

To: Owners, Developers, and Consultants

Date: 2 January 2026

From: Jonathan Larkin
Public Works Assistant Director
Stormwater Coordinator

Re: Post Construction Stormwater Management Requirements

Overview

In 1990, the U.S. Environmental Protection Agency (EPA) promulgated regulations establishing Phase I of the National Pollutant Discharge Elimination Systems (NPDES) stormwater program. The Phase I program for municipal separate storm sewer systems (MS4s) requires operators of medium and large MS4s that generally serve populations of 100,000 or greater to implement a stormwater management program to control, to the maximum extent practicable (MEP), polluted discharges from certain municipal, industrial, and construction activities into the MS4.

In 1999, the EPA promulgated regulations establishing Phase II of the NPDES stormwater program. The Phase II program extends coverage of the NPDES stormwater program to regulate small MS4s. A small MS4 is defined as a MS4 located within an urbanized area as defined by the Census Bureau or as designated by the NPDES permitting authority.

The Alabama Department of Environmental Management (ADEM) has primary jurisdiction over permitting and enforcement of the Stormwater Program for Alabama. On 9 May 2022, ADEM issued NPDES Permit Number ALS000010 to the City of Prattville (Prattville) for stormwater discharges associated with the City's MS4. The City's NPDES Permit became effective on 9 May 2022 and will expire on 8 May 2027. The City is required to develop and implement a Stormwater Management Program (SWMP) in accordance with the NPDES Permit requirements.

In accordance with the NPDES Permit, the City has developed and implemented a Post-Construction Stormwater Program to address stormwater runoff from qualifying new development and redevelopment projects. This memorandum provides technical guidance regarding the City's post-construction stormwater management requirements in accordance with the City's NPDES Permit.

Applicable Developments

The City’s post-construction stormwater management requirements apply to “Qualifying New Development or Redevelopment” projects that meet one of the following criteria:

1. “Qualifying New Development or Redevelopment” means any site that results from the disturbance of one acre or more of land, or the disturbance of less than one acre of land if part of a larger common plan of development or sale that is greater than one acre. Qualifying new development or redevelopment does not include land disturbances conducted by entities under the jurisdiction and supervision of the Alabama Public Service Commission (APC); or,
2. New development or redevelopment projects that result from the disturbance of less than one acre and stormwater management is required to provide adequate protection of the City’s MS4. Projects meeting this requirement shall be identified at the discretion of the City.

Since the City implemented its post-construction stormwater management program in 2018, the primary Best Management Practices (BMPs) that have been used for post-construction stormwater management include, but are not limited to, detention ponds, retention ponds, underground detention, and hydrodynamic separators. This technical memorandum has been updated to address stormwater management BMPs used for post-construction stormwater management. However, this does not preclude the use of other generally accepted BMPs.

Implementation

Effective 5 October 2018, all qualifying new development or redevelopment projects shall be designed, constructed, and maintained in accordance with this technical memorandum.

Waiver Request

The City recognizes that certain developments may qualify for a waiver from post-construction stormwater management requirements. The following waivers may be applicable:

1. Form 1A – Existing Development Waiver Request Form (Form 1A) – If a development meets the following criteria, a waiver may be requested:
 - a. The proposed development was included as part of the stormwater management strategy for an existing larger development;
 - b. Land use and/or density of the proposed development have not changed;

- c. The post-construction stormwater management BMP has been constructed as part of the larger development;
 - d. The post-construction stormwater management BMP does not require any maintenance and is functioning as it was designed;
 - e. The proposed development does not drain to an area with known flooding or stormwater concerns; and,
 - f. Provide all the required attachments listed on Form 1A.
2. Form 1B.1 – Impervious Area Waiver Request Form (Form 1B.1) – If a redevelopment meets the following criteria, a waiver may be requested:
- a. The proposed redevelopment reduces the existing impervious area within the proposed redevelopment;
 - b. The proposed redevelopment does not adversely impact an area with known flooding and/or stormwater concerns;
 - c. The proposed development does not alter the existing drainage patterns, discharge locations, and/or adversely impact adjacent properties; and,
 - d. Provide all the required attachments listed on Form 1B.1.

