/MF	
Monitoring Location Name: Hayden River		**Date:** 8/1/23	**Time:** 1:00pm
Monitoring Location: @ Trinity RD		**Field Log Number:**	
HUC:	WS Group:	Ecoregion:	QC: ☐ Duplicate ☐ Consensus

	Optimal	**Suboptimal**	**Marginal**	**Poor**
1. Epifaunal Substrate/ Available Cover	Over 70% of stream reach has natural stable habitat suitable for colonization by fish and/or macroinvertebrates. Four or more productive habitats are present.	Natural stable habitat covers 40-70% of stream reach. Three or more productive habitats present. (If near 70% and more than 3 go to optimal.)	Natural stable habitat covers 20 -40% of stream reach or only 1-2 productive habitats present. (If near 40% and more than 2 go to suboptimal.)	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE	20 19 18 17 16	15 14 13 12 (11)	10 9 8 7 6	5 4 3 2 1
Comments				
2.Embeddedness of Riffles	Gravel, cobble, and boulders 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space. If near 25% drop to suboptimal if riffle not layered cobble.	Gravel, cobble and boulders 25-50% surrounded by fine sediment. Niches in bottom layers of cobble compromised. If near 50% & riffles not layered cobble drop to marginal.	Gravel, cobble, and boulder s are 50-75% surrounded by fine sediment. Niche space in middle layers of cobble is starting to fill with fine sediment.	Gravel, cobble, and boulders are more than 75% surrounded by fine sediment. Niche space is reduced to a single layer or is absent.
SCORE	20 19 18 17 16	15 14 13 12 11	(10) 9 8 7 6	5 4 3 2 1
Comments				
3. Velocity/ Depth Regime	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow).	Only 3 of the 4 regimes present (if fast-shallow is missing score lower). If slow-deep missing score 15.	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/depth regime. Others regimes too small or infrequent to support aquatic populations.
SCORE	20 19 18 17 16	15 14 13 12 (11)	10 9 8 7 6	5 4 3 2 1
Comments				
4. Sediment Deposition	Sediment deposition affects less than 5% of stream bottom in quiet areas. New deposition on islands and point bars is absent or minimal.	Sediment deposition affects 5-30% of stream bottom. Slight deposition in pool or slow areas. Some new deposition on islands and point bars. Move to marginal if build-up approaches 30%.	Sediment deposition affects 30-50% of stream bottom. Sediment deposits at obstruction, constrictions and bends. Moderate pool deposition.	Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 (7) 6	5 4 3 2 1
Comments				
5. Channel Flow Status.	Water reaches base of both lower banks and streambed is covered by water throughout reach. Minimal productive habitat is exposed.	Water covers > 75% of streambed or 25% of productive habitat is exposed.	Water covers 25-75% of streambed and/or productive habitat is mostly exposed.	Very little water in channel and mostly present as standing pools. Little or no productive habitat due to lack of water.
SCORE	20 19 18 17 16	(15) 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				

HABITAT ASSESSMENT FIELD SHEET- MODERATE TO HIGH GRADIENT STREAMS (BACK)

DWR Station ID_____ Date_____ Assessors_____

	Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization, dredging rock removal or 4-wheel activity (past or present) absent or minimal; natural meander pattern. NO artificial structures in reach. Upstream or downstream structures do not affect reach.	Channelization, dredging or 4-wheel activity up to 40%. Channel has stabilized. If larger reach, channelization is historic and stable. Artificial structures in or out of reach do not affect natural flow patterns.	Channelization, dredging or 4-wheel activity 40-80% (or less that has not stabilized.) Artificial structures in or out of reach may have slight affect.	Over 80% of reach channelized, dredged or affected by 4-wheelers. Instream habitat greatly altered or removed. Artificial structures have greatly affected flow pattern.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				
7. Frequency of re-oxygenation zones. Use frequency of riffle or bends for category. Rank by quality.	Occurrence of re-oxygenation zones relatively frequent; ratio of distance between areas divided by average stream width <7:1.	Occurrence of re-oxygenation zones infrequent; distance between areas divided by average stream width is 7 - 15.	Occasional re-oxygenation area. The distance between areas divided by average stream width is over 15 and up to 25.	Generally all flat water or flat bedrock; little opportunity for re-oxygenation. Distance between areas divided by average stream width >25.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				
8. Bank Stability (score each bank) Determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion. If approaching 30% score marginal if banks steep.	Moderately unstable; 30-60 % of bank in reach has areas of erosion; high erosion potential during floods, If approaching 60% score poor if banks steep.	Unstable; many eroded area; raw areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
Comments				
9. Vegetative Protective (score each bank) includes vegetation from top of bank to base of bank. Determine left or right side by facing downstream	More than 90% of the bank covered by undisturbed vegetation. All 4 classes (mature trees, understory trees, shrubs, groundcover) are represented and allowed to grow naturally. All plants are native.	70-90% of the bank covered by undisturbed vegetation. One class may not be well represented. Disruption evident but not effecting full plant growth. Non-natives are rare (< 30%)	50-70% of the bank covered by undisturbed vegetation. Two classes of vegetation may not be well represented. Non-native vegetation may be common (30-50%).	Less than 50% of the bank covered by undisturbed vegetation or more than 2 classes are not well represented or most vegetation has been cropped. Non-native vegetation may dominate (> 50%)
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
Comments				
10. Riparian Vegetative Zone Width (score each bank.) Zone begins at top of bank.	Average width of riparian zone > 18 meters. Unpaved footpaths may score 9 if run-off potential is negligible.	Average width of riparian zone 12-18 meters. Score high if areas < 18 meters are small or are minimally disturbed.	Average width of riparian zone 6-11 meters. Score high if areas less than 12 meters are small or are minimally disturbed.	Average width of riparian zone <6 meters. Score high if areas less than 6 meters are small or are minimally disturbed.
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
Comments				

Total Score _____ Comparison to Ecoregion Guidelines (circle): ABOVE or BELOW
If score is below guidelines , result of (circle): Natural Conditions or Human Disturbance
Describe:

TN Department of Environment & Conservation

FID 7

DWR-WPP-01-QSSOP-Macroinvert-082918
Division of Water Resources
QSSOP for Macroinvertebrate Stream Surveys
Revision 7
Effective Date: December 28, 2021

STREAM SURVEY INFORMATION (see protocol E for detailed information and BSERT for Completing E-Form)

DWR Station ID:	**Samplers:** MF/NP	
Monitoring Location Name: Harpeth River	**Date:** 8-1-23 **Time:** 1:15pm	
Monitoring Location: @ Arno Rd	**Organization:** WC	Drainage Area:
County: Williamson	Ecoregion:	u/s ECO:
Latitude: 35.878216	HUC:	WS Grp:
Longitude: -86.790650	WBID:	Field Log #:

Project Name: ☐ Watershed ☐ 303(d) ☐ Antideg ☐ ECO ☐ FECO **Other:**

Project ID: TNPR

Activity Type: ☐ Sample ☐ QC Sample ☐ Habitat ☐ QC habitat ☐ QC ID

Sample Status: ☐Collected ☐Seasonally Dry ☐Frequently Dry ☐No Channel
☐Too Deep (Not Wadeable) ☐Too Deep (Temporary) ☒Permanent Barrier ☒Fenced
☒Landowner Denial: ☐Temporary Barrier ☒Posted Plan to revisit? ☐Yes ☐No

Flow Conditions: ☐Dry ☐Isolated Pools ☐Stagnant ☐Low ☐Moderate ☐High ☐Bankful ☐Flooding

Chemicals/Bacteria: ☐None ☐Routine ☐Nutrient ☐Metals ☐*E. coli* ☐Organics ☐Other_____

Field Parameters: Meter(s) Used:

pH (su)			Dissolved Oxygen %		
Conductivity (umhos)			Turbidity (NTU)		
Temperature (C°)			TDS (mg/L)		
Dissolved Oxygen (ppm = mg/L)			Flow (cfs)		

Meter Problems?_____

Photos Taken? ☐ No ☐Yes: Description: _____

Previous 48 hours precipitation: ☐Unknown ☒None ☐Slight ☐Moderate ☐Heavy ☐Flooding
Air Temperature (°F) 86°

Physical Characteristics & Light Penetration:

Gradient (sample reach): ☐Flat ☐Low ☐Moderate ☐High ☐Cascades

Average Stream Width: ☐Very Small (<1.5yd) ☐Small (1.5-3yd) ☐Med. (3-10yd) ☐Large (10-25yd) ☐Very Large (>25yd)

Maximum Stream Depth: ☐Shallow (<0.3yd) ☐Medium (0.3-0.6yd) ☐Deep (0.6 – 1yd) ☐Very Deep(>1yd)

% Canopy Cover Estimated for Reach: _____%

% Canopy Cover Measured (mid-reach): _____u/s + _____d/s + _____LDB + _____RDB = Total/384*100 ___

Channel Characteristics:

Bank Height: _____ (yd.) High Water Mark: _____(yd.)

Bank Slope LDB: ☐Deeply incised ☐Bluff/Wall ☐Undercut ☐Sloughing ☐Steep terrain ☐Gentle Slope

Bank Slope RDB: ☐Deeply incised ☐Bluff/Wall ☐Undercut ☐Sloughing ☐Steep terrain ☐Gentle Slope

Manmade Modification: ☐None ☐Rip-Rap ☐Cement ☐Gabions ☐Channelized ☐Dam ☐Dredging ☐Bridge ☐ATV

Stream Characteristics:

Sediment Deposits: ☐None ☐Slight ☐Moderate ☐Excessive ☐Blanket

Sediment Type: ☐None ☐Sand ☐Silt ☐Mud ☐Clay ☐Sludge ☐Mn Precipitant ☐Orange Flocculent

Turbidity: ☐Clear ☐Slightly Turbid ☐Muddy ☐Milky ☐Tannic ☐Planktonic Algae ☐Dyed

Foam/Surface Sheen: ☐None ☐Nutrient ☐Surfactant ☐Bacteria

Algae: ☐None ☐Slight ☐Moderate ☐High ☐Choking **Type:** ☐Diatoms ☐Green ☐Filamentous ☐Blue-green

TDEC-DWR Stream Survey Field Sheet (Back)

DWR Station ID:	Date:	Assessors:

Dominate Substrate: (More than 25%) Select up to 4

Riffle	Run	Pool
☐ Boulders (>10")	☐ Boulders (>10")	☐ Boulders (>10")
☐ Cobble (2.5-10")	☐ Cobble (2.5-10")	☐ Cobble (2.5-10")
☐ Gravel (0.1-2.5")	☐ Gravel (0.1-2.5")	☐ Gravel (0.1-2.5")
☐ Bedrock	☐ Bedrock	☐ Bedrock
☐ Sand	☐ Sand	☐ Sand
☐ Silt (not gritty)	☐ Silt (not gritty)	☐ Silt (not gritty)
☐ Clay (Slick)	☐ Clay (Slick)	☐ Clay (Slick)

Surrounding Land Uses (list additional land uses under comments)

☐ Forest	☐ Grazing	☐ Stormwater	☐ STP/WWTP	☐ Construction
☐ Wetland	☐ Row Crops	☐ Urban	☐ Industry	☐ Impoundment
☐ Park	☐ CAFO/Dairy	☐ Commercial	☐ Mining/Dredging	☐ ATV/OHV
☐ Hay/Fields	☐ Logging	☐ Residential	☐ Road/Hwy/RR	☐ Golf Course

Observed Human Disturbance to Stream: Blank (not observed) S (Slight) M (Moderate) H (High)

Riparian Loss		**Logging**		**Industry**		**ATV/OHV**	
Channelization		Urban		Mining/ Dredging		Golf Course	
Active Grazing		Commercial		Road/Hwy/RR		Garbage/Trash	
Row Crops		Residential		Construction		Landfill	
CAFO/Dairy		STP/WWTP		Impoundment		Water Withdrawal	

Other Stream Information and Stressors: _____

_____

_____

_____

_____

Stream Sketch: (include road name or landmark, flow direction, reach distance, distance from bridge or road, sampling points, tributaries, outfalls, livestock access, riparian, potential impacts, north arrow, immediate land use, buildings, etc.) Use additional sheet if necessary.

TN Department of Environment & Conservation

FID 9

DWR-WPP-01-QSSOP-Macroinvert-082918
Division of Water Resources
QSSOP for Macroinvertebrate Stream Surveys
Revision 7
Effective Date: December 28, 2021

STREAM SURVEY INFORMATION (see protocol E for detailed information and BSERT for Completing E-Form)

DWR Station ID: VSA 64	Samplers: NP/MF	
Monitoring Location Name: Lampkins Bridge	Date: 8/1/23	Time: 12:30pm
Monitoring Location: Harpeth River	Organization: WC	Drainage Area:
County: Williamson	Ecoregion:	u/s ECO:
Latitude: 35.852110	HUC:	WS Grp:
Longitude: -86.734389	WBID:	Field Log #:

Project Name: ☐ Watershed ☐ 303(d) ☐ Antideg ☐ ECO ☐ FECO Other:

Project ID: TNPR

Activity Type: ☐ Sample ☐ QC Sample ☐ Habitat ☐ QC habitat ☐ QC ID

Sample Status: ☒ Collected ☐ Seasonally Dry ☐ Frequently Dry ☐ No Channel ☐ Too Deep (Not Wadeable) ☐ Too Deep (Temporary) ☐ Permanent Barrier ☐ Fenced ☐ Landowner Denial: ☐ Temporary Barrier ☐ Posted Plan to revisit? ☐ Yes ☐ No

Flow Conditions: ☐ Dry ☐ Isolated Pools ☐ Stagnant ☐ Low ☒ Moderate ☐ High ☐ Bankful ☐ Flooding

Chemicals/Bacteria: ☐ None ☐ Routine ☐ Nutrient ☐ Metals ☐ *E. coli* ☐ Organics ☐ Other_____

Field Parameters: Meter(s) Used: YSI Multimeter

pH (su)	8.15	7.83	Dissolved Oxygen %	106.4	106.5
Conductivity (umhos) us/cm	380.5	380.8	Turbidity (NTU)	6.55	6.93
Temperature (C°) F	78.7F	78.7	TDS (mg/L) ORP	118.0	112.0
Dissolved Oxygen (ppm = mg/L)	8.64	8.64	Flow (cfs)	0.5	0.3

Meter Problems?_____

Photos Taken? ☐ No ☒ Yes: Description: VSA64

Previous 48 hours precipitation: ☐ Unknown ☒ None ☐ Slight ☐ Moderate ☐ Heavy ☐ Flooding

Air Temperature (°F) 86°

Physical Characteristics & Light Penetration:

Gradient (sample reach): ☐ Flat ☒ Low ☐ Moderate ☐ High ☐ Cascades

Average Stream Width: ☐ Very Small (<1.5yd) ☐ Small (1.5-3yd) ☒ Med. (3-10yd) ☐ Large (10-25yd) ☐ Very Large (>25yd)

Maximum Stream Depth: ☒ Shallow (<0.3yd) ☐ Medium (0.3-0.6yd) ☐ Deep (0.6 – 1yd) ☐ Very Deep(>1yd)

% Canopy Cover Estimated for Reach: _____%

% Canopy Cover Measured (mid-reach): 5 u/s + 30 d/s + 20 LDB + 20 RDB = Total/384*100 ___

Channel Characteristics:

Bank Height: 8 (yd.) High Water Mark: 8 (yd.)

