

RESOLUTION NO. 49-2022

**A RESOLUTION APPROVING AND ACCEPTING THE REVISED CITY OF SHELBY
STORMWATER QUALITY MANAGEMENT PROGRAM**

WHEREAS, City Staff developed a Stormwater Quality Management Program dated June 6, 2011 to meet the requirements of the City of Shelby's Stormwater NPDES Permit No. NCS000560; and,

WHEREAS, the City of Shelby's Stormwater NPDES Permit requires the City to maintain an updated Stormwater Quality Management Program; and,

WHEREAS, the Stormwater Quality Management Program was previously revised and adopted by City Council on February 18, 2019; and,

WHEREAS, City staff has revised the Stormwater Quality Management Program dated June 20, 2022 to meet the requirements of the current NPDES Stormwater Permit and promote water quality.

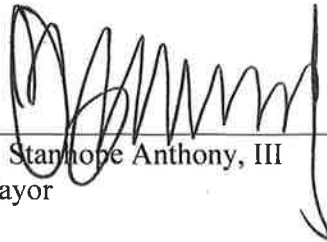
**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF
SHELBY, NORTH CAROLINA:**

Section 1. The City Council of the City of Shelby acknowledges, accepts, and approves the document entitled Stormwater Quality Management Program, revised June 20, 2022.

Section 2. The appropriate City staff are hereby authorized and directed to continue implementation of the City of Shelby Phase II Stormwater Program consistent with the actions outlined in the City of Shelby Phase II Stormwater Quality Management Program.


Section 3. This resolution shall become effective upon its adoption and approval.

Adopted and approved this the 20th day of June 2022.



O. Stanhope Anthony, III
Mayor

ATTEST:



Carol Williams
City Clerk



CITY OF SHELBY

STORMWATER QUALITY MANAGEMENT PROGRAM



June 6, 2011

Revised June 20, 2022

CITY OF SHELBY

STORMWATER QUALITY MANAGEMENT PROGRAM

Shelby City Council

Stan Anthony, III, Mayor
Emilie Bullock, Council Member
David White, Council Member
David Causby, Council Member
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Charles Webber, Council Member
Andrew Hopper, Sr., Council Member

Prepared by:
City of Shelby Engineering Department

**Originally Adopted the 20th of June, 2011
by the Shelby City Council**

**Revised the 18th of February, 2019
by the Shelby City Council**

**Revised the 16th of June, 2022
by the Shelby City Council**

SHELBY STORMWATER QUALITY MANAGEMENT PROGRAM

Table of Contents

1. Storm Sewer System Information	1
1.1. Population Served	1
1.2. Growth Rate.....	1
1.3. Jurisdictional and MS4 Service Areas.....	1
1.4. MS4 Conveyance System	1
1.5. Land Use Composition Estimates	1
1.6. Estimate Methodology	1
1.7. TMDL Identification.....	1
2. Receiving Streams.....	2
3. Existing Water Quality Programs.....	3
3.1. Local Programs	3
3.2. State Programs	3
4. Permitting Information	3
4.1. Responsible Party Contact List	3
4.2. Organizational Chart.....	9
4.3. Signing Official.....	9
4.4. Duly Authorized Representative	10
5. Co-Permitting Information.....	10
6. Reliance on other government entity	10
6.1. Name of Entity.....	10
6.2. Measure Implemented.....	10
6.3. Contact Information	10
6.4. Legal Agreements	10
7. Stormwater Management Program Plan.....	10
7.1. Public Education and Outreach on Storm Water Impacts	10
7.1.1. BMP Summary Table.....	10
7.1.2. Target Audience.....	10
7.1.3. Target Pollutant Sources	10
7.1.4. Outreach Program	11
7.1.5. Decision Process	11
7.1.6. Evaluation	11
7.2. Public Involvement and Participation	11
7.2.1. BMP Summary Table.....	11
7.2.2. Target Audience.....	11
7.2.3. Participation Program.....	11
7.2.4. Decision Process	11
7.2.5. Evaluation	11
7.3. Illicit Discharge Detection and Elimination	11
7.3.1. BMP Summary Table.....	12
7.3.2. Stormwater System Map.....	12
7.3.3. Regulatory Mechanism	12
7.3.4. Enforcement	12
7.3.6. Allowable Non-Stormwater Discharges.....	13
7.3.7. Outreach.....	13
7.3.8. Staff Training	13
7.3.9. Decision Process	13