If an Impervious Area Waiver is approved, and prior to the issuance of a final plat or certificate of occupancy, Form 1B.2 – Impervious Area Waiver As-Built Certification Form (Form 1B.2) and all required attachments shall be submitted and approved by the City.

3. Form 1D.1 – Non-Qualifying Development Waiver Request Form (Form 1D.1) – If a development meets the following criteria, a waiver may be requested:
- a. The proposed development or redevelopment is less than 1 acre and not part of a larger development or the proposed development or redevelopment will not disturb an area greater than 3,500 square feet;
 - b. The proposed development or redevelopment does not adversely impact an area with existing flooding or stormwater concerns;
 - c. The proposed development or redevelopment does not alter existing drainage patterns, discharge locations, and/or adversely impact adjacent properties;
 - d. The parcel has not previously received approval for a Non-Qualifying Development Waiver; and,
 - e. Provide all the required attachments listed on Form 1D.1.

- If a Non-Qualifying Development Waiver is approved, and prior to the issuance of a final plat or certificate of occupancy, Form 1D.2 – Non-Qualifying Development Waiver As-Built Certification Form (Form 1D.2) and all required attachments shall be submitted and approved by the City.
4. Form 1E – Special Residential Development Waiver Request Form (Form 1E) – If a development meets the following criteria, a waiver may be requested:
- a. A residential development that is 5 acres or less;
 - b. Lots are 1/3 acre or larger with an impervious area not to exceed 25%;
 - c. A minimum 50-foot vegetative buffer between impervious surfaces and storm drainage features shall be provided;
 - d. The proposed development does not drain to an area with existing flooding or stormwater concerns;
 - e. The proposed development is not part of a larger development or will not be a part of a larger development;
 - f. The proposed development does not alter existing drainage patterns and/or discharge locations;
 - g. The proposed development will not adversely impact any adjacent properties or structures located within the development, located upstream of the development, and/or located downstream of the development.; and,
 - h. Provide all the required attachments listed on Form 1E.

Depending upon the location of the proposed development and at the discretion of the City, the City may require the proposed development to address post-construction stormwater management and/or water quality as described in this technical memorandum. For a development or redevelopment project to be considered for a waiver, the proposed development shall complete the appropriate waiver request form and provide supporting documentation that may include, but is not limited to, approved master plan, basin maps, Hydrologic and Hydraulic (H&H) calculations, development plan approval, final plat, drawings, construction plans, and/or aerial photographs.

Permit Application Review Fee

A Permit Application Review Fee of \$1,500 shall be included with the permit application. The permit application review fee shall be in a check made payable to “City of Prattville”. The permit application will not be processed until the permit application review fee is received by the City.

To encourage the use of low-impact development (LID) and/or green infrastructure (GI) practices in qualifying new development and redevelopment projects, the City shall waive the Permit Application Review Fee for projects that incorporate LID and/or GI practices.

Water Quality Requirements

Post-construction stormwater runoff quality is an important component of the City's SWMP. To meet the requirements of the City's NPDES Permit, a Water Quality Volume (WQ_v) shall be accounted for on each development, and BMPs shall be utilized to store and/or treat the WQ_v. The required WQ_v is based upon the first 1.10 inches of rainfall that falls on the Additional Impervious Area (AIA) associated with the proposed development. The WQ_v shall be calculated as described below:

$$WQ_v = 1.10 \text{ inches} * \text{AIA acres} * \text{Conversion Factor}$$

$$\text{Conversion Factor} = (1 \text{ foot} / 12 \text{ inches}) * (43,560 \text{ square feet} / 1 \text{ acre})$$

$$\text{Conversion Factor} = 3,630$$

For example: An existing 12.5-acre site planned for redevelopment contains 3 acres of Existing Impervious Area (EIA). The proposed development will contain 7 total acres of Proposed Impervious Area (PIA) in the post-development condition. The required WQ_v shall be calculated as follows:

$$\text{AIA} = \text{PIA} - \text{EIA}$$

$$\text{AIA} = 7 \text{ acres} - 3 \text{ acres} = 4 \text{ acres}$$

$$WQ_v = 1.10 \text{ inches} * 4 \text{ acres} * 3,630$$

$$WQ_v = 15,972 \text{ cubic feet of storage required}$$

The WQ_v that is required for each development may be provided in multiple ways to allow greater flexibility during design. There are several post-construction BMPs (such as detention ponds, retention ponds, underground detention, bioretention areas, proprietary stormwater quality treatment devices, LID, etc.) that may be utilized by the Owner and Engineer to meet the water quality and stormwater management requirements.