Bank Slope LDB: ☐ Deeply incised ☐ Bluff/Wall ☐ Undercut ☒ Sloughing ☐ Steep terrain ☐ Gentle Slope

Bank Slope RDB: ☐ Deeply incised ☐ Bluff/Wall ☐ Undercut ☒ Sloughing ☒ Steep terrain ☐ Gentle Slope

Manmade Modification: ☐ None ☐ Rip-Rap ☐ Cement ☐ Gabions ☐ Channelized ☐ Dam ☐ Dredging ☐ Bridge ☐ ATV

Stream Characteristics:

Sediment Deposits: ☐ None ☒ Slight ☐ Moderate ☐ Excessive ☐ Blanket

Sediment Type: ☐ None ☐ Sand ☒ Silt ☐ Mud ☐ Clay ☐ Sludge ☐ Mn Precipitant ☐ Orange Flocculent

Turbidity: ☐ Clear ☒ Slightly Turbid ☐ Muddy ☐ Milky ☐ Tannic ☐ Planktonic Algae ☐ Dyed

Foam/Surface Sheen: ☒ None ☐ Nutrient ☐ Surfactant ☐ Bacteria

Algae: ☒ None ☐ Slight ☐ Moderate ☐ High ☐ Choking **Type:** ☐ Diatoms ☐ Green ☐ Filamentous ☐ Blue-green

TDEC-DWR Stream Survey Field Sheet (Back)

DWR Station ID:	Date:	Assessors:

Dominate Substrate: (More than 25%) Select up to 4

Riffle	Run	Pool
☐ Boulders (>10")	☐ Boulders (>10")	☐ Boulders (>10")
☐ Cobble (2.5-10")	☑ Cobble (2.5-10")	☑ Cobble (2.5-10")
☐ Gravel (0.1-2.5")	☐ Gravel (0.1-2.5")	☐ Gravel (0.1-2.5")
☐ Bedrock	☐ Bedrock	☐ Bedrock
☐ Sand	☑ Sand	☐ Sand
☐ Silt (not gritty)	☑ Silt (not gritty)	☑ Silt (not gritty)
☐ Clay (Slick)	☐ Clay (Slick)	☐ Clay (Slick)

Surrounding Land Uses (list additional land uses under comments)

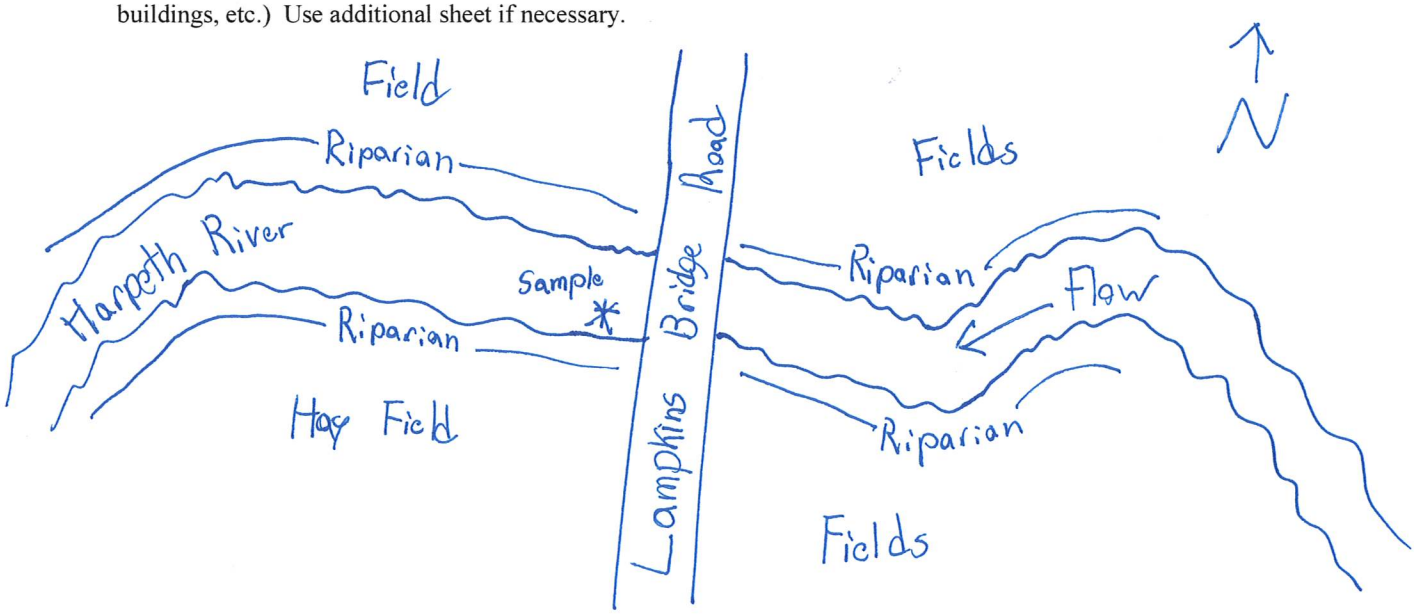
☐ Forest	☐ Grazing	☐ Stormwater	☐ STP/WWTP	☐ Construction
☐ Wetland	☐ Row Crops	☐ Urban	☐ Industry	☐ Impoundment
☐ Park	☐ CAFO/Dairy	☐ Commercial	☐ Mining/Dredging	☐ ATV/OHV
☒ Hay/Fields	☐ Logging	☐ Residential	☒ Road/Hwy/RR	☐ Golf Course

Observed Human Disturbance to Stream: Blank (not observed) S (Slight) M (Moderate) H (High)

Riparian Loss	S	Logging		Industry		ATV/OHV	
Channelization		Urban		Mining/ Dredging		Golf Course	
Active Grazing		Commercial		Road/Hwy/RR	H	Garbage/Trash	
Row Crops		Residential		Construction		Landfill	
CAFO/Dairy		STP/WWTP		Impoundment		Water Withdrawal	

Other Stream Information and Stressors:

Stream Sketch: (include road name or landmark, flow direction, reach distance, distance from bridge or road, sampling points, tributaries, outfalls, livestock access, riparian, potential impacts, north arrow, immediate land use, buildings, etc.) Use additional sheet if necessary.



TN Department of Environment & Conservation

FID 9

HABITAT ASSESSMENT FIELD SHEET- MODERATE TO HIGH GRADIENT STREAMS (FRONT)

See Protocol E for detailed descriptions and rank information). See BSERT for instructions on completing e-form)

DWR Station ID:		**Habitat Assessment By:** MF/MP	
Monitoring Location Name: Harpeth River		**Date:** 8/1/23	**Time:** 12:30p
Monitoring Location: Lampkins Bridge		**Field Log Number:**	
HUC:	WS Group:	Ecoregion:	QC: ☐ Duplicate ☐ Consensus

	Optimal	**Suboptimal**	**Marginal**	**Poor**
1. Epifaunal Substrate/ Available Cover	Over 70% of stream reach has natural stable habitat suitable for colonization by fish and/or macroinvertebrates. Four or more productive habitats are present.	Natural stable habitat covers 40-70% of stream reach. Three or more productive habitats present. (If near 70% and more than 3 go to optimal.)	Natural stable habitat covers 20 -40% of stream reach or only 1-2 productive habitats present. (If near 40% and more than 2 go to suboptimal.)	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				
2.Embeddedness of Riffles	Gravel, cobble, and boulders 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space. If near 25% drop to suboptimal if riffle not layered cobble.	Gravel, cobble and boulders 25-50% surrounded by fine sediment. Niches in bottom layers of cobble compromised. If near 50% & riffles not layered cobble drop to marginal.	Gravel, cobble, and boulder s are 50-75% surrounded by fine sediment. Niche space in middle layers of cobble is starting to fill with fine sediment.	Gravel, cobble, and boulders are more than 75% surrounded by fine sediment. Niche space is reduced to a single layer or is absent.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				
3. Velocity/ Depth Regime	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow).	Only 3 of the 4 regimes present (if fast-shallow is missing score lower). If slow-deep missing score 15.	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).	Dominated by 1 velocity/depth regime. Others regimes too small or infrequent to support aquatic populations.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				
4. Sediment Deposition	Sediment deposition affects less than 5% of stream bottom in quiet areas. New deposition on islands and point bars is absent or minimal.	Sediment deposition affects 5-30% of stream bottom. Slight deposition in pool or slow areas. Some new deposition on islands and point bars. Move to marginal if build-up approaches 30%.	Sediment deposition affects 30-50% of stream bottom. Sediment deposits at obstruction, constrictions and bends. Moderate pool deposition.	Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				
5. Channel Flow Status. .	Water reaches base of both lower banks and streambed is covered by water throughout reach. Minimal productive habitat is exposed.	Water covers > 75% of streambed or 25% of productive habitat is exposed.	Water covers 25-75% of streambed and/or productive habitat is mostly exposed.	Very little water in channel and mostly present as standing pools. Little or no productive habitat due to lack of water.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				

HABITAT ASSESSMENT FIELD SHEET- MODERATE TO HIGH GRADIENT STREAMS (BACK)

DWR Station ID_____ Date_____ Assessors_____

	Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization, dredging rock removal, 4-wheel or livestock activity (past or present) absent or minimal; natural meander pattern. NO artificial structures in reach. Upstream or downstream structures do not affect reach.	Channelization, dredging 4-wheel or livestock activity up to 40%. Channel has stabilized. If larger reach, channelization is historic and stable. Artificial structures in or out of reach do not affect natural flow patterns.	Channelization, dredging 4-wheel or livestock activity 40-80% (or less that has not stabilized.) Artificial structures in or out of reach may have slight affect.	Over 80% of reach channelized, dredged or affected by 4-wheelers or livestock. Instream habitat greatly altered or removed. Artificial structures have greatly affected flow pattern.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				
7. Frequency of re-oxygenation zones. Use frequency of riffle or bends for category. Rank by quality.	Occurrence of re-oxygenation zones relatively frequent; ratio of distance between areas divided by average stream width <7:1.	Occurrence of re-oxygenation zones infrequent; distance between areas divided by average stream width is 7 - 15.	Occasional re-oxygenation area. The distance between areas divided by average stream width is over 15 and up to 25.	Generally all flat water or flat bedrock; little opportunity for re-oxygenation. Distance between areas divided by average stream width >25.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Comments				
8. Bank Stability (score each bank) Determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion. If approaching 30% score marginal if banks steep.	Moderately unstable; 30-60 % of bank in reach has areas of erosion; high erosion potential during floods, If approaching 60% score poor if banks steep.	Unstable; many eroded area; raw areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
Comments				
9. Vegetative Protective (score each bank) includes vegetation from top of bank to base of bank. Determine left or right side by facing downstream	More than 90% of the bank covered by undisturbed vegetation. All 4 classes (mature trees, understory trees, shrubs, groundcover) are represented and allowed to grow naturally. All plants are native.	70-90% of the bank covered by undisturbed vegetation. One class may not be well represented. Disruption evident but not effecting full plant growth. Non-natives are rare (< 30%)	50-70% of the bank covered by undisturbed vegetation. Two classes of vegetation may not be well represented. Non-native vegetation may be common (30-50%).	Less than 50% of the bank covered by undisturbed vegetation or more than 2 classes are not well represented or most vegetation has been cropped. Non-native vegetation may dominate (> 50%)
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
Comments				
10. Riparian Vegetative Zone Width (score each bank.) Zone begins at top of bank.	Average width of riparian zone > 18 meters. Unpaved footpaths may score 9 if run-off potential is negligible.	Average width of riparian zone 12-18 meters. Score high if areas < 18 meters are small or are minimally disturbed.	Average width of riparian zone 6-11 meters. Score high if areas less than 12 meters are small or are minimally disturbed.	Average width of riparian zone <6 meters. Score high if areas less than 6 meters are small or are minimally disturbed.
SCORE (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
Comments				

Total Score _____ Comparison to Ecoregion Guidelines (circle): ABOVE or BELOW
If score is below guidelines , result of (circle): Natural Conditions or Human Disturbance
Describe:

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September 27, 2024

VIA ELECTRONIC FILING

Tennessee Dept. of Environment and Conservation
Division of Water Resources
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

Re: Legal Authority for Williamson County – TNS075795

To Whom it May Concern:

As counsel for the Williamson County Engineering and Storm Water Departments, the following statement is submitted pursuant to the requirements contained in the MS4 General Permit TNS000000 regarding legal authority for the Williamson County to implement the Williamson County MS4 Stormwater Management Program (SWMP).

Williamson County has adequate authority to carry out the program described in MS4 General Permit TNS000000.

The following generally references the legal authority for the requirements of MS4 General Permit TNS000000 subpart 4.7; and which are correlated with the sections of the *Williamson County Storm Water Management Regulations* (hereafter "Regulations") as the legal basis providing the required authority. Where the authority is not apparent from a reading of the Regulations an explanation is provided.

a. Sections 2, 8 and 9 of the Regulations prohibit non-stormwater discharges into the storm sewer system and authorizes appropriate enforcement procedures and actions.

b. Sections 6, 8 and 9 of the Regulations require erosion and sediment controls and provides for penalties to ensure compliance.

c. Sections 5 and 7 of the Regulations address post-construction/permanent stormwater runoff from new development and redevelopment projects. New

development or redevelopment projects may not discharge to the MS4 system without a Land Disturbance Permit which may contain various terms, conditions, and prohibitions as found in Section 6 of the Storm Water Management Regulations.

d. Williamson County may obtain remedies for noncompliance, seek injunctive relief, seek or assess penalties and enact the enforcement response plan as required in subpart 4.5 of permit TNS000000. Williamson County may seek injunctive relief for noncompliance if any such noncompliance might result in irreparable harm to the MS4 system, to the health and safety of workers, or to the environment; and because damages at law would not be an adequate remedy. A civil penalty is authorized by Section 9 of the Regulations. The civil penalty may equal a sum not to exceed $5,000 per day per violation. Injunctive relief is authorized by Section 9 of the Regulations.

e. Sections 2-9 of the Regulations require compliance with conditions in the Regulations, permits, contract, orders, or other requirements.

f. Williamson County may conduct inspection and monitoring activities and shall have the authority to enter the premises of any discharger in which a discharge source or permanent stormwater control measure is located or in which records are required to be kept to assure compliance with Stormwater Management Program requirements under authority granted in Regulations Sections 1, 5 and 7.

As stated above, Williamson County has sufficient authority to implement the requirements of its Stormwater Management Program to minimize the discharge of pollutants to the maximum extent practicable and to individual MS4 users through use of a Land Disturbance Permit, and by direct enforcement of its Regulations. A description of the exact procedures to be used in implementing the Stormwater Management Program is outlined in the Regulations.

Sincerely,

Kristi D. Ransom
Attorney for Planning and Environment
Williamson County

Williamson County, Tennessee

Storm Water Management Regulations

Originally Adopted by Resolution of the

Williamson County Board of Commissioners on November 8, 2004

Effective January 1, 2005

1st Revision Adopted by Resolution of the Williamson County Board of Commissioners on May 12, 2008

2nd Revision Adopted by Resolution of the Williamson County Board of Commissioners on February 13, 2012

3rd Revision Adopted by Resolution of the Williamson County Board of Commissioners on September 11, 2023

Williamson County, Tennessee
Storm Water Management Regulations

Table of Contents

Section 1: General

1.1 Title

These Regulations shall be known, cited and referred to as the "Storm Water Regulations of Williamson County, Tennessee"

1.2 Preamble

The Williamson County Board of Commissioners finds and declares that it is in the best interest of the citizens of Williamson County to regulate the discharge of storm water, alleviate the effects of flooding and facilitate compliance with the Water Quality Act of 1977, the Water Quality Act of 1987 and the Clean Water Act of 1977. In furtherance of same, the Williamson County Board of Commissioners hereby adopts these Regulations governing storm water discharges, storm water management, flood control, erosion prevention, and water quality protection.

1.3 Purpose and Authority

A. Protect, maintain, and enhance the environment of Williamson County and the public health, safety and the general welfare of the citizens of the County, by controlling discharges and associated pollutants to the municipal separate storm sewer system (MS4) and to maintain and improve the quality of the receiving waters into which the storm water outfalls flow.

B. Enable Williamson County to comply with the National Pollution Discharge Elimination System permit (NPDES) and applicable regulations, 40 CFR §122.26 for storm water discharges.

C. Allow Williamson County to exercise the powers granted in Tennessee Code Annotated §68-221-1105 or as amended by the State of Tennessee.