7.3.10.Evaluation	13
7.4. Construction Site Stormwater Runoff Control	13
7.4.1 BMP Summary Table.....	14
7.5. Post-Construction Stormwater Management in New Development and Redevelopment.....	14
7.5.1. BMP Summary Table.....	14
7.5.2. Non-Structural BMPs.....	14
7.5.3 Structural SCMs.....	14
7.5.4. Natural Resource Protection.....	14
7.5.5. Open Space Protection	14
7.5.6. Tree Preservation	14
7.5.7. Redevelopment.....	14
7.5.8. Development in areas with Existing Infrastructure	14
7.5.9. Mixed-Use Development	14
7.5.10.Street Design.....	14
7.5.11.Green Infrastructure Elements and Street Design	15
7.5.12.Reduced Parking Requirements	15
7.5.13.Transportation Demand Management Alternatives.....	15
7.5.14.Minimizing Stormwater from Parking Lots	15
7.5.15.Green Infrastructure Practices	15
7.5.16.Regulatory Mechanism	15
7.5.17.Operation and Maintenance	15
7.5.18.Decision Process	15
7.5.19.Evaluation	16
7.6 Pollution Prevention/Good Housekeeping for Municipal Operations	16
7.6.1 BMP Summary Table.....	16
7.6.2 Affected Operations	16
7.6.3 Training.....	17
7.6.4 Maintenance and Inspections	17
7.6.5 Vehicular Operations	17
7.6.6 Waste Disposal.....	17
7.6.7 Existing ordinances	17
7.6.8 Decision Process	18
7.6.9 Evaluation	18

APPENDIX A: Resolutions and Ordinances

APPENDIX B: BMP Summary Table

APPENDIX C: Stormwater Administrative Manual

APPENDIX D: Chemical Application of Pesticides, Herbicides, and Fertilizers

APPENDIX E: Municipally Maintained Streets, Catch Basins, and Conveyance Systems Operation and Maintenance Manual

APPENDIX F: Illicit Discharge Detection and Elimination Procedure

APPENDIX G: Spill Response Procedure

APPENDIX H: Operations and Maintenance of Municipal Vehicles and Equipment Procedure

APPENDIX I: Municipal Facility Inspection Procedure

APPENDIX J: Solid Waste and Yard Waste Collection Procedure

City of Shelby Stormwater Management Program Plan

1. Storm Sewer System Information

1.1. Population Served: Permanent Population: 21,918 Seasonal: N/A Basis of Information: 2020 US Census

1.2. Growth Rate: 0.79% - The growth rate represents the annualized rate based on the relative change in 2010 and 2020 US Census.

1.3. Jurisdictional and MS4 Service Areas: Municipal: 22.48 square miles; Extraterritorial Jurisdiction: 14.64 square miles; MS4 Service Area: 37.12 square miles

1.4. MS4 Conveyance System: The City of Shelby Stormwater System consists of a combination of piping, ditches, and sheet flow. Per City Ordinance, all new city streets constructed by private developers must have curb and gutter stormwater systems. The City does not currently require structural stormwater control measure(s)(SCMs) to restrict the flow of stormwater runoff. The system is operated by the City's Stormwater Division, which is operated in the City of Shelby Engineering Department. The stormwater system for state maintained roads is managed by North Carolina Department of Transportation.

1.5. Land Use Composition Estimates:

Residential: 32.25 %
Commercial: 13.89 %
Industrial: 8.32 %
Institutional: 12.45 %
Mixed Use: 1.50 %
Parks: 2.47 %
Open Space: 29.12 %
TOTAL: 100.0%

1.6. Estimate Methodology:

The land use composition estimates were calculated from the City's Geographic Information System zoning land use data layer. The open space estimate is composed of City cemeteries, and R20 zoned parcels, which are largely undeveloped.

1.7. TMDL Identification: None.

2. Receiving Streams

Table 1. Broad River Basin

Receiving Stream Name	Stream Segment	Water Quality Classification	Use Support Rating	Water Quality Issues	303(d) List
Beams Lake	9-50-30-1	C	Not Rated	N/A	No
Bear Creek	9-50-31-1	C	Not Rated	N/A	No
Beason Creek	9-53-8	C	Not Rated	N/A	No
Beaverdam Creek	9-50-32	C	Not Rated	N/A	No
Brushy Creek	9-50-29	C	Not Rated	N/A	No
Buffalo Creek	9-53-(1)	WS-III	Not Rated	N/A	No
Buffalo Creek (Kings Mountain Reservoir)	9-53-(2.9)	WS-III, CA	Not Rated	N/A	No
First Broad River	9-50-(19.5)	WS-IV	Supporting	Ecological/biological Integrity Benthos	No
First Broad River	9-50-(28)	C	Impaired	Turbidity	No
First Broad River	9-50-(28)	C	Supporting	Ecological/biological Integrity Benthos	No
First Broad River	9-50-(28)	C	Not Rated	Fecal Coliform (recreation)	No
Hawkins Branch	9-50-32-5	C	Not Rated	N/A	No
Hickory Creek	9-50-30	C	Not Rated	N/A	No
Little Creek	9-50-29-4	C	Not Rated	N/A	No
Little Hickory Creek	9-50-30-2	C	Not Rated	N/A	No
Logan Branch	9-50-30-3-1	C	Not Rated	N/A	No
Long Creek	9-53-3-(1)	WS-III	Not Rated	N/A	No
Mayne Creek (East Fork Sandy Run Creek)	9-46-3	C	Not Rated	