Low Impact Development (LID)

As an option for meeting the post-construction stormwater management requirements, the City encourages Owners, Developers, and Engineers to incorporate the use of low-impact development (LID) and/or green infrastructure (GI) practices into qualifying new development or redevelopment projects. The latest version of the Alabama Low Impact Development Handbook is incorporated into this technical memorandum by reference.

To encourage the use of LID and/or GI practices in qualifying new development and redevelopment projects, the City shall waive the Permit Application Review Fee for projects that incorporate LID and/or GI practices.

Design Standards and Requirements

All stormwater management facilities and post-construction BMPs shall be designed in accordance with this Technical Memorandum. At the City’s discretion, additional requirements may be required.

1. The calculation methodology for hydrologic and hydraulic (H&H) analysis shall utilize the National Resource Conservation Service (NRCS) Urban Hydrology for Small Watersheds Technical Release 55 (TR-55) or equivalent as approved by the City. For the determination of pre-construction and post-construction stormwater runoff hydrology, the 24-hour rainfall depths from National Oceanic and Atmospheric Administration (NOAA) Atlas14, Volume 9, Version 2, included in Table 1, shall be used:

Table 1 – Design Storms

Storm Event (24-hour)	Rainfall (inches)
WQ _v	1.10
2-year	4.21
5-year	5.24
10-year	6.17
25-year	7.55
50-year	8.70
100-year	9.93

2. As a part of the City's requirements for post-construction stormwater runoff management, all project sites that discharge to the City’s MS4 shall be responsible for ensuring, to the MEP, that post-development runoff mimics pre-development hydrology for the 2-year, 5-year, 10-year, 25-year, 50-year, and 100-year storm events listed in Table 1.
3. If a proposed development discharges onto and adjacent property, the proposed development shall either a) obtain a Release Agreement for the adjacent property or b) size the post-construction stormwater management BMP to attenuate the post-development peak discharges for the 50-year and 100-year storm events to be less than

the pre-development peak discharge for the 25-year storm event. Post-development peak discharges for the 2-year, 5-year, 10-year, and 25-year storm events shall be less than the pre-development peak discharges for the 2-year, 5-year, 10-year, and 25-year storm events, respectively.

4. At the City's discretion, more stringent stormwater management requirements may be imposed on any development or redevelopment project.
5. If post-construction stormwater management BMPs are located within a floodplain, the Owner shall provide documentation showing that the qualifying new development or redevelopment meets all floodplain management requirements.
6. Post-construction stormwater management BMPs shall not be located within a floodway.
7. The installation of post-construction stormwater management BMPs shall not adversely impact and/or cause flooding of properties within the development, located upstream, and/or located downstream of post-construction stormwater management BMPs.
8. A pathway for storm drainage (i.e., piped storm sewer, overland flow, etc.) within the development shall be provided to convey the discharge resulting from a 100-year, 24-hour storm event in a manner that will not adversely impact and/or cause flooding of structures within the development, located upstream of the development, and/or located downstream of the development.
9. The principal outlet control structure for a post-construction stormwater management BMP shall be sized to convey the 2-year, 5-year, 10-year, 25-year, and 50-year discharges without allowing any discharge from the emergency spillway.
10. Detention and retention ponds shall provide an emergency spillway designed to convey the discharge resulting from a 100-year storm event. A minimum freeboard of 1 foot above the maximum stage anticipated and 1 foot above the emergency spillway crest elevation shall be provided to prevent overtopping.
11. The bottom area of a detention pond shall have a minimum grade of 2.00% toward the outlet control structure to prevent standing water within the detention pond. A low-flow channel shall be provided from each inlet, across the bottom of the detention pond, to the outlet control structure to convey low flows and prevent standing water.