D. Williamson County shall have authority to implement and supplement these Regulations by reference to appropriate guidance or other related materials including information presented in the Williamson County Stormwater Management Manual (SWMM). Guidance or other related materials may be modified to meet the objectives and policies of this regulation, so long as such modifications to guidance or other related materials are not contrary or beyond the intent of these Regulations. The guidance or other related materials shall not in any way endorse specific commercially available products. However, they may refer to performance specifications, classes of devices, construction, or management practice.

E. Williamson County shall have right-of-entry upon the property subject to these Regulations and any permit/document issued hereunder. Williamson County shall be provided ready access to all parts of the premises for the purposes of inspection, monitoring, sampling, inventory, records examination and copying, and the performance of any other duties necessary to determine compliance with these Regulations.

F. Where a property, site or facility has security measures in place that require proper identification and clearance before entry into its premises, the owner/operator shall make necessary arrangements with its security personnel so that, upon presentation of suitable identification, Williamson County will be permitted to enter without delay for the purposes of performing specific responsibilities.

G. Williamson County shall have the right to utilize on the owner/operator property such devices as are necessary to conduct sampling and/or metering of the person's storm water operations or discharges.

H. Any temporary or permanent obstruction to safe and easy access to the areas to be inspected and/or monitored shall be removed promptly by the owner/operator at the written or verbal request of Williamson County. The costs of clearing such access shall be borne by the owner/operator. The County reserves the right to determine and impose inspection schedules necessary to enforce the provisions of these Regulations.

1.4 Applicability and Jurisdiction

The Storm Water Regulations shall govern all properties within the unincorporated limits of Williamson County, Tennessee.

1.5 Exemptions

The following activities are exempt from the requirements of these Regulations:

A. Any emergency activity that is immediately necessary for the protection of life, property, or natural resources;
B. Agriculture and associated structures; and
C. Any silviculture activity that is consistent with an approved timber management plan prepared or approved by the State of Tennessee.

1.6 Duty to mitigate

The owner/operator shall take all reasonable steps to minimize or prevent any discharge in violation of these Regulations.

1.7 Duty to provide information

The owner/operator shall furnish to Williamson County any information that is requested to determine compliance with these Regulations or other information.

1.8 Other information

When the owner/operator becomes aware that the owner/operator failed to submit any relevant facts or submitted incorrect information in the Notice of Intent or in any other report to Williamson County, the owner/operator shall promptly submit such facts or information.

1.9 Savings Provision

These regulations shall not be construed as altering, modifying, vacating or nullifying any rights or obligations obtained by any person, firm or corporation through approval of a concept plan, preliminary plat or final plat, whichever first occurs, by the Williamson County Regional Planning Commission or through the approval of any land disturbance permit.

Residential lots platted prior to January 1, 2005 shall be exempt from the Waterway Natural Area requirements of Section 4 of these Regulations where improvements or activities are not subject to plat revision or the "Tennessee General Permit for Stormwater Discharges Associated with Construction Activities."

Section 2: Standards

2.1 Storm Water Quantity

A. New development shall meet a storm water quantity level of service defined by:
   1. Designing road catch basins and connecting culverts to convey the 10-year, 24-hour design storm runoff.
   2. Designing bridges, channels and cross-drains to pass the 25-year, 24-hour design storm runoff. Calculations shall also be provided for the 100-year, 24-hour design storm.

B. Storm water infrastructure shall be designed in the following manner:
   1. Critical service roads shall be designed to have no more than three (3) inches of road overtopping at the 100-year, 24-hour design storm event.
   2. Other new roads shall be designed to have no more than six (6)-inches of road overtopping at the 25-year, 24-hour design storm event.

C. Re-development activities will be required to follow storm water quantity requirements.

2.2 Storm Water Quality

A. Pursuant to the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) program administered by the Tennessee Department of Environment and Conservation (TDEC), illicit discharges to the MS4 are illegal, prohibited and a violation of these Regulations.

B. Unless Williamson County has identified them as a source of pollutants to Intermittent or Perennial Stream Waterways, or the MS4, the following discharges into the MS4 are lawful and not considered illicit:
   1. Discharges from emergency firefighting activities
   2. Rising ground waters
   3. Uncontaminated groundwater infiltration to separate storm sewer systems (as defined by 40 CFR§35.2005 (20))
   4. Uncontaminated pumped ground water
   5. Discharges from potable water sources as required for system maintenance
   6. Water line flushing
   7. Foundation, footing, and crawl space drains and pumps
   8. Air conditioning condensate
   9. Landscape and lawn irrigation
   10. Springs
   11. Individual residential vehicle washing
   12. Flows from riparian habitats and wetlands
   13. Dechlorinated swimming pool discharges
   14. Street wash waters
   15. Diverted stream flows

C. Contamination of storm water runoff from Hot Spots shall be prohibited and subject to the maximum penalties as specified in Section 9 of these Regulations.

D. Except for the lawful discharges into the MS4 listed in Section 2.2.B above, all storm water discharges that do not meet the requirements for Storm Water Quality or Storm

Water Quantity as outlined and required in these Regulations, into the MS4 are illicit discharges.

E. An illicit discharge or illicit discharges are determined according to the following criteria:

1. The storm water discharge shall not cause an objectionable color contrast in any watercourse under County jurisdiction. In order to determine objectionable color contrast, the County Engineer, Storm Water Quality Coordinator or designee, using the best information available and based upon their knowledge, experience and education shall consider:
   a. color (true and apparent) of the water;
   b. the presence of colloids in the water;
   c. any floating solids, oil, grease or scum in the water;
   d. any floating materials in the water of a persistent nature from other than natural causes;
   e. materials producing true color resulting from other than natural causes that create an aesthetically undesirable condition and substantial visible contrast with the natural appearance of the water;
   f. any materials in the water that produce color, odor or other conditions in such degree as to create a nuisance;
   g. any materials in the water that are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such degree as to create a nuisance or be unsightly; or
   h. any materials in the water that will form putrescent or otherwise objectionable deposits.

OR

2. The storm water discharge shall not cause an objectionable turbidity in any watercourse under County jurisdiction. In order to determine objectionable turbidity, the following turbidity standard shall be utilized:

   All waters shall be free from turbidity which results in substantial visual contrast in a water body due to man-made activity. The upstream appearance of a body of water shall be observed at a point immediately upstream of a turbidity-causing man-made activity, and that upstream appearance shall be compared to a location where the turbidity is observed. The County Engineer, Storm Water Quality Coordinator or designee, using the best information available and based upon their knowledge, experience and education shall determine the presence or lack of objectionable turbidity.

F. Development and redevelopment projects must be designed to reduce pollutants by applying permanent stormwater standards.

1. Stormwater Control Measures (SCMs) must be designed, at a minimum, to achieve an overall treatment efficiency of 80% Total Suspended Solids (TSS) removal from the water quality treatment volume (WQTV).
2. Compliance with permanent stormwater standards shall be demonstrated by submission of work sheets utilizing the Tennessee Runoff Reduction Assessment Tool (TNRRAT), Stormwater Treatment Assessment Resources (STAR), or other methodology approved by the Williamson County Engineering Department.

3. Stormwater Control measures must be designed to provide full treatment capacity within 72 hours following the end of the preceding rain event for the life of the new development or redevelopment project.
4. The water quality treatment design storm is a 1-year, 24-hour storm event as defined by Precipitation-Frequency Atlas of the United States. Atlas 14. Volume 2. Version 3.0. U.S. Department of Commerce. National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Springs, Maryland or its digital product equivalent.
5. The quantity of the WQTV depends on the type of treatment provided, as established in the following table:

Table 2.2-1: Water Quality Treatment Volume and the Corresponding SCM Treatment Type for the 1-year, 24-hour design storm
Runoff generated from impervious surface

SCM Treatment Type	WQTV	Notes
Infiltration, evaporation, transpiration, and/or reuse	Runoff generated from the first 1 inch of the design storm	Examples include, but are not limited to, bioretention, stormwater wetlands, and infiltration systems
Biologically active filtration, with an underdrain	Runoff generated from the first 1.25 inches of the design storm	To achieve biologically active filtration, SCMs must provide minimum of 12 inches of internal water storage.
Sand or gravel filtration, settling ponds, extended detention ponds, and wet ponds	Runoff generated from the first 2.5 inches of the design storm or the first 75% of the design storm, whichever is less	Examples include, but are not limited to, sand filters, permeable pavers, and underground gravel detention systems. Ponds must provide forebays comprising a minimum of 10% of the total design volume. Existing regional detention ponds are not subject to the forebay requirement.
Hydrodynamic separation, baffle box settling, other flow-through manufactured treatment devices (MTDs), and treatment trains using MTDs	Maximum runoff generated from the entire design storm	Flow-through MTDs must provide an overall treatment efficiency of at least 80% TSS reduction.

6. Treatment trains using manufactured treatment devices (MTDs) must provide an overall treatment efficiency of at least 80% TSS reduction utilizing the following formula:

   $R = A + B – (A \times B) / 100$

   Where: R = total TSS percent removal from application of both SCMs,
   A = the TSS percent removal rate applicable to the first SCM, and
   B = the TSS percent removal rate applicable to the second SCM.

7. TSS removal rates for MTD must be evaluated using industry-wide standards, and TSS removal rates for other SCMs must be from published reference literature.
8. Treatment trains using infiltration, evaporation, transpiration, reuse, or biologically active filtration followed by sand or gravel filtration, settling ponds, extended detention ponds or wet ponds may subtract the treated WQTV of the upstream SCMs from the WQTV of the downstream SCMs.
9. The permanent stormwater management program may allow for a reduction of the WQTV up to 20% for Redevelopment projects (including, but not limited to, brownfield redevelopment).
10. Where permanent wet storage will be utilized, an Integrated Pest Management Plan, designed for long term control of mosquitos and other pests, must be prepared and recorded with the long term Stormwater Operation and Maintenance Plan.

G. Re-development activities will be required to follow storm water quality requirements.

Section 3: Storm Water Runoff Controls

A. Land disturbance activities, or development, shall not cause or adversely impact upstream or downstream flooding. Activities or development with the potential to adversely impact offsite drainage conditions shall provide appropriate stormwater controls as required herein.

B. Detention and retention facilities or other flow attenuation methods shall be sized such that the post-development peak discharge rate is less than or equal to the pre-development peak discharge rate for the 2-year, 5-year, 10-year, 25-year, 50-year, and 100-year, 24-hour design storms.

C. The 24-hour storm design requirement outlined in Section B above is a minimum control standard. Regardless of the facilities, methodologies, Stormwater Control Measures (SCMs) or Best Management Practices (BMPs) used for storm water runoff controls, illicit discharges, as defined by these Regulations, are prohibited.

D. Water quality measures such as forebays or other SCMs/BMPs shall be incorporated into detention facilities for added quality benefit and ease of maintenance.

E. Consideration shall be given to the use of regional facilities.

F. Detention and retention facilities shall not be located in the right-of-way or in a Waterway Natural Area.

G. Detention and retention facilities shall only be located on commonly owned areas or parcels, and shall not be located on parcels or lots intended for single-family residential uses.

Section 4: Waterway Natural Areas

4.1 General Waterway Natural Area Requirements

A. Waterway Natural Areas shall be applied along all intermittent and perennial streams which may be determined by the County, State, or a Tennessee Qualified Hydrologic Professional (TN-QHP).

B. Waterway Natural Areas (WNAs) shall be required in all subdivisions as defined by the Williamson County Subdivision Regulations. Where Open Space is required by the Williamson County Zoning Ordinance (WCZO), WNAs shall be placed in Open Space unless WNAs are allowed on private lots per Section 13.02 of the WCZO. Where Open Space is not required, WNAs shall be allowed on private lots. WNAs should be identified at the pre-application phase; however the County reserves the right to identify a watercourse until the preliminary plat approval.

C. Waterway Natural Area width shall be at least 100-feet perpendicular from the top of bank on each side of the waterway where the tributary drainage area is greater than or equal to five (5) square miles.

D. Waterway Natural Area width shall be at least 75-feet perpendicular from the top of bank on each side of the waterway where the tributary drainage area is greater than or equal to one (1) square mile and less than five (5) square miles.

E. Waterway Natural Area width shall be at least 50-feet perpendicular from the top of bank on each side of the waterway where the tributary drainage area is less than one (1) square mile.

F. For sites that contain and/or are adjacent to a receiving stream designated as having unavailable parameters (impaired) or Exceptional Tennessee Waters, Waterway Natural Areas may be increased to be equivalent with buffer zone requirements in the "Tennessee General Permit for Stormwater Discharges Associated with Construction Activities."

G. Waterway Natural Areas shall be recorded on all plats approved after the effective date of the Regulations and on the plat for parcels subject to plat revision.

H. Waterway Natural Area designations shall not reduce Base Site Area (as defined in the Williamson County Zoning Ordinance) and may be included as part of the required Open Space.

I. All site development plans and plats prepared for recording shall:
   1. Define the boundaries of any WNA on the subject property and be labeled as "Waterway Natural Area."
   2. Provide a note to reference any WNA stating: "There shall be no clearing, grading, construction or disturbance of vegetation except as permitted by the Williamson County Engineering Department."
   3. Provide a note to reference any protective covenants governing all WNA stating: "Any Waterway Natural Area shown hereon is subject to protective covenants which may be found in the land records and which restrict disturbance and use of these areas."

J. All WNAs must be protected during development activities. Construction layout survey must include staking and labeling the WNA. Use a combination of stakes and flagging to ensure adequate visibility.

K. Only those disturbances or uses specified in Section 4 herein shall be permitted in the WNA.

4.2 Permitted Waterway Natural Area Uses

A. Minor landscaping is allowed within the WNA to repair erosion, damaged vegetation, or other problems identified. Landscaping or stabilization activities must have prior approval by the Engineering Department.

B. Passive recreation uses are permitted in the Waterway Natural Area, including but not limited to walking or jogging trails constructed with permeable materials, so long as the trails are placed no closer than 15 feet from top of bank of the adjacent waterway.

C. Individual trees within the WNA may be removed if they are in danger of falling, causing damage to dwellings or other structures, or causing blockage of the waterway.

D. Invasive plant removal performed in accordance with the "Tennessee Urban Riparian Handbook."

E. If the adjacent land use involves subsurface discharges or surface application from a wastewater treatment system that serves more than one (1) household or a non-residential use, effluent will not be allowed to discharge in the WNA except as provided herein. Where TDEC has granted a NPDES wastewater permit, the permittee is allowed to convey the effluent through the WNA to the waterway designated in the NPDES permit.

F. Storm Water pipe discharges are allowed no closer than 15-feet from the waterway as measured perpendicular to the waterway from top of bank so long as the following are met:

1. The Owner/Operator must show that the storm water discharged within the WNA
    a. shall achieve a post-construction removal rate of 80% for TSS (total suspended solids), and
    b. will not cause erosion.
2. Grading required to meet these discharge standards in Section 4.2.F.1. above may be allowed in the WNA within 15-feet of top of bank provided that
    a. a valid State ARAP has been obtained, if required,
    b. the County Engineer approves the grading plans,
    c. written notification is given to the County Engineer upon completion, and
    d. restoration shall be accomplished within fifteen (15) days of completion.

G. Roadway and public utility crossings and the associated encroachments, as allowed by a Tennessee Department of Environment and Conservation (TDEC) ARAP, which are perpendicular to the channel, are permitted in the WNA. Roadway approaches and utility lines must not be less than 45 degrees perpendicular to the channel.

H. Curtain drains discharging uncontaminated groundwater.

I. Individual septic systems as approved by the Williamson County Department of Sewage Disposal Management.

J. Fences.

K. Docks located within a legally conforming pond, lake or reservoir.

L. Horizontal Directional Drilling (HDD) utility lines so long as the entrance / exit is no closer than 30' from the top of the bank.

M. The following may be placed no closer than 30' from the top of bank:

a. Private use access driveways and associated easements on un-platted residential parcels or large lot easement subdivisions;
b. Walking trails constructed with non-permeable surface;
c. Wells;
d. Buried utility lines;
e. Open Channel;
f. Infiltration based Storm Water Control Measures (SCMs).

4.3 Stream Improvements or Restoration

A. Stream improvements or restoration in the Waterway Natural Area are permitted if the following criteria are met:

1. the restoration or improvement does not alter the location of the channel of the stream unless approved by TDEC and/or The Army Corps of Engineers;

2. an ARAP from TDEC is obtained, if required; and

3. the restoration or improvement includes the use of native vegetation, native grasses and/or canopy trees with the goal of achieving a forested canopy cover along the stream.

Section 5: Storm Water System Long-Term Operation and Maintenance

A. The maintenance requirements for permanent storm water runoff control facilities shall be the responsibility of the owner/operator.

B. For residential developments that form a homeowners association, trust indenture, or other management entity, that entity shall be responsible for long-term operation and maintenance of storm water infrastructure located in drainage easements or Open Space.

C. A professional engineer shall provide a storm water infrastructure long-term operation and maintenance plan, which shall include an exhibit of all approved post-development storm water controls, and an opinion of probable costs and maintenance schedule, subject to approval by Williamson County. The long term operation and maintenance plan shall be in writing, shall be in recordable form, and shall, in addition to any other terms deemed necessary by the Williamson County, contain a provision permitting inspection at any reasonable time by Williamson County of the facilities deemed critical to the public welfare.

D. Williamson County will have the authority, but not the duty, to maintain facilities not properly maintained and to recover costs associated with the maintenance from the owner/operator.

E. Operation and maintenance plans for residential development shall be submitted and recorded with the final plat.

F. Operation and maintenance plans for non-residential development shall be submitted and recorded prior to the issuance of a building permit.

G. Upon approval of the storm water management facilities by Williamson County, the facility owner/operator(s) shall demonstrate the ability to garner and apply the financial resources necessary for long-term maintenance requirements. The funding mechanism shall be in a form approved by Williamson County. The County will only approve funding mechanism(s) for long-term maintenance responsibilities that can be demonstrated to be permanent or transferable to another entity with equivalent longevity.

H. Long term Operation and Maintenance provisions of the storm water infrastructure shall be documented in the restrictive covenants.

I. The owner/operator of the storm water management facilities shall be required to execute an Operation and Maintenance Agreement and record same along with the operations and maintenance plan with the Williamson County Register of Deeds.

J. Upon release of any sureties posted by the developer of a non-residential or residential development for erosion control or storm water facilities, the developer shall be required to provide a certified copy of all applicable Operation and Maintenance Agreements and Plans to the Homeowners Association (HOA) of the development or any other entity responsible for the long term operation and maintenance of the storm water facilities, by certified, return-receipt mail. The developer shall provide proof to Williamson County that the agreements were provided to the HOA.

K. After release of surety, or issuance of a certificate of occupancy, the owners or operators of storm water management facilities are required to conduct routine and

comprehensive inspections, as outlined in the O&M Agreement, in order to ensure that all storm water BMPs/SCMs are operating correctly and are properly maintained.

a. Routine inspections should be conducted on an annual basis, at a minimum. These inspections should be conducted by a person familiar with control measures implemented at a site. Owners or operators shall maintain documentation of these inspections.

b. Comprehensive inspections of all storm water management facilities and practices shall be conducted once every five years, at a minimum. Such inspections must be conducted by either a professional engineer, landscape architect or other qualified professional familiar with applicable SCM design and maintenance requirements, and they must certify that the facility is functioning as intended or shall provide a schedule of repairs and maintenance activities necessary to meet the intended use of the facility. Owners or operators shall submit inspection documentation to the Williamson County Engineering Department.

Section 6: Land Disturbance Permits

6.1 Applicability

A. Every owner/operator will be required to obtain a Land Disturbance Permit from Williamson County in the following cases:

1. Activities resulting in greater than one (1) acre of land disturbance;
2. Activities that result in the disturbance of less than one (1) acre if it is part of a larger common plan of development or sale;
3. Where land disturbance activities pose a threat to water, public health or safety.

B. No building permit shall be issued until the applicant has obtained a Land Disturbance Permit where the same is required by these Regulations.

C. A Land Disturbance Permit shall remain in effect for two (2) years. Upon expiration of the Land Disturbance Permit, the owner/operator shall submit plans for a new permit. If the plans have not been amended, there will be no fee for the renewal application.

6.2 Land Disturbance Permit Application

A. Application for a Land Disturbance Permit for subdivisions and non-residential sites that require a "Tennessee General Permit for Storm Water Discharges Associated with Construction Activities" shall require the following submissions to Williamson County for review and approval:

1. The Notice of Coverage (NOC) received from Tennessee Department of Environment and Conservation TDEC for coverage under the "Tennessee General Permit for Storm Water Discharges Associated with Construction Activities."
2. The Storm Water Pollution Prevention Plan prepared for coverage under the "Tennessee General Permit for Storm Water Discharges Associated with Construction Activities."
3. Site specific erosion control plan shall be prepared for purposes of the application for Land Disturbance Permit and sealed by a professional engineer, registered land surveyor, architect, landscape architect or certified professional in erosion and sediment control.

B. Application for a Land Disturbance Permit for sites that do not require a "Tennessee General Permit for Storm Water Discharges Associated with Construction Activities" shall require the following be submitted to Williamson County for review and approval:

Site specific erosion control plan shall be prepared for purposes of the application for Land Disturbance Permit and sealed by a professional engineer, registered land surveyor, architect, landscape architect or certified professional in erosion and sediment control.

6.3 Fee Schedule

A. Single Lot – A storm water review and inspection fee of $150.00 per lot is payable at building permit application for residential lots which are part of a platted subdivision, or exceed one (1) acre of disturbed area.

B. Subdivision – A storm water review and inspection fee of $300.00 is required for all subdivisions payable at issuance of a Land Disturbance Permit.

C. Non-Residential Site Plans – A storm water review and inspection fee of $300.00 is required for all non-residential site plans.

Section 7: Inspections

Inspections shall be performed to ensure that vegetation, erosion and sediment control measures and other protective measures identified in the site plan are kept in good and effective operating condition.

7.1 Owner/Operator Inspections

A. Inspections required by Tennessee Department of Environment and Conservation (TDEC).

B. Williamson County may request submission of inspection documentation.

C. Initial Storm Water Controls must be inspected and certified that the BMPs are in accordance with the approved plans by a professional engineer, registered land surveyor, architect, landscape architect, or certified professional in erosion and sediment control, on sites greater than one (1) acre or part of a larger development.

D. Where structural BMPs are required, the controls and related swales must be installed prior to any other land disturbance activity within the associated drainage basin. Structural BMPs include practices like sediment ponds, sediment traps, etc., and the construction must be certified by a Professional Engineer or Landscape Architect.

E. Post Construction BMPs/SCMs must be inspected and certified that the BMPs/SCMs are in accordance with the approved plans by a professional engineer, licensed in the State of Tennessee, prior to release of surety.

F. Final storm water management BMPs/SCMs must be inspected and certified that the BMPs/SCMs are in accordance with the approved plans by a professional engineer, licensed in the State of Tennessee, prior to certificate of occupancy for non-residential site plans.

G. Hard copy and digital as-built plans of storm water BMPs/SCMs, will be required in the State of Tennessee Plane coordinate system with the North American Datum 1983 (NAD83) and North American Vertical Datum (NAVD) of 1988.

7.2 County Inspections

A. County inspections may include, but are not limited to, the following:

1. An initial inspection prior to issuance of Land Disturbance Permit;
2. A bury inspection prior to burial of any underground drainage structure;
3. Erosion prevention and sediment control inspections as necessary to ensure effective control of erosion and sedimentation; and
4. A final inspection when all work, including installation of storm management facilities, has been completed.
5. Periodic inspections to ensure storm water facilities are being maintained.

Section 8: Violations and Enforcement

8.1 Violations.

A violation of these Regulations shall result from:

A. an illicit discharge as defined in Section 2 herein, into any watercourse under County jurisdiction;

B. an illicit discharge, as defined in Section 2 herein, from any site required to have a Land Disturbance Permit;

C. failure to obtain a Land Disturbance Permit where required herein;

D. development activities inconsistent with the approved plans or permits;

E. failure to install or maintain erosion prevention and sediment controls consistent with the plan and performance requirements of these Regulations;

OR

F. unapproved or unpermitted encroachment in the Waterway Natural Area (WNA).

8.2 Enforcement.

Williamson County shall have the authority to issue Notices of Violation and citations, to impose the civil penalties provided in this Section, and to institute appropriate actions or proceedings at law or equity for the enforcement of these Regulations.

8.3 Notification of Violation.

A. Written Notice. Whenever the County Engineer, the Storm Water Quality Coordinator or his designee finds that any owner/operator or any other person discharging storm water has violated or is violating these Regulations or a permit or order issued hereunder, he may serve upon such person written Notice of the Violation (NOV). In addition to the NOV, whenever the County Engineer, the Storm Water Quality Coordinator or his designee finds that any permittee, person, company or facility owning, occupying or operating on any premises has violated or is violating these Regulations or a permit or order issued hereunder, he may revoke any permit issued by the County. Any permit mistakenly issued in violation of any applicable federal, state or local law or regulation may be revoked. Notice of such revocation shall be in accordance with the same notification requirements for NOVs.

Within a time limit established by this Notice, an explanation of the violation and a plan for the satisfactory correction and prevention thereof, to include specific required actions, shall be submitted to Williamson County. Submission of this plan in no way relieves the discharger of liability for any violations occurring before or after receipt of the Notice of Violation.

B. Consent Orders. The County Engineer or the Storm Water Quality Coordinator or his designee is empowered to enter into consent orders, assurances of voluntary compliance, or other similar documents establishing an agreement with the person responsible for the noncompliance. Such orders will include specific action to be taken

by the person to correct the noncompliance within a time period also specified by the Consent Order.

C. Cease and Desist Orders. Cease and Desist Orders may be issued along with the NOV outlined above. When the County Engineer or Storm Water Quality Coordinator or his designee finds that any person has violated or continues to violate these Regulations or any permit or order issued hereunder, he may:

1. In the case of a residential or non-residential development:

   a. issue an order to cease and desist all such violations and direct those persons in noncompliance to:

      1. comply forthwith;
      2. take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation;
      3. halt all construction operations on development infrastructure within that Section of the development, except where necessary to take remedial or preventive action;

   b. advise the Building Codes Director to withhold issuance of any new building permits within that section of the development until remedial or preventive action has been completed;

   c. advise the Planning Director to withhold placing future submittals within the same development on the agenda of the Planning Commission until remedial or preventive action has been completed;

   d. withhold issuance of any future land disturbance permits within the same development until a revised SWPPP has been submitted to the County Engineer; and

   e. maintain the Cease and Desist Order until such time as the violations are remedied and any civil penalties, imposed in accordance with Section 9 of these Regulations, are paid or the obligation is removed through the appeals process by the Storm Water Appeals Board.

2. In the case of a permit holder for an individual residential lot:

   a. issue an order to cease and desist all such violations and direct those persons in noncompliance to:

      1. comply forthwith;
      2. take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation;
      3. halt all grading and land disturbance activities on the lot until remedial or preventive action is taken;

   b. advise the Building Codes Director to not conduct any future inspections and withhold issuance of any Certificates of Occupancy until remedial action has been completed; and

   c. maintain the Cease and Desist Order until such time as the violation is remedied and any civil penalties, imposed in accordance with Section 9 of these regulations, are paid or the obligation is removed through the appeals process by the Storm Water Appeals Board.

8.4 Conflicting standards.

Whenever there is a conflict between any standard contained in these Regulations and in the Best Management Practices (BMP) manual adopted by Williamson County pursuant to these Regulations, the strictest standard shall prevail.

Section 9: Penalties

Any person who shall commit any act declared unlawful under these Regulations, who violates any provision of these Regulations, who violates the provisions of any permit issued pursuant to these Regulations, or who fails or refuses to comply with any lawful communication or notice to abate or take corrective action by the County Engineer or Storm Water Quality Coordinator or his designee, shall be guilty of a civil offense.

9.1 Penalties

Under the authority provided in Tennessee Code Annotated Section 68-221-1106, Williamson County declares that any person violating the provisions of these Regulations may be assessed a civil penalty by the County Engineer or Storm Water Quality Coordinator or his designee of not less than $50.00 and not more than $5,000.00 per day for each day of violation. Each day of violation shall constitute a separate violation. The penalties may be assessed beyond schedules applied in a Notice of Violation (NOV) or other schedules issued to the owner/operator or other person responsible for the violations defined in these Regulations.

9.2 Payment of Penalties

Civil penalties shall be paid within ten (10) days of receipt of the written notice of imposition of the penalties, unless an appeal of the penalty has been properly perfected in accordance with these Regulations. If the civil penalty is appealed to the Storm Water Appeals Board, the penalty shall be paid into escrow at the time of application. If the civil penalty is not paid within the deadlines established herein and if the applicant does not appeal the decision of the Storm Water Appeals Board, then Williamson County shall have the authority to either place a lien upon and against the property or seek execution of the penalty through a court of competent jurisdiction. If Williamson County places a lien upon the property and the lien is not removed within ninety (90) days, Williamson County is authorized to take all legal action necessary to enforce the lien as a judgment, including without limitation, enforcing the lien in an action brought in a court of competent jurisdiction. Williamson County shall be entitled to any costs and fees associated with enforcement of these Regulations, execution of a penalty or enforcement of any lien placed upon property in accordance with these Regulations.

9.3 Specific Penalties

The maximum civil penalties shall be determined by the County Engineer, Storm Water Quality Coordinator or his designee, based on the type of offense. This indicates the maximum that may be imposed for a first offense and does not reflect increases that may be imposed for repeat offenses.

A. The following may be imposed upon single residential lot violations:

1. Failure to install or maintain erosion controls-$250.00 per occurrence.
2. Illicit Discharge - $500.00 per occurrence.
3. Failure to Obtain a Land Disturbance Permit - $1,000.00 per occurrence.

B. The following may be imposed upon residential development and non-residential development violations:

1. Failure to install or maintain erosion controls - $500.00 per occurrence.
2. Illicit Discharge - $1,000.00 per occurrence.
3. Failure to Obtain a Land Disturbance Permit - $5,000.00 per occurrence.

4. Development inconsistent with permit - $5,000.00 per occurrence.

C. Where a Waterway Natural Area (WNA) is required on any plat, site plan or grading plan, any unapproved or unpermitted encroachment into a WNA may receive a penalty of $2,000.00 for each occurrence.

D. The penalty may be increased by twenty-five percent (25%) of the previous penalty amount for every subsequent but separate offense made by the same person, company or facility. The penalty shall be additional to other enforcement actions of this section.

9.4 Measuring civil penalties

In assessing a civil penalty, the County Engineer or Storm Water Quality Coordinator or his designee shall consider the following:

A. The degree and extent of harm to the natural resources, to the public health or to the public or private property resulting from the violation;

B. The duration and gravity of the violation;

C. The effect on ground or surface water quality;

D. The cost of rectifying the damage;

E. Whether the civil penalty imposed will be a substantial economic deterrent to the illegal activity;

F. The economic benefit gained by the violator as a result of noncompliance;

G. Whether the violation was committee willfully or intentionally;

H. The amount of effort put forth by the violator to remedy this violation;

I. Any unusual or extraordinary enforcement costs incurred by the County;

J. The cumulative effect of other enforcement actions applied for the same offense;

K. The prior record of the violator in complying or failing to comply with these Regulations;

L. The amount of penalty established by ordinance or resolution for specific violations; and

M. Any equities of the situation which outweigh the benefit of imposing any penalty or damage assessment.

9.5 Recovery of Damages and Costs

Williamson County may recover damages and costs in addition to civil penalties.

A. Williamson County may recover all damages proximately caused by the violator to Williamson County, which may include any reasonable expenses incurred in investigating violations of, and enforcing compliance with, these Regulations, or any other actual damages caused by the violation.

B. Williamson County may recover the costs to Williamson County for maintenance of storm water facilities when the user of such facilities fails to maintain them as required by these Regulations.

C. In the event that there are penalties assessed by the State against Williamson County caused by or as a result of the act or omission of any person, company or facility, or owner/operator, said actor shall be assessed the equivalent amount of such penalty. This shall include, but is not limited to, penalties for improper disposal or illegal dumping, or illicit connection into the municipal separate storm sewer system.