12. Design plans for stormwater management facilities shall show existing contours, proposed contours, contour labels, details of outlet control structure, details of the emergency spillway, layout of the storm sewer system, details of storm sewer system outlet protection, property lines, drainage area boundaries, roads, rights-of-way, streets, easements, etc.
13. H&H studies for post-construction stormwater management BMPs shall include a watershed model network schematic, existing drainage areas, proposed drainage areas, time of concentration (Tc), curve number (CN), pre-development peak discharges, post-development peak discharges, outlet control structure geometry, emergency spillway geometry, stage-area-storage summary, discharge summary, inflow and outflow hydrographs, outlet velocities, etc.
14. Pre-development and post-development drainage basin maps shall be on 11-in X 17-in paper and provide information that includes but is not limited to property boundaries, contours, contour labels, drainage basin boundaries, drainage basin identification that corresponds with the H&H study, Tc pathways, existing impervious areas, proposed impervious areas, location of post-construction stormwater management BMPs, and existing and proposed drainage easements.
15. Design Forms have been developed by the City to aid in the review and approval of post-construction stormwater management BMP submittals. The design forms provide a standard format for the Engineer to provide information concerning pre-development conditions, post-development conditions, and post-construction stormwater management BMP information. For a development that contains multiple post-construction stormwater management BMPs, the Engineer shall provide a completed Design Form for each post-construction stormwater management BMP. Additional design criteria may be provided in the Supplemental Instructions of the Design Form.
16. If, for any reason, the design is modified during construction, the Owner, Developer, or Engineer shall notify the City and provide an updated design submittal for review and approval.

As-Built Certification Requirements

As a part of the NPDES permit, the City is required to confirm that post-construction stormwater management BMPs have been constructed and are operated in accordance with their original design. To confirm that post-construction stormwater management BMPs were constructed in accordance with the design, the City has developed various As-Built Certification Forms. It shall be the Owner's responsibility to:

1. Ensure that a permanent vegetative cover is established on all disturbed areas of the new development or redevelopment;
2. Retain a Professional Land Surveyor to collect as-built information, including but not limited to topographic data, storm sewer systems, drainage swales, pond volume, embankment size and elevations, outlet control structure details, invert elevations, spillway elevations, etc.; and,
3. Retain a Professional Engineer to utilize the as-built field survey information to complete the applicable As-Built Certification Form and provide all required attachments.

The As-Built Certification Form shall be approved by the City prior to the issuance of a Certificate of Occupancy (CO) and/or prior to the recording of the final plat.

The as-built certification submittal for each post-construction stormwater management BMP shall include the following:

1. Applicable As-Built Certification Form
2. As-built H&H calculations
3. As-built survey with the signature, seal, and date of the Professional Land Surveyor
4. As-built photographs to include, but not limited to:
 - a. General overview of the new development and post-construction stormwater management BMPs showing that all disturbed areas have been permanently stabilized;
 - b. As applicable for the post-construction stormwater management BMPs, structural components that may include but are not limited to the outlet control structure, multi-stage riser, orifices, weirs, outlet pipe, and WQ filter;
 - c. Outlet pipe discharge location and outlet protection;
 - d. Emergency spillway and discharge location;
 - e. Pipes that discharge into the post-construction BMPs;
 - f. Location where the post-construction stormwater management BMP discharges into the receiving stream, culvert, channel, or storm sewer system; and,
 - g. Other photographs as described in the Supplemental Instructions of the as-built certification forms.
5. In addition to the photographs described above, photographs for underground

detention systems shall be taken during construction to include, but not limited to:

- a. Subsurface soils;
 - b. Bedding materials;
 - c. Underdrain system;
 - d. Pipes and/or chambers;
 - e. Manifold;
 - f. Isolator row(s); and,
 - g. Inspection ports.
6. Each photograph shall have the date it was taken and a caption describing the item in the photograph and/or photograph location.

The primary goal of the As-Built Certification process is to confirm that the qualifying new development or redevelopment has been permanently stabilized and post-construction stormwater management BMPs were constructed and will function as they were designed.

Annual Inspection Requirements

For post-construction stormwater management BMPs to continue to function in accordance with their original design and installation, annual inspections are required by the City's NPDES permit. The Owner of the development is required to annually inspect post-construction stormwater management BMPs and submit the required Annual Inspection Form to the City.