D. If corrective action, including maintenance delinquency, is not taken in the time specified, or within a reasonable time if no time is specified, Williamson County may undertake the corrective action, and the cost of such corrective action shall be the responsibility of the person, company, facility, owner/operator and\or developer. The cost of abatement and restoration shall be borne by the owner of the property, with such costs invoiced to the owner of the property. If said invoice is not paid within 90 days of receipt of such invoice, Williamson County shall have the authority to place a lien upon and against the property. If the lien is not removed within 90 days, Williamson County is authorized to take all legal action necessary to enforce the lien as a judgment, including without limitation, enforcing the lien in an action brought in a court of competent jurisdiction. Williamson County shall be entitled to any costs and fees associated with enforcement of these Regulations or enforcement of any lien placed upon property in accordance with these Regulations.

9.6 Other Remedies

Williamson County may bring legal action to enjoin the continuing violation of these Regulations, and the existence of any other remedy, at law or equity, shall be no defense to any such actions.

9.7 Remedies Cumulative

The remedies set forth in this section shall be cumulative, not exclusive, and it shall not be a defense to any action, civil or criminal, that one (1) or more of the remedies set forth herein has been sought or granted.

9.8 Emergency Orders and Abatement

The County Engineer or Storm Water Quality Coordinator or his designee may order the abatement of any discharge from any source to the storm water conveyance system when, in the opinion of the County Engineer or Storm Water Quality Coordinator or his designee, the discharge causes or threatens to cause a condition which presents an imminent danger to the public health, safety or welfare, or the environment, or a violation of the NPDES permit. In emergency situations where the property owner or other responsible party is unavailable and time constraints are such that service of a notice and order to abate cannot be effected without presenting an immediate danger to the public health, safety or welfare, or the environment or a violation of the National Pollution Discharge Elimination System (NPDES) permit, the County may perform or cause to be performed such work as shall be necessary to abate said threat or danger. The costs of any such abatement shall be borne by the property owner and shall be collected in accordance with the provisions herein.

Section 10: Creation and Authority of Storm Water Appeals Board

10.1 Creation of Board

A. Pursuant to Tennessee Code Annotated Section 68-221-1106, Williamson County hereby creates a board to hear and decide appeals of these Storm Water Regulations.

B. Said board shall be called the "Storm Water Appeals Board".

C. The Storm Water Appeals Board shall consist of seven members, appointed by the County Mayor, subject to confirmation by the Board of County Commissioners. Each member must be a resident of Williamson County. There shall be one (1) member who is representative of the following groups:

1. Member of the Board of County Commissioners
2. Member of the Profession of Building Contractors
3. Member of the Profession of Engineering
4. Member of the Profession of Agriculture
5. Member of the Residential/Commercial Development Community
6. Current or former board member of a Home Owners Association
7. Member of an Environmental Profession.

D. Each member shall be appointed to a term of three years, with the first term of members one (1) – four (4) lasting two (2) years, and the first term of member five (5) – seven (7) lasting three (3) years. Thereafter the term of each member shall be three (3) years, except the Member of the Board of County Commissioners, whose term shall run concomitant with his/her elected term of office.

E. The Storm Water Appeals Board shall meet as needed.

F. Each member of the Storm Water Appeals Board shall be entitled $75.00 per meeting attended.

G. The Storm Water Appeals Board shall be empowered to adopt bylaws to govern the order of proceedings as well as a method for electing officers and keeping records.

H. Each meeting of the Storm Water Appeals Board shall be memorialized in a set of minutes that will be kept by the County Engineer.

I. The Storm Water Appeals Board is hereby authorized to hear and decide appeals of any order, decision or ruling of the County Engineer or Storm Water Quality Coordinator or his designee issued pursuant to these Regulations. The Storm Water Appeals Board is hereby authorized to consider any application for waiver from the requirements of these Regulations as provided herein. In no event shall the Storm Water Appeals Board issue a decision that in any way violates any other federal, state, or local laws.

10.2 Applications for Appeals

A. Appeals to County Engineer. Upon issuance of a civil penalty, damage assessment or any other citation or Notice of Violation of these Regulations, it shall be conclusive and final unless the accused violator submits written notice of appeal to the County Engineer within ten (10) days of the notice being served. If the County Engineer does not issue a decision within ten (10) days of the receipt of the written notice of appeal, then the

violation is considered upheld. If the County Engineer does not reverse the decision, then any person aggrieved by the imposition of a civil penalty, damage assessment, any other citation or Notice of Violation of these Regulations or decision by the County Engineer, Storm Water Quality Coordinator or his designee as provided by these Regulations may appeal said penalty, damage assessment or decision to the Storm Water Appeals Board.

B. Application for Appeal to the Storm Water Appeals Board.

1. The Board is hereby authorized to hear and decide applications for appeal of any order, decision or ruling of the County issued pursuant to these Regulations.
2. Application Requirements.

a. The appeal to the Storm Water Appeals Board shall be filed with the County Engineer within fifteen (15) days after the decision or ruling of the County Engineer is served in any manner authorized by law.

b. All applications shall be filed with the County Engineer's office on official forms. The deadline for filing a complete application is 4:30 p.m., twenty-eight (28) days prior to the scheduled meeting the following month.

c. At a minimum, a complete application shall include:

1. the application form;
2. the filing fee;
3. information on the specific relief sought;
4. plans, drawings, plats or surveys showing conditions of the site if the Regulations are applied as written; and
5. separate plans, drawings, plats or surveys showing conditions of the site if the appeal is granted as requested.
6. Additionally, the applicant may provide photographs, calculations or other information which must also be filed with the application in order for it to be considered by the Board.

d. For an appeal of a Notice of Violation or Cease and Desist Order where a civil penalty has also been imposed, in addition to the requirements of 10.2.B above, the applicant shall pay the full amount of the civil penalty to the County to be placed into an escrow fund pending the outcome of the appeal. If Board reduces or removes the civil penalty in accordance with its authority herein, then that portion of the civil penalty shall be returned to the applicant within 60 days following the final decision of the Board.

e. When applications are filed, they shall be examined by the County Engineer, Storm Water Quality Coordinator or his designee for completeness and accuracy to determine whether all of the information and data have been provided. Where information is lacking or inadequate, the applicant shall be notified as to the nature and extent of the deficiency, and the appeal shall be retained as an intent to file for 30 days, after which such appeal shall be considered abandoned by the applicant. Until deficiencies are remedied, the appeal shall be considered insufficient for review and action by the Board.

3. Upon receipt of an appeal, the Storm Water Appeals Board shall hold a public hearing at the next regularly scheduled meeting. Ten (10) days prior notice of the time, date, and location of said hearing shall be published in a newspaper of general circulation. Ten (10) days notice by United States mail shall also be provided to the appellant, such notice to be sent to the address provided by the appellant on the Application for Appeal.

4. Following the hearing on an application for appeal, the Board may defer, affirm, reverse, modify or remand for more information, the order, decision or ruling of the County Engineer or Storm Water Quality Coordinator or his designee. In no event shall the Board issue a decision that in any way violates any other federal, state or local laws. The decision of the Storm Water Appeals Board shall be final.

10.3 Application for Waiver

A. The Board is hereby authorized to grant applications for a waiver of these Regulations provided the Board's action is consistent with the objectives and policies identified by these Regulations. The Board does not have the authority to permit actions by the applicant that are based on lack of proper planning or implementation of site development.

B. Application Requirements.

1. The application for waiver to the Storm Water Appeals Board shall be filed with the County Engineer's office on official forms. The deadline for filing a complete application is 4:30 p.m., twenty-eight (28) days prior to the scheduled meeting the following month.

2. At a minimum, a complete application shall include:

   a. the application form;
   b. the filing fee;
   c. information on the specific relief sought;
   d. plans, drawings, plats or surveys showing conditions of the site if the Regulations are applied as written; and
   e. separate plans, drawings, plats or surveys showing conditions of the site if the Waiver is granted as requested.
   f. Additionally, the applicant may provide photographs, calculations or other information which must also be filed with the application in order for it to be considered by the Board.

3. When applications are filed, they shall be examined by the County Engineer, Storm Water Quality Coordinator or his designee for completeness and accuracy to determine whether all of the information and data have been provided. Where information is lacking or inadequate, the applicant shall be notified as to the nature and extent of the deficiency, and the application shall be retained as an intent to file for 30 days, after which such application shall be considered abandoned by the applicant. Until deficiencies are remedied, the application for waiver shall be considered insufficient for review and action by the Board.

4. Under no circumstances may a final or preliminary site plan containing proposed Waivers of these Regulations be submitted to the Williamson County Regional Planning Commission until the Storm Water Appeals Board has considered and acted upon the application for waiver.

C. Upon receipt of a complete application for waiver by the required filing deadline, the Storm Water Appeals Board shall hold a public hearing at the next regularly scheduled meeting. Ten (10) days prior notice of the time, date, and location of said hearing shall be published in a newspaper of general circulation. Ten (10) days notice by United States mail shall also be provided to the appellant, such notice to be sent to the address provided by the appellant on the Application for Waiver.

D. Applications for waivers shall be reviewed by the Board and may be granted or granted with conditions for those projects or activities where it can be demonstrated that strict compliance with these Regulations would result in practical difficulty. The Board must find that one (1) or more of the following criteria are satisfied:

1. The plight of the landowner is due to the unique conditions of the property. A unique condition is a condition that is peculiar to the subject property that relates to a physical aspect of the subject property.
2. Compliance with the strict letter of the restrictions governing physical requirements such as lot area, setbacks, and lot coverage unreasonably prevent the owner from using the property for a permitted purpose or would render conformity with such restrictions unnecessarily burdensome.
3. The waiver would grant fairness to the applicant and in a manner that is consistent with the level enjoyed by others in the County.
4. Those projects or activities serving a public need where no feasible alternative is available.
5. The repair and maintenance of public improvements where avoidance and minimization of adverse impacts to wetlands and associated aquatic ecosystems have been addressed.
6. The applicant has demonstrated that water quality will be improved as a result of the proposed modifications.
7. Other considerations, such as:
    a. the necessity of the facility to a waterfront location, in the case of a functionally dependent facility.
    b. the relationship of the proposed use to the comprehensive plan and master drainage plans for that area.
    c. the safety of access to the property in times of flood for ordinary and emergency vehicles.
    d. the costs of providing governmental services during and after flood conditions including maintenance and repair

public utilities and facilities such a sewer, gas, electrical, and water systems, and streets and bridges.

e. whether issuance of a waiver is the minimum necessary so as not to destroy the character and design of an historic building or feature.

E. The Board may defer, grant, grant with conditions or deny the application for waiver. The Board may require proof that the applicant has complied with the decision of the Board. The decisions of the Board are final.

10.4 Appealing decisions of the Storm Water Appeals Board

Any applicant may appeal a decision of the Storm Water Appeals Board pursuant to the provisions of Tennessee Code Annotated.

Section 11: Administration and Miscellaneous

A. In order that storm water quality and quantity may be managed in accordance with these purposes and policies, these Regulations are hereby adopted.

B. Should any article, section, subsection, clause or provision of this Storm Water Management Regulation be declared by a court of competent jurisdiction to be unconstitutional or invalid, such decision shall not affect the validity of the regulation as a whole or any part thereof other than the part declared to be unconstitutional or invalid, each article, section clause and provision being declared severable.

C. In their interpretation and application, the provisions of these Regulations shall be held to be the minimum requirements for promotion of the public health, safety and general welfare.

D. It is established that these Regulations are not intended to interfere with, abrogate or annul any regulations, statutes, or laws. In any case where these Regulations impose restrictions different from those imposed by any other provision of these regulations, or any other regulation, law or statutes, whichever provisions are more restrictive or impose higher standards shall control.

E. For the purpose of these Regulations, certain numbers, abbreviations, terms, and words used herein shall be used, interpreted, and defined as set forth in Section 12.

F. Where words within these Regulations have not been defined, the standard dictionary definition shall prevail.

G. Unless the context clearly indicates to the contrary, words used in the present tense include the future tense; words in the plural include the singular; words used in the masculine include the feminine.

H. The Williamson County Board of County Commissioners shall have the authority to enact amendments to these Regulations in accordance with the following procedure:

1. The Board of County Commissioners, the Storm Water Appeals Board, the County Engineer or the Storm Water Quality Coordinator may initiate and recommend amendments when necessary to maintain consistency with any state or federal permits or where the recommended amendment(s) are in the best interest of the County.

2. Any proposed amendment must first be submitted for approval, disapproval or suggestion for changes to the Storm Water Appeals Board. The Storm Water Appeals Board shall conduct a public hearing before taking action on any proposed amendments with notice of said public hearing published in a newspaper of general circulation no later than fifteen (15) days prior to the public hearing. The notice of public hearing shall also be published on the County website as well as the content of the proposed amendment(s).

3. The Board of County Commissioners shall conduct a public hearing on any resolution to adopt amendments to these Regulations prior to taking action on the proposed amendments. The Board may take action at the same meeting as the public hearing is conducted. Notice of said public hearing shall be published in a newspaper of general circulation no later than fifteen (15) days prior to the public hearing. The notice of public hearing shall also be published on the County website as well as the content of the proposed amendment(s).

4. The Board of County Commissioners shall adopt any amendment by a simple majority of the quorum and any such action should contain the effective date of the amendment(s). If no effective date is named in the Resolution of adoption, then the date upon which the Board takes action shall be deemed the effective date.

Section 12: Definitions and Abbreviations

12.1 Definitions

Agriculture - The definition of agriculture or agricultural as set forth herein shall be applicable to the term wherever it appears, unless a different definition is specifically made applicable to the Section, or Subsection in which the term appears.

- The land, buildings, and machinery used in the commercial production of farm products and/or nursery stock;
- The activity carried on in connection with the commercial production of farm products and/or nursery stock;
- Recreational and educational activities on land used for the commercial production of farm products and/or nursery stock; and
- Entertainment activities conducted in conjunction with, but secondary to, commercial production of farm products and/or nursery stock, when such activities occur on land used for the commercial production of farm products and/or nursery stock.
- As used in this definition of agriculture, the term "Farm Products" means forage and sod crops; grains and feed crops; dairy and dairy products; poultry and poultry products; livestock, including breeding and grazing; fruits; vegetables; flowers; seeds; grasses; forestry products; fish and other aquatic animals used for food; bees; equine; and all other plants and animals that produce food, feed, fiber, or fur; and
- As used in this definition of agriculture, the term "Nursery Stock" means all trees, shrubs, or other plants, or parts of such trees, shrubs or other plants, grown or kept for, or capable of, propagation, distribution or sale on a commercial basis.

Approval/Approved- Any reference to approval by the County Engineer, the Storm Water Quality Coordinator or his designee is acceptance of the document or information submitted for purposes of these Regulations alone and shall not be construed in any way as a guarantee, warranty or assurance that the plans, plats, maps, specifications, Best Management Practices (BMPs), Stormwater Control Measures (SCMs) or methodologies proposed will perform as indicated by the design professional or that a violation of these Regulations will not result therefrom.

As-Built Plans – means drawings depicting conditions as they were actually constructed.

Base Flood – The flood having a one percent chance of being equaled or exceeded in any given year. While this statistical event may occur more frequently, it may also be known as the "100-year flood event".

Best Management Practice (BMP) – This may refer collectively or specifically to a structural or non-structural practice intended to address water quantity or quality as best available.

BMP Treatment Train – A technique for progressively selecting various storm water management practices to address water quality, by which groups of practices may be used to achieve a treatment goal while optimizing effectiveness, maintenance needs and space.

Bridge – A man made conveyance of storm water flows.

Building – A structure built, maintained, or intended for use for the shelter or enclosure of persons, animals, or property of any kind. The term is inclusive of any part thereof. Where independent units with separate entrances are divided by party walls, each unit is a building.

Channel – A natural or artificial watercourse of perceptible extent, with definite bed and banks to confine and conduct continuously or periodically flowing water. Channel flow is that water which is flowing within the limits of the defined channel.

Certified Professional in Erosion and Sediment Control - An individual successfully completing the training and / or testing to achieve certification as a Certified Professional in Erosion and Sediment Control from CPESC, Inc. (CPESC). The individual shall have been issued a CPESC Certification Number from CPESC, Inc. and shall maintain an active CPESC Certification. A CPESC-IT would not be considered qualified. The CPESC, Inc. certification program, founded by the Soil and Water Conservation Society and the International Erosion Control Association, in cooperation with the American Society of Agronomy, assists in providing the public with evidence of professional qualifications.

Clearing – To remove vegetation, trees, debris, or structures.

Color – Color as used herein means true color as well as apparent color. True color is the color of the water from which turbidity has been removed. Apparent color includes not only the color due to substances in solution (true color), but also that color due to suspended matter. Materials producing color resulting from other than natural causes shall not create an aesthetically undesirable condition. See also Water Color.

Contrast - Contrast is the diversity of adjacent elements in terms of color, texture or tone.

Culvert – An enclosed man made conveyance of storm water flows. This may include a pipe or other enclosed constructed conveyance.

Cross-drain – A culvert used to convey flow under a road or other obstruction between channels or surface flow.

Critical area – A site subject to erosion or sedimentation as a result of cutting, filling, grading, or other disturbance of the soil; a site difficult to stabilize due to exposed subsoil, steep slope, extent of exposure, and other conditions.

Critical service roads – Designated County evacuation routes, or other access to police, fire, emergency medical services, hospitals, or shelters.

Cut – Portion of land surface or area from which earth has been removed or will be removed by excavation; the depth below original ground surface to the excavated surface.

Design storm event – A hypothetical storm event, of a given frequency interval and duration, used in the analysis and design of a storm water facility.

Detention – The temporary delay of storm runoff prior to discharge into receiving waters. This includes facilities with a normal pool elevation.

Developer – Any individual, firm, corporation, association, partnership, or trust involved in commencing proceedings to effect development of land for himself or others. This includes any legal or engineering representative of the "developer".

Development – Any man-made change to improved or unimproved real property, including but not limited to, buildings, mining, dredging, filling, grading, paving, excavating, drilling operations, or permanent storage of materials (as defined as materials of like nature stored in whole or in part for more than six months).

Discharge – To dispose, deposit, spill, pour, inject, seep, dump, leak or place by any means, or that which is disposed, deposited, spilled, poured, injected, seeped, dumped, leaked, or placed by any means including any direct or indirect entry of any solid or liquid matter into the municipal separate storm sewer system.

Drainage Basin – A part of the surface of the earth that is occupied by and provides surface water runoff into a storm water management system (MS4 or Waters of the State), which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Engineer – An engineer duly registered, licensed or otherwise authorized by the State of Tennessee to practice in the field of engineering.

Erosion Prevention and Sediment Control (EP&SC) – See "erosion prevention" and "sediment control"

Erosion – The removal of soil particles by the action of water, wind, ice or other geological agents, whether naturally occurring or acting in conjunction with or promoted by anthropogenic activities or effects.

Erosion prevention – practices implemented to prevent, through shielding, binding or other mechanism(s), the suspension of soil particles, often associated with erosion prevention and sedimentation control.

Excavation – See cut.

Exceptional Tennessee Waters – Surface waters of the State of Tennessee that satisfy the characteristics as listed in Rule 1200-4-3-.06 of the official compilation – rules and regulations of the State of Tennessee. Characteristics include waters within state or national parks, wildlife refuges, wilderness or natural areas; State or Federal Scenic Rivers; Federally-designated critical habitat; waters within an area designated as Lands Unsuitable for Mining; waters with naturally reproducing trout; waters with exceptional biological diversity; or other waters with outstanding ecological or recreational value as determined by TDEC.

Existing Grade – The slope or elevation of existing ground surface prior to cutting or filling.

Existing Construction – Any structure for which the "start of construction" commenced before the effective date of these Regulations.

Fill – Portion of land surface or area to which soil, rock, or other materials have been or will be added; height above original ground surface after the material has been or will be added.

Finished Grade – The final slope or elevation of the ground surface, after cutting or filling.

First Flush – The runoff that occurs at the beginning of a rain event.

Flood or Flooding –A general or temporary condition of partial or complete inundation of two (2) or more acres of normally dry land areas or of two (2) or more properties (at least one (1) of which is the policyholder's property from:

1. Overflow of inland or tidal waters; or
2. Unusual and rapid accumulation or runoff of surface waters from any source; or
3. Mudflow; OR

Collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined above.

Flood Elevation Study (replaced flood insurance study) – An examination, evaluation and determination of flood hazards and if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood related erosion hazards.

Flood Insurance Rate Map (FIRM) – Official map of a community, on which the Federal Emergency Management Agency (FEMA) has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

Floodplain –Any land area susceptible to being inundated by flood waters from any source.

Floodproofing – Any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate risk of flood damages to real estate or improved real property, water and sanitation facilities, or structures with their contents.

Floodway – That portion of the stream channel and adjacent flood plain required for the passage or conveyance of a 100-year flood discharge. The floodway boundaries are placed to limit encroachment in the flood plain so that a 100-year flood discharge can be conveyed through the flood plain without materially increasing (less than one (1) foot) the water surface elevation at any point and without producing hazardous velocities or conditions. This is the area of significant depths and velocities and due consideration should be given to effects of fill, loss of cross sectional flow area, and resulting increased water surface elevations.

Floodway Fringe – That portion of the flood plain lying outside the floodway.

Floor - The top surface of an enclosed area in a building (including basement), i.e., top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles.

Flow Attenuation – To lessen the volume, stage, discharge rate, or velocity of storm water runoff.

Grading – Any operation or occurrence by which the existing site elevations are changed; or where any ground cover, natural, or man- made, is removed; or any watercourse or body of water, either natural or man- made, is relocated on any site, thereby creating an unprotected area. This includes stripping, cutting, filling, stockpiling, or any combination thereof, and shall apply to the land in its cut or filled condition. Grading activities may only be performed with a Land Disturbance Permit.

Historic Structure Designation – Any structure that is: listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historical district or a district preliminarily determined by the Secretary to qualify as a registered historic district; or listed individually on a state or local inventory of historic places.

Hot Spot – An area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in storm water. Examples might include operations producing concrete or asphalt, auto repair shops, auto supply shops, large commercial parking areas, and restaurants.

Illicit Connection – Any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

Illicit Discharge – Except for the lawful discharges into the MS4 listed in Section 2 herein, all storm water discharges to the MS4, that do not meet the requirements for Storm Water Quality in Section 2, that do not meet the requirements for Storm Water Quantity in Section 2, or that are the result of a failure of storm water runoff controls that were improperly designed, installed or maintained, as outlined and required in these Regulations, are illicit discharges.

Impaired Waters – Any segment of surface waters that has been identified by TDEC, division of Water Pollution Control, as failing to support classified uses. The division periodically compiles a list of such waters known as the 303(d) List.

Impervious Cover – A term applied to any ground or structural surface that water cannot penetrate or through which water penetrates with great difficulty.

Initial Stormwater Control Measures – Erosion / sediment controls such as sediment barriers, construction exit, sediment basins, diversion swales, etc., that must be placed on site prior to mass grading.

Integrated Pest Management (IPM) - An ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties.

Intermittent Stream Waterways – Natural or man-made watercourses (streams) which cease to flow for sustained periods during a normal rainfall year (typically during the later summer through the fall months).

Land disturbing activity – Any activity on property that results in a change in the existing soil cover (both vegetative and non-vegetative) and/or the existing soil topography. Land-disturbing activities include, but are not limited to, development, re-development, demolition, construction, reconstruction, clearing, grading, filling, and excavation.

Municipal Separate Storm Sewer System (MS4) – defined at 40 CFR §122.26(b)(8) as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the Clean Water Act (CWA) that discharges to waters of the state;

Designed or used for collecting or conveying storm water;

Which is not a combined sewer; and

Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

New Construction – Structures for which the "start of construction" commenced on or after the effective date of these Regulations. The term also includes any subsequent improvements to such structures.

Nonpoint Source – Any source of pollutant(s) that is not a point source. Examples are sheet flow from pastures and runoff from paved areas.

NPDES Permit – National Pollution Discharge Elimination System permit issued pursuant to 33 U.S.C. §1342.

One Hundred (100) -Year Flood – A flood that has an average frequency of occurrence of once in 100 years, determined from an analysis of floods on a particular watercourse and other watercourses in the same general region. Statistically, it has a one-percent (1%) chance of occurring in any given year. See "Base Flood".

Owner/Operator – Any and all persons, natural or artificial, including any individual, firm or association and any municipal or private corporation organized or existing under the laws of this or any other state or country that holds property or performs land disturbance activities.

Passive Recreation – non-consumptive uses such as wildlife observation, walking, biking, and canoeing.

Perennial Stream Waterways – Watercourses (streams) that generally flow year-round. However, they may go dry in droughty years.

Permittee - Any person, firm, or any other legal entity to whom a site disturbance, grading, building or other related permit is issued in accordance with Williamson County regulations.

Point Source – Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Post-construction – The stage of development where the surety for roads, drainage and erosion control has been released by Williamson County for residential developments or where a certificate of occupancy has been issued for non-residential developments.

Qualified Hydrologic Professional – An individual who has successfully completed the requirements established by the State of Tennessee to achieve certification as a Qualified Hydrologic Professional from TDEC and may classify a watercourse as either a stream or a wet weather conveyance.

Redevelopment – Development improvements that have a value less than 50% of the current assessed value and/or increases the floor area by less than 25%. Demolition and reconstruction is considered development and not redevelopment. Note: this is different from significant redevelopment.

Regional Storm Water Management Facility – A device or management practice, typically but not always a detention or retention pond, with a tributary area with more than one (1) development site. This may be multiple homogenous land use areas or an area of various land uses.

Regulatory Floodway – A "Regulatory Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Communities must regulate development in these floodways to ensure that there are no increases in upstream flood elevations. For streams and other watercourses where FEMA has provided Base Flood Elevations (BFEs), but no floodway has been designated, the community must review floodplain development on a case by case basis to ensure that increases in water surface elevations do not occur, or identify the need to adopt a floodway if adequate information is available

Retention – The prevention of storm runoff from direct discharge into receiving waters. Examples include systems which discharge through percolation, exfiltration, filtered bleed-down and evaporation processes.

Sediment – Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, or gravity as a product of erosion.

Sediment Control – Practices implemented to manage through filtering, settling or other mechanism(s) to remove suspended particles (soil, organic or mineral) from water, often associated with erosion prevention and sedimentation control.

Significant Redevelopment – Development improvements that have a value greater than 50% of the current assessed value, increases the floor area than 25% or more, any change in the impervious surface area, redirects the flow of storm water in any way, modifies the storm sewer system, or changes the storm water characteristics. Demolition and reconstruction is considered development and not redevelopment. Note: this is different from redevelopment.

Site – All contiguous land and bodies of water in one ownership, graded or proposed for grading or development as a unit, although not necessarily at one time.

Slope – Degree of deviation of a surface from the horizontal, usually expressed in percent or ratio.

Small Municipal Separate Storm Sewer System – Defined at 40 CFR §122.26(b)(16) and refers to all separate storm sewers that are owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the Clean Water Act (CWA) that discharges to waters of the state, but is not defined as "large" or "medium" municipal separate storm sewer system. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

Stormwater Control Measures (SCM) – Permanent structural devices that are designed, constructed, and maintained to remove pollutants from stormwater runoff before the water reaches our streams and drinking water supply reservoirs.

Storm Water – Defined at 40 CFR §122.26(b) (13) as storm water runoff, snow melt runoff, and surface runoff and drainage.

Stripping – Any activity that removes or significantly disturbs the vegetative surface cover, including clearing and grubbing operations.

Structure – See Building.

Surveyor – A surveyor duly registered, licensed or otherwise authorized by the State of Tennessee to practice in the field of land surveying.

Tributary Area – The drainage area upstream of a specified point including all overland flow that directly or indirectly connects down-slope to the specified point.

Turbidity - The cloudy appearance of water caused by the presence of suspended colloidal matter. Turbidity is an optical property of the water based on the amount of light reflected by the suspended particles. The suspended particles interfere with the passage of light through the water or in which visual depth is restricted. Turbidity attributable to other than natural causes shall not reduce light transmission to the point that the biota is inhibited or that will cause an unaesthetic and substantial visible contrast with the natural appearance of the water. See Section 2 for the Turbidity Standard.

Water Color - Color of waters is a guide to their composition, and remote sensing of water color is used to infer water quality, particularly suspended solids, and phytoplankton concentrations. The color of water, with water considered a translucent (i.e. not transparent) material, is commonly associated with transmitted light. The color of natural waters as observed from above is associated with the upwelling light field that results from back scattering of sunlight illuminating the water volume. In this manner, the color of natural waters can be objectively specified using their spectral reflectance, where the reflectance is defined as the ratio of the upwelling light to incident (downwelling) light.

Watercourse under County Jurisdiction – MS4, storm water infrastructure associated with or integrated into a residential or nonresidential development, and any conveyance leading into or through a Waterway Natural Area.

Water Quality Treatment Volume (WQTV) – A portion of the runoff generated from impervious surfaces at a new development or redevelopment project by the design storm. (See Table 2.2-1)

Waters of the State – All water, public or private, on or beneath the surface of the ground, except those bodies of water retained within single ownership which do not join with natural surface or underground waters.

Waterway Natural Area – A strip of undisturbed native vegetation, either original or re-established, that borders streams and rivers, ponds and lakes, wetlands, and springs.

Wetland – Those areas that are inundated or saturated by surface or ground water at a frequency or duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typical to life in saturated soil conditions. Wetlands generally include, but are not limited to, swamps, marshes, bogs and similar areas.

Wet Weather Conveyance – Man-made or natural watercourses that flow only in direct response to precipitation runoff in their immediate locality, and whose channels are above the groundwater table, and which do not support fish and aquatic life.

12.2 Abbreviations

ARAP – Aquatic Resource Alteration Permit

BMP – Best Management Practice

CPESC – Certified Professional in Erosion and Sediment Control

CWA – Clean Water Act

EPSC – Erosion Prevention and Sediment Control

FIRM – Flood Insurance Rate Map

HDD – Horizontal Directional Drilling

HOA- Home Owner's Association

MS4 - Municipal Separate Storm Sewer System

MTD – Manufactured Treatment Device

NOC – Notice of Coverage

NOV – Notice of Violation

NPDES – National Pollution Discharge Elimination System

SCM – Stormwater Control Measure

SCS – Soil Conservation Service

SWPPP – Storm Water Pollution Prevention Plan

TDEC – Tennessee Department of Environment and Conservation

USGS – United States Geological Survey

WNA – Waterway Natural Area

Section 13: Performance Bonds

A. Williamson County may, at its discretion, require the submittal of a performance security or performance bond prior to issuance of a permit in order to ensure that the storm water practices are installed by the permit holder as required by the approved storm water management plan in accordance with the Williamson County Zoning Ordinance and Subdivision Regulations.

B. The Williamson County Regional Planning Commission will administer the guarantee of improvements. Applicable provisions of Section IV, "ASSURANCE FOR COMPLETION AND MAINTENANCE OF IMPROVEMENTS", of the Williamson County Subdivision Regulations, concerning the type of acceptable performance bonds and Williamson County Regional Planning Commission's rights under the required bonds are incorporated herein and are made part of these Regulations.

Williamson County
Storm Water Management Program
Storm Water Guidelines

Firm Name/Applicant			Property Address	
Address			Subdivision/Section	Lot #
City	State	Zip	E-mail	Telephone #

- No land disturbance activities, whether by private or public action, shall be performed in a manner that will negatively impact storm water quantity whether by illicit discharge, flow restrictions, increased runoff, or by diminishing channel or floodplain storage capacity.

- Erosion or sedimentation, or transport of other pollutants or forms of pollution, due to various land development activities must be controlled.