The Annual Inspection Form shall provide documentation concerning the condition of each post-construction stormwater management BMP, any maintenance required and/or performed, and all required attachments. The City shall evaluate the documentation submitted to confirm that post-construction stormwater management BMPs are continuing to function as designed. Specific requirements for annual inspections include:

1. Retain a qualified professional to perform an annual inspection that shall include:
 - Professional Engineer (PE)
 - Qualified Credentialed Inspector (QCI)
 - Certified Erosion, Sediment, and Stormwater Inspector (CESSWI)
 - Certified Professional in Erosion and Sediment Control (CPESC)
 - Certified Professional in Municipal Stormwater Management (CPMSM)
 - Certified Professional in Stormwater Quality (CPSWQ)
2. Depending upon the condition of the post-construction stormwater management BMPs, an inspection by a Professional Engineer may be required to ensure that the

- post-construction stormwater management BMPs continue to function as they were designed.
3. The qualified professional shall inspect post-construction stormwater management BMPs to determine if the post-construction stormwater management BMPs are operating as they were originally designed.
 4. Identify any maintenance that is required to restore the post-construction stormwater management BMPs to their original condition. Maintenance activities may include, but are not limited to the following:
 - a. Remove any accumulated sediment, debris, and/or trash;
 - b. Remove any invasive vegetation (i.e., trees, shrubs, kudzu, etc.);
 - c. Repair and re-vegetate any damaged slopes or embankments; or,
 - d. Repair or replace any damaged component(s) of the post-construction stormwater management BMPs.
 5. Develop a cost estimate for all necessary maintenance required to restore the post-construction stormwater management BMPs to their original condition.
 6. Photographs of each post-construction stormwater management BMP shall include, but not be limited to:
 - a. As applicable for the post-construction stormwater management BMPs, structural components that may include but are not limited to the outlet control structure, multi-stage riser, orifices, weirs, outlet pipe, and WQ filter;
 - b. Outlet pipe discharge location and outlet protection;
 - c. Emergency spillway and discharge location;
 - d. Pipes that discharge into the post-construction stormwater management BMPs
 - e. Location where the post-construction stormwater management BMP discharges into the receiving stream, culvert, channel, or storm sewer system.
 7. Each photograph shall have the date it was taken and a caption describing the item in the photograph and/or photograph location.
 8. Complete the applicable Annual Inspection Form and submit it to the City on or before 1 September.

Escrow Requirements

All HOAs or other multi-member entities shall create and contribute annually to a BMP maintenance escrow account. The annual contributions shall be recorded on Form 5A – Home

Owners Association (HOA) Escrow Account / Maintenance Request Form (Form 5A) and shall be submitted to the City each year by 1 September.

Operation and Maintenance Requirements

It is the responsibility of the Owner to operate and maintain the stormwater management facility and/or post-construction stormwater management BMPs in accordance with the original design intent and approval. If the original Owner or Developer has sold the development or transferred ownership to a Homeowners' Association (HOA) or other entity, the Operation and Maintenance Agreement (OMA) shall be transferred to the new Owner or HOA. It is the new Owner, HOA, or other entity's responsibility to maintain the stormwater management facility, provide any required inspection, maintenance, and escrow funds.

Should maintenance be needed for post-construction stormwater management BMPs as a result of the annual inspection or at the direction of the City, the Owner, HOA, or other entity shall take the following actions:

1. Retain a qualified registered professional to develop a scope of work and a cost estimate for the maintenance to be performed;
2. Complete and submit Form 5A to the City for review and approval;
3. Upon approval of Form 5A by the City, the City shall authorize the escrow agent to release funds from the escrow account to perform the necessary maintenance work; and,
4. Upon completion of all maintenance work, the qualified registered professional shall conduct an inspection to certify that all maintenance work has been completed and the post-construction stormwater management BMPs are operating as they were designed. A supplemental Annual Inspection Form shall be submitted to the City.

Excel Smart Forms

The City has developed smart forms to assist the designer in providing the required information to the City. The smart forms were created in Microsoft Excel and have the following features:

1. To activate the form, the user shall read and accept the End User License Agreement (EULA).
2. Some fields are highlighted green. Once a number or text is entered, the green highlight will be removed. If a field is highlighted green, the information is required.