- Waterway Natural Areas (WNA) shall be applied along all intermittent and perennial streams, which may be determined by the County, State, or a Qualified Hydrologic Professional. The width of the WNA is determined by the tributary area as follows:

    1. Waterway Natural Area width shall be at least 100-feet perpendicular from the top of bank on each side of the waterway where tributary drainage area is greater than or equal to five (5) square miles.
    2. Waterway Natural Area width shall be at least 75-feet perpendicular from the top of bank on each side of the waterway where tributary drainage area is greater than or equal to one (1) square mile and less than five (5) square miles.
    3. Waterway Natural Area width shall be at least 50-feet perpendicular from the top of bank on each side of the waterway where the tributary drainage area is less than one (1) square mile.

    Within the Waterway Natural Area, there shall be no clearing, grading, construction or disturbance of vegetation except as permitted by the Williamson County Engineering Department.

- Every owner/operator will be required to obtain a Land Disturbance Permit from Williamson County in the following cases:
    1. Activities resulting in greater than one (1) acre of land disturbance;
    2. Activities that result in the disturbance of less than one (1) acre if it is part of a larger common plan of development or sale;
    3. Activities resulting in the addition of ten thousand (10,000) square feet or greater of impervious surface; or
    4. Where land disturbance activities pose a threat to water, public health or safety.

- The owner/operator should perform inspections to ensure that vegetation, erosion and sediment control measures and other protective measures identified in the site plan are kept in good and effective operating condition.

- Williamson County shall have the authority to issue Notices of Violation and citations, to impose the civil penalties, and to institute appropriate actions or proceedings at law or equity for the enforcement of the Storm Water Management Regulations.

    Any person violating the provisions of the Storm Water Management Regulations may be assessed a civil penalty by the County Engineer or Storm Water Quality Coordinator or his designee of not less than $50.00 and not more than $5,000.00 per day for each day of violation.

I certify that I have reviewed the storm water guidelines and the erosion prevention and sediment control checklist, and I understand the requirements herein. I understand that these requirements will be inspected and enforced by the Williamson County Engineering Department and failure to comply may result in enforcement actions including assessment of civil penalties and/or issuance of orders to Cease and Desist.

Signature	Date

Erosion Prevention and Sediment Control Checklist

The following pre-construction erosion prevention and sediment control Best Management Practices (BMPs) must be correctly installed prior to the initiation of the land disturbance activities:

- A stabilized construction access, such as a temporary stone access, must be installed to prevent offsite tracking.
- Silt fence, or other sediment barriers, must be installed along topographical contours downslope of the area to be disturbed.
- Where applicable, inlet protection for nearby storm sewer curb and drop inlets must be installed.

The following erosion and sediment control BMPs must be performed until the project is completed:

- Erosion and sediment controls should be installed, inspected, and maintained in accordance with the Williamson County Storm Water Management Manual.
- Inspections of the control measures and disturbed areas must be performed by a qualified individual at least twice every calendar week until the site is adequately stabilized. Inspections should be performed at least 72 hours apart. Inspections should be documented and available if requested.
- Based on the results of inspections, any inadequate control measures or control measures in disrepair must be replaced or modified, or repaired as necessary, before the next rain event, but in no case more than 7 days after the need is identified.
- Sediment should be removed from sediment traps, silt fences, sedimentation ponds, and other sediment controls as necessary, and must be removed when design capacity has been reduced by 50%.
- Sediment that has escaped the construction site and has collected in the street or drainage structures must immediately be removed.
- Stabilization measure should be initiated as soon as possible on portions of the site where construction activities have temporarily or permanently ceased. Temporary or permanent soil stabilization at the construction site (or a phase of the project) must be completed not later than 15 days after the construction activity on that portion of the site has temporarily or permanently ceased. (Stabilization practices include: temporary seeding, permanent seeding, mulching, matting, and sod stabilization.)
- Roof downspouts must discharge onto splash blocks to prevent erosion. If downspouts are routed through drain lines, the system must not discharge directly into the street or drainage system.
- Restroom facilities for construction employees must be made available.
- Building and waste materials, and non-storm water discharges, such as concrete or paint wastewater, must be managed to prevent them from entering the storm water system or nearby waterbody.
- All damage to existing pavement, drainage structures, and curbs resulting from new construction must be repaired or replaced by like materials at the builder's expense.

Prior to the final inspection, all disturbed areas should be adequately stabilized. Where driveway culverts are required, headwalls must be installed according to the Williamson County Subdivision Regulations. Culvert sizing should be done in accordance with the Williamson County Highway Department regulations and/or as specified by the recorded plat.

Phone: (615) 790-5809
Fax: (615) 591-8531
www.williamsoncounty-tn.gov/stormwater

Engineering Department
1320 West Main Street
Franklin, TN 37064

Revision 2/14/12

Williamson County, Tennessee
Zoning Ordinance

ADOPTED MAY, 14, 2012

EFFECTIVE JANUARY 1, 2013

DISCLAIMER: The official copy of the Williamson County Zoning Ordinance is available for inspection at the Williamson County Planning Department office.

Article 13: Resource Protection Standards

Section 13.01:Purpose

The general purpose of this Article is to establish standards for the protection of natural and historical resources within Williamson County from the potential harmful effects associated with development. Furthermore, it is also the general purpose of this Article to implement the resource protection recommendations of the Williamson County Comprehensive Land Use Plan. In addition to these general purposes, the following are specific purpose statements for the protection of certain resources:

(A) WATERWAY PROTECTION

The purpose of the waterway protection standards is to work in concert with the Williamson County Storm Water Management Regulations to protect, maintain, and enhance the environment of Williamson County and the public health, safety, and the general welfare of its citizens by protecting streams, drainageways, and other water sources from potential pollutants resulting from development and other land disturbing activities.

(B) STEEP TOPOGRAPHY AND SLIPPAGE SOIL PROTECTION

The purpose of the steep topography and slippage soil protection standards is to guide development on hilltops, ridgetops, steep slopes, and on slippage soils (generally referred to as hillsides and hillside areas) to protect natural areas and features and to locate development, where possible, in areas that do not have severe environmental limitations. This Section intends to regulate hillside development in order to protect life and property from hazards due to slope, erodible soils, unstable soils, earth movement, and other geologic and hydrologic hazards. Furthermore, it is the intent of these standards to:

(1) Protect the ridgetops and hilltops of Williamson County because development on hilltops and ridgetops increases runoff, erosion, sedimentation, and the potential for slope destabilization;

(2) Undertake development in a manner that protects life and property from hazards due to slope, unstable and erodible soils, earth movement, and other geologic and hydrologic hazards;

(3) Guide development on sensitive sites consistent with the Williamson County Comprehensive Land Use Plan;

(4) Limit development on slippage soils where there is a possibility of substantial property damage;

(5) Reduce potential for increased erosion, sedimentation, and surface runoff, and the resulting adverse impacts on water quality;

(6) Promote a safe means of ingress and egress for vehicular and pedestrian traffic in sloped areas;

(7) Preserve the visual quality of steep slope areas, which are valuable natural and economic resources; and

(8) Encourage innovative and imaginative building techniques to create structures and site plans that are suited to sloped terrain.

(C) KARST TOPOGRAPHY PROTECTION

The purpose of the karst topography protection standards is to guide development in areas containing karst features to protect natural areas and features and to locate development, where possible, in areas that do not have severe environmental limitations due to karst. The regulations in this Section are intended to protect against the significant public health, safety, and welfare risks associated with development on karst terrain and more specifically to:

Section 13.02:Waterway Protection Standards

(A) APPLICABILITY AND ESTABLISHMENT OF WATERWAY NATURAL AREAS

(1) Waterway Natural Areas (WNA) shall be as established in the Williamson County Storm Water Regulations.

(2) WNAs shall be applied along all intermittent and perennial streams, which may be determined by the County, State, or qualified hydrologic professional.

(B) APPLICABILITY AND ESTABLISHMENT OF DRAINAGEWAYS

Where otherwise not classified as a WNA, a drainageway is the land on either side of, and within 12.5 feet of, the centerline of any swale identified by topography having a minimum of five acres of upstream area and which is not included within a floodplain. See Figure 13.02-A: Drainageways.

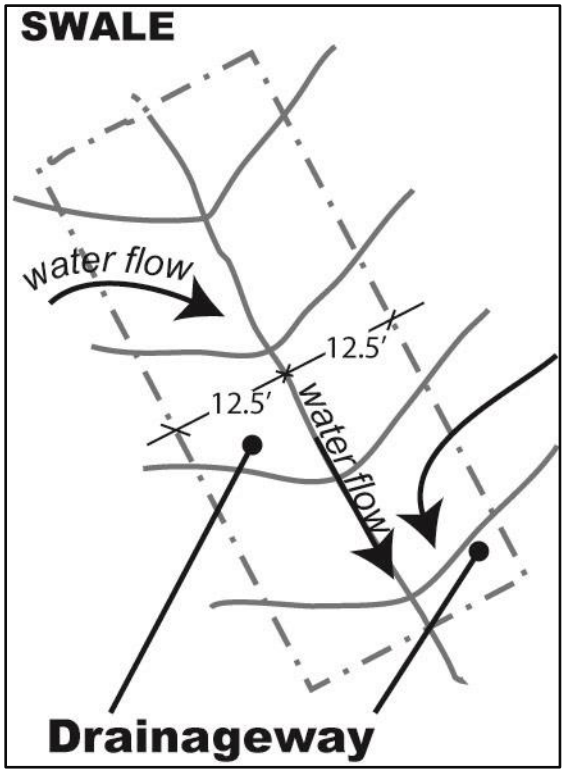

Figure 13.02-A: Drianageways

(C) PROTECTION STANDARDS

(1) All WNAs shall be preserved as permanent open space set-aside areas (See Article 14: Open Space Set-Aside Standards.) except in developments where an open space set-aside is not required as part of this Ordinance or in Major Traditional Subdivisions where all lots are at least five (5) acres in size.

(2) Permitted uses within the WNAs shall be subject to the standards of the Williamson County Storm Water Regulations and Article 14: Open Space Set-Aside Standards of this Ordinance.

(3) Where open space set-asides are not required, the WNAs shall be preserved in accordance with the Williamson County Storm Water Regulations.

(4) Drainageways shall be located within a recorded drainage easement with a minimum width of 25 feet.

Rogers C. Anderson
Williamson County Mayor

Engineering
Floyd Heflin
Director

WILLIAMSON COUNTY GOVERNMENT

NOTICE

Name: Click or tap here to enter text.

Address: Click or tap here to enter text.

City: Click or tap here to enter text. State: Click or tap here to enter text. Zip:

Site Location: Click or tap here to enter text.

This serves as official notice of the following: (check all that apply)

☐**Notice of Violation –** This serves as official Notice that the site is in violation of the Williamson County Storm Water Management Regulations. (Photos available upon request)

☐**Cease and Desist -** At this time please cease and desist all land disturbance activity until the violation has been satisfactorily resolved.

☐**Civil Penalty in the amount of $** Click or tap here to enter text.
If you wish to appeal this decision, you must do so in writing to the County Engineer within ten (10) days of the receipt of this Notice. This penalty must be paid within ten (10) days of the receipt of this Notice, or the County Attorney may be required to pursue all available remedies under the law, including placing a lien on the property at issue. Please submit a copy of this letter along with your payment of the civil penalty.

During a recent site visit, the following was noted:

☐ Failure to obtain Land Disturbance Permit / unpermitted land disturbance activity

☐ Failure to install / maintain erosion and/or sediment controls

☐ Illicit discharge

☐ Land disturbance activity within the Waterway Natural Area

☐ Other:

Additional description of violation (*if applicable*):

Please complete the following (check all that apply):

☐ Installation of erosion / sediment controls within seven (7) days

☐ Stabilization of site within fourteen (14) days

☐ Submission of vegetation and mitigation plan within twenty-one (21) days

☐ Submission of application for Land Disturbance Permit within twenty-eight (28) days

☐ Other: Click or tap here to enter text.

Additional comments (*if applicable*):

For more information, please visit the Williamson County Stormwater Management Site at www.williamsoncounty-tn.gov/stormwater and explore the following:

- Stormwater Regulations
- Land Disturbance Permit Policy
- Waterway Natural Area protection standards *(section 4 of Stormwater Regulations)*
- Tennessee Urban Riparian Buffer Handbook
- Stream Crossing Policy
- Water Quality / Water Quantity Standards *(section 2 of Stormwater Regulations)*
- List of Qualified Hydrologic Professionals
- Agricultural and Silviculture Exemption form *(if claiming agricultural / timber exemption)*
- Pond and Lake Policy
- And much more!

For Additional information, please contact Williamson County Engineering at:

- Phone: 615-790-5809
- E-Mail: Engineering.Dept@williamsoncounty-tn.gov

Inspector: Click or tap here to enter text. Investigation Date: Click or tap here to enter text.

Subject:

NOTICE: [ ]

Text:

This serves as an official Notice that [] is in violation of the Williamson County Storm Water Management Regulations.

A stormwater inspection was performed on [Wednesday, December 14, 2022), where Lots [508, 511, and 520] failed to [maintain erosion controls …].

If you wish to appeal this decision, you must do so in writing to the County Engineer within ten (10) days of the receipt of this Notice. This penalty must be paid within ten (10) days of the receipt of this Notice, or the County Attorney may be required to pursue all available remedies under the law, including placing a lien on the property at issue. Please submit a copy of this letter along with your payment of the civil penalty.

Click the link below to review Williamson County Storm Water Management Regulations

https://www.williamsoncounty-tn.gov/stormwaterregulations

Please see the attached file.

Regards,

Signature

Development Compliance Specialist

Williamson County Engineering Department

1320 West Main Street, Suite #400

Franklin, TN 37064

email@williamsoncounty-tn.gov

Williamson County Engineering Department
Stormwater Management Program
Enforcement Response Plan

National Pollution Discharge Elimination System Permit Number TNS000000 authorizes Williamson County to discharge stormwater runoff into Waters of the State of Tennessee in accordance with certain water quality management programs and provisions established within the permit. Williamson County is required to develop project review, approval and enforcement procedures, which are outlined within the Enforcement Response Plan (ERP).

A. Site Plan Review and Approval

1. Development and Non-residential
    a. Applicant will be required to apply for Land Disturbance Permit as outlined in Sec. 6 of the Storm Water Regulations.
    b. Prior to issuance of Land Disturbance Permit, a pre-construction meeting will be held by staff with the owner/operator.
    c. The construction plans will be reviewed for adequate pre, during and post control BMPs.

2. Residential Lots
    a. Applicants will be required to apply for Land Disturbance Permit as outlined in Sec. 6 of the Storm Water Regulations.
    b. A site specific erosion control plan will be reviewed for adequate construction site BMPs.

3. Any changes to the plans will require re-submittal to the Engineering Department for review. Upon expiration of the Land Disturbance Permit, the owner/operator must submit plans for a new permit. If the plans have been amended, then a Land Disturbance Permit application fee will be required.

B. Performance Standards and BMP Maintenance

1. Runoff Reduction
    a. Implemented July 1, 2013 as specified within Sec. 2 of the Storm Water Regulations.

b. Proposed BMPs will be reviewed by staff prior to issuance of Land Disturbance Permit.

2. Pollutant Removal
    a. Applicants subject to standards specified within Sec. 2 of the Storm Water Regulations.
    b. Proposed BMPs will be reviewed by staff prior to issuance of Land Disturbance Permit.
    c. Reference material is provided to assist the BMP designer to meet the required standards.

3. BMP maintenance
    Storm Water Long-Term Operation and Maintenance requirements will be implemented as described in Section 5 of the Storm Water Regulations.

C. Permanent Stormwater BMP installation

1. Final storm water management BMPs must be inspected and certified that the BMPs are in accordance with the approved plans.

2. BMP inspections as described in Sec. 5 of the Storm Water Regulations are required to be submitted to Williamson County.

A violation of the Storm Water Regulations shall result from:

A. Illicit discharge into any watercourse under County jurisdiction;

B. Illicit discharge from any site required to have a Land Disturbance Permit;

C. Failure to obtain a Land Disturbance Permit;

D. Failure to install or maintain erosion prevention and sediment controls; OR

E. Unapproved or unpermitted encroachment into the Waterway Natural Area (WNA).

Williamson County shall have the authority to issue Notices of Violation and citations, to impose the civil penalties, and to institute appropriate actions or proceedings at law or equity for the enforcement of the Storm Water Regulations.

Complaints related to Illicit Discharge, Detection and Elimination (IDDE) will be reviewed within 7 days of receiving the complaint.

For potential enforcement actions and descriptions, see Table 3.

Table 3: Enforcement Response Plan

Williamson County Engineering Department Storm Water Management Program Enforcement Response Plan (ERP)	
Enforcement	**Description**
a. Verbal Warnings	Verbal Warnings may be used in combination with other enforcement actions or as an initial notice to the owner/operator, depending on the severity of the violation(s) or other relevant factors.
b. Notification of Violations	Notice of Violation (NOV) Consent Orders Cease and Desist Orders
c. Civil Penalties	1) Residential A. Failure to install or maintain erosion controls - $250.00 per occurrence B. Illicit Discharge - $500.00 per occurrence C. Failure to Obtain a Land Disturbance Permit - $1,000.00 per occurrence 2) Development and Non-residential A. Failure to install or maintain erosion controls - $500.00 per occurrence B. Illicit Discharge - $1,000.00 per occurrence C. Failure to Obtain a Land Disturbance Permit - $5,000.00 per occurrence Unapproved or unpermitted encroachment into the Waterway Natural Area (WNA) -$1,000.00 Additionally, the following may be considered when assessing Civil Penalties: A. The harm done to the public health or the environment; B. Whether the civil penalty imposed will be a substantial economic deterrent to the illegal activity; C. The economic benefit gained by the violator; D. The amount of effort put forth by the violator to remedy this violation; E. Any unusual or extraordinary enforcement costs incurred by the municipality; F. The amount of penalty established by ordinance or resolution for specific violations; and G. Any equities of the situation which outweigh the benefit of imposing any penalty or damage assessment.
d. Cease and Desist Order	Residential - Halt all grading and land disturbance activities on the lot until remedial or preventive action is taken. Development and non-residential - Halt all construction operations on development infrastructure within that Section of the development, except where necessary to take remedial or preventive action.
e. Withholding of Plan Approvals or Other Authorizations	Residential - Advise the Building Codes Director to not conduct any future inspections and withhold issuance of any Certificates of Occupancy until remedial action has been completed. Development and non-residential A. Advise the Building Codes Director to withhold issuance of any new building permits within that section of the development until remedial or preventive action has been completed. B. Advise the Planning Director to withhold placing future submittals within the same development on the agenda of the Planning Commission until remedial or preventive action has been completed. C. Withhold issuance of any future land disturbance permits within the same development until a revised SWPPP has been submitted to the County Engineer.
f. Additional Measures	Williamson County may recover all damages proximately caused by the violator to Williamson County, which may include any reasonable expenses incurred in investigating violations of, and enforcing compliance with the Storm Water Regulations, or any other actual damages caused by the violation. Williamson County may recover costs for maintenance of storm water facilities when the user of such facilities fails to maintain them as required.

Williamson County, Tennessee

Storm Water Management Regulations

Originally Adopted by Resolution of the

Williamson County Board of Commissioners on November 8, 2004

Effective January 1, 2005

1st Revision Adopted by Resolution of the Williamson County Board of Commissioners on May 12, 2008

2nd Revision Adopted by Resolution of the Williamson County Board of Commissioners on February 13, 2012

3rd Revision Adopted by Resolution of the Williamson County Board of Commissioners on September 11, 2023

Section 7: Inspections

Inspections shall be performed to ensure that vegetation, erosion and sediment control measures and other protective measures identified in the site plan are kept in good and effective operating condition.

7.1 Owner/Operator Inspections

A. Inspections required by Tennessee Department of Environment and Conservation (TDEC).

B. Williamson County may request submission of inspection documentation.

C. Initial Storm Water Controls must be inspected and certified that the BMPs are in accordance with the approved plans by a professional engineer, registered land surveyor, architect, landscape architect, or certified professional in erosion and sediment control, on sites greater than one (1) acre or part of a larger development.

D. Where structural BMPs are required, the controls and related swales must be installed prior to any other land disturbance activity within the associated drainage basin. Structural BMPs include practices like sediment ponds, sediment traps, etc., and the construction must be certified by a Professional Engineer or Landscape Architect.

E. Post Construction BMPs/SCMs must be inspected and certified that the BMPs/SCMs are in accordance with the approved plans by a professional engineer, licensed in the State of Tennessee, prior to release of surety.

F. Final storm water management BMPs/SCMs must be inspected and certified that the BMPs/SCMs are in accordance with the approved plans by a professional engineer, licensed in the State of Tennessee, prior to certificate of occupancy for non-residential site plans.

G. Hard copy and digital as-built plans of storm water BMPs/SCMs, will be required in the State of Tennessee Plane coordinate system with the North American Datum 1983 (NAD83) and North American Vertical Datum (NAVD) of 1988.

7.2 County Inspections

A. County inspections may include, but are not limited to, the following:

1. An initial inspection prior to issuance of Land Disturbance Permit;
2. A bury inspection prior to burial of any underground drainage structure;
3. Erosion prevention and sediment control inspections as necessary to ensure effective control of erosion and sedimentation; and
4. A final inspection when all work, including installation of storm management facilities, has been completed.
5. Periodic inspections to ensure storm water facilities are being maintained.

Section 8: Violations and Enforcement

8.1 Violations.

A violation of these Regulations shall result from:

A. an illicit discharge as defined in Section 2 herein, into any watercourse under County jurisdiction;

B. an illicit discharge, as defined in Section 2 herein, from any site required to have a Land Disturbance Permit;

C. failure to obtain a Land Disturbance Permit where required herein;

D. development activities inconsistent with the approved plans or permits;

E. failure to install or maintain erosion prevention and sediment controls consistent with the plan and performance requirements of these Regulations;

OR

F. unapproved or unpermitted encroachment in the Waterway Natural Area (WNA).

8.2 Enforcement.

Williamson County shall have the authority to issue Notices of Violation and citations, to impose the civil penalties provided in this Section, and to institute appropriate actions or proceedings at law or equity for the enforcement of these Regulations.

8.3 Notification of Violation.

A. Written Notice. Whenever the County Engineer, the Storm Water Quality Coordinator or his designee finds that any owner/operator or any other person discharging storm water has violated or is violating these Regulations or a permit or order issued hereunder, he may serve upon such person written Notice of the Violation (NOV). In addition to the NOV, whenever the County Engineer, the Storm Water Quality Coordinator or his designee finds that any permittee, person, company or facility owning, occupying or operating on any premises has violated or is violating these Regulations or a permit or order issued hereunder, he may revoke any permit issued by the County. Any permit mistakenly issued in violation of any applicable federal, state or local law or regulation may be revoked. Notice of such revocation shall be in accordance with the same notification requirements for NOVs.

Within a time limit established by this Notice, an explanation of the violation and a plan for the satisfactory correction and prevention thereof, to include specific required actions, shall be submitted to Williamson County. Submission of this plan in no way relieves the discharger of liability for any violations occurring before or after receipt of the Notice of Violation.

B. Consent Orders. The County Engineer or the Storm Water Quality Coordinator or his designee is empowered to enter into consent orders, assurances of voluntary compliance, or other similar documents establishing an agreement with the person responsible for the noncompliance. Such orders will include specific action to be taken

by the person to correct the noncompliance within a time period also specified by the Consent Order.

C. Cease and Desist Orders. Cease and Desist Orders may be issued along with the NOV outlined above. When the County Engineer or Storm Water Quality Coordinator or his designee finds that any person has violated or continues to violate these Regulations or any permit or order issued hereunder, he may:

1. In the case of a residential or non-residential development:

   a. issue an order to cease and desist all such violations and direct those persons in noncompliance to:

      1. comply forthwith;
      2. take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation;
      3. halt all construction operations on development infrastructure within that Section of the development, except where necessary to take remedial or preventive action;

   b. advise the Building Codes Director to withhold issuance of any new building permits within that section of the development until remedial or preventive action has been completed;

   c. advise the Planning Director to withhold placing future submittals within the same development on the agenda of the Planning Commission until remedial or preventive action has been completed;

   d. withhold issuance of any future land disturbance permits within the same development until a revised SWPPP has been submitted to the County Engineer; and

   e. maintain the Cease and Desist Order until such time as the violations are remedied and any civil penalties, imposed in accordance with Section 9 of these Regulations, are paid or the obligation is removed through the appeals process by the Storm Water Appeals Board.

2. In the case of a permit holder for an individual residential lot:

   a. issue an order to cease and desist all such violations and direct those persons in noncompliance to:

      1. comply forthwith;
      2. take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation;
      3. halt all grading and land disturbance activities on the lot until remedial or preventive action is taken;

   b. advise the Building Codes Director to not conduct any future inspections and withhold issuance of any Certificates of Occupancy until remedial action has been completed; and

   c. maintain the Cease and Desist Order until such time as the violation is remedied and any civil penalties, imposed in accordance with Section 9 of these regulations, are paid or the obligation is removed through the appeals process by the Storm Water Appeals Board.

8.4 Conflicting standards.

Whenever there is a conflict between any standard contained in these Regulations and in the Best Management Practices (BMP) manual adopted by Williamson County pursuant to these Regulations, the strictest standard shall prevail.

Section 9: Penalties

Any person who shall commit any act declared unlawful under these Regulations, who violates any provision of these Regulations, who violates the provisions of any permit issued pursuant to these Regulations, or who fails or refuses to comply with any lawful communication or notice to abate or take corrective action by the County Engineer or Storm Water Quality Coordinator or his designee, shall be guilty of a civil offense.

9.1 Penalties

Under the authority provided in Tennessee Code Annotated Section 68-221-1106, Williamson County declares that any person violating the provisions of these Regulations may be assessed a civil penalty by the County Engineer or Storm Water Quality Coordinator or his designee of not less than $50.00 and not more than $5,000.00 per day for each day of violation. Each day of violation shall constitute a separate violation. The penalties may be assessed beyond schedules applied in a Notice of Violation (NOV) or other schedules issued to the owner/operator or other person responsible for the violations defined in these Regulations.

9.2 Payment of Penalties

Civil penalties shall be paid within ten (10) days of receipt of the written notice of imposition of the penalties, unless an appeal of the penalty has been properly perfected in accordance with these Regulations. If the civil penalty is appealed to the Storm Water Appeals Board, the penalty shall be paid into escrow at the time of application. If the civil penalty is not paid within the deadlines established herein and if the applicant does not appeal the decision of the Storm Water Appeals Board, then Williamson County shall have the authority to either place a lien upon and against the property or seek execution of the penalty through a court of competent jurisdiction. If Williamson County places a lien upon the property and the lien is not removed within ninety (90) days, Williamson County is authorized to take all legal action necessary to enforce the lien as a judgment, including without limitation, enforcing the lien in an action brought in a court of competent jurisdiction. Williamson County shall be entitled to any costs and fees associated with enforcement of these Regulations, execution of a penalty or enforcement of any lien placed upon property in accordance with these Regulations.

9.3 Specific Penalties

The maximum civil penalties shall be determined by the County Engineer, Storm Water Quality Coordinator or his designee, based on the type of offense. This indicates the maximum that may be imposed for a first offense and does not reflect increases that may be imposed for repeat offenses.

A. The following may be imposed upon single residential lot violations:

1. Failure to install or maintain erosion controls-$250.00 per occurrence.
2. Illicit Discharge - $500.00 per occurrence.
3. Failure to Obtain a Land Disturbance Permit - $1,000.00 per occurrence.

B. The following may be imposed upon residential development and non-residential development violations:

1. Failure to install or maintain erosion controls - $500.00 per occurrence.
2. Illicit Discharge - $1,000.00 per occurrence.
3. Failure to Obtain a Land Disturbance Permit - $5,000.00 per occurrence.

4. Development inconsistent with permit - $5,000.00 per occurrence.

C. Where a Waterway Natural Area (WNA) is required on any plat, site plan or grading plan, any unapproved or unpermitted encroachment into a WNA may receive a penalty of $2,000.00 for each occurrence.

D. The penalty may be increased by twenty-five percent (25%) of the previous penalty amount for every subsequent but separate offense made by the same person, company or facility. The penalty shall be additional to other enforcement actions of this section.

9.4 Measuring civil penalties

In assessing a civil penalty, the County Engineer or Storm Water Quality Coordinator or his designee shall consider the following:

A. The degree and extent of harm to the natural resources, to the public health or to the public or private property resulting from the violation;

B. The duration and gravity of the violation;

C. The effect on ground or surface water quality;

D. The cost of rectifying the damage;

E. Whether the civil penalty imposed will be a substantial economic deterrent to the illegal activity;

F. The economic benefit gained by the violator as a result of noncompliance;

G. Whether the violation was committee willfully or intentionally;

H. The amount of effort put forth by the violator to remedy this violation;

I. Any unusual or extraordinary enforcement costs incurred by the County;

J. The cumulative effect of other enforcement actions applied for the same offense;

K. The prior record of the violator in complying or failing to comply with these Regulations;

L. The amount of penalty established by ordinance or resolution for specific violations; and

M. Any equities of the situation which outweigh the benefit of imposing any penalty or damage assessment.

9.5 Recovery of Damages and Costs

Williamson County may recover damages and costs in addition to civil penalties.

A. Williamson County may recover all damages proximately caused by the violator to Williamson County, which may include any reasonable expenses incurred in investigating violations of, and enforcing compliance with, these Regulations, or any other actual damages caused by the violation.

B. Williamson County may recover the costs to Williamson County for maintenance of storm water facilities when the user of such facilities fails to maintain them as required by these Regulations.

C. In the event that there are penalties assessed by the State against Williamson County caused by or as a result of the act or omission of any person, company or facility, or owner/operator, said actor shall be assessed the equivalent amount of such penalty. This shall include, but is not limited to, penalties for improper disposal or illegal dumping, or illicit connection into the municipal separate storm sewer system.

D. If corrective action, including maintenance delinquency, is not taken in the time specified, or within a reasonable time if no time is specified, Williamson County may undertake the corrective action, and the cost of such corrective action shall be the responsibility of the person, company, facility, owner/operator and\or developer. The cost of abatement and restoration shall be borne by the owner of the property, with such costs invoiced to the owner of the property. If said invoice is not paid within 90 days of receipt of such invoice, Williamson County shall have the authority to place a lien upon and against the property. If the lien is not removed within 90 days, Williamson County is authorized to take all legal action necessary to enforce the lien as a judgment, including without limitation, enforcing the lien in an action brought in a court of competent jurisdiction. Williamson County shall be entitled to any costs and fees associated with enforcement of these Regulations or enforcement of any lien placed upon property in accordance with these Regulations.

9.6 Other Remedies

Williamson County may bring legal action to enjoin the continuing violation of these Regulations, and the existence of any other remedy, at law or equity, shall be no defense to any such actions.

9.7 Remedies Cumulative

The remedies set forth in this section shall be cumulative, not exclusive, and it shall not be a defense to any action, civil or criminal, that one (1) or more of the remedies set forth herein has been sought or granted.

9.8 Emergency Orders and Abatement

The County Engineer or Storm Water Quality Coordinator or his designee may order the abatement of any discharge from any source to the storm water conveyance system when, in the opinion of the County Engineer or Storm Water Quality Coordinator or his designee, the discharge causes or threatens to cause a condition which presents an imminent danger to the public health, safety or welfare, or the environment, or a violation of the NPDES permit. In emergency situations where the property owner or other responsible party is unavailable and time constraints are such that service of a notice and order to abate cannot be effected without presenting an immediate danger to the public health, safety or welfare, or the environment or a violation of the National Pollution Discharge Elimination System (NPDES) permit, the County may perform or cause to be performed such work as shall be necessary to abate said threat or danger. The costs of any such abatement shall be borne by the property owner and shall be collected in accordance with the provisions herein.