3. When a Basin ID is entered for Pre-Development and Post-Development drainage basins, additional fields will be highlighted green to identify required information.
4. The designer is required to input data for the Proposed Impervious Area (PIA) and Existing Impervious Area (EIA). The form will calculate the Additional Impervious Area (AIA) and the Water Quality Volume (WQ_v) using the equations provided on the form. Calculated fields are highlighted in orange. Once the required information is entered to perform the calculation, the orange highlight will be removed.
5. For “Yes” or “No” questions, place an “X” in the appropriate box, and the green highlight will be removed.
6. Some sections of the form may have a dropdown list (i.e., Material, Shape, Select, etc.) By clicking the dropdown arrow in the bottom right corner of the cell, the user can select the appropriate answer.
7. If a field is highlighted yellow after a number or text is entered, the yellow highlight may indicate an error and/or concern. Once the error and/or concern is resolved, the yellow highlight will be removed. All yellow-highlighted cells shall be resolved, or an explanation shall be provided in the Comments section prior to completing the form.
8. Automated checks have been incorporated into the forms to indicate items of concern. Some examples include the following:
 - a. Total Post Q is greater than Pre Q, the Total Post Q will be highlighted in yellow.
 - b. Velocity is greater than 6 ft/s, the Velocity will be highlighted in yellow.
 - c. If the Max Elev. for the 2, 5, 10, 25, or 50-year storm events discharge through the emergency spillway, the Max Elev. will be highlighted in yellow.
9. At the bottom of the form, the Automated Review Checks section will provide comments that shall be addressed by the designer before completing the form. Provide additional information in the Comments section.
10. Supplemental Instructions may be provided on each form. The Supplemental Instructions may provide additional requirements and/or guidance for that specific post-construction BMP.
11. If the form is completed properly, there shall be no cells highlighted green, yellow, or orange. Comments in the Automated Review Checks should be blank.
12. Completing the Design Form will automatically populate some of the design information in the As-Built Certification Form.

The following Microsoft Excel smart forms are currently available on the City's website:

Prattville Waiver Forms

- Form 1A – Existing Development Waiver Request Form
- Form 1B.1 – Impervious Area Waiver Request Form
- Form 1B.2 – Impervious Area Waiver As-Built Certification Form
- Form 1D.1 – Non-Qualifying Development Waiver Request Form
- Form 1D.2 – Non-Qualifying Development Waiver As-Built Certification Form
- Form 1E – Special Residential Development Waiver Request Form

Prattville Detention Pond Forms

- Form 2A.1 – Detention Pond Design Form
- Form 2A.2 – Detention Pond Design Attachment Form
- Form 3A – Detention Pond As-Built Certification Form

Prattville Retention Pond Forms

- Form 2B.1 – Retention Pond Design Form
- Form 2B.2 – Retention Pond Design Attachment Form
- Form 3B – Retention Pond As-Built Certification Form

Prattville Underground Detention Pond Forms

- Form 2C.1 – Underground Detention Design Form
- Form 2C.2 – Underground Detention Design Attachment Form
- Form 3C – Underground Detention As-Built Certification Form

Prattville Bioretention Area Forms

- Form 2D.1 – Bioretention Area Design Form
- Form 2D.2 – Bioretention Area Design Attachment Form
- Form 3D – Bioretention Area As-Built Certification Form

Prattville Hydrodynamic Separator Forms

- Form 2E – Hydrodynamic Separator Design Form
- Form 3E – Hydrodynamic Separator As-Built Certification Form

Prattville Permeable Pavement Forms

- Form 2F.1 – Permeable Pavement Design Form
- Form 2F.2 – Permeable Pavement Design Attachment Form
- Form 3F – Permeable Pavement As-Built Certification Form

Prattville HOA Form

Form 5A – Home Owners Association (HOA) Escrow Account / Maintenance
Request Form

Prattville Inspection Forms

Form 4A – Detention Pond Annual Inspection Form
Form 4B – Retention Pond Annual Inspection Form
Form 4C – Underground Detention As-Built Certification Form
Form 4D – Bioretention Area Annual Inspection Form
Form 4E – Hydrodynamic Separator Annual Inspection Form
Form 4F – Permeable Pavement Annual Inspection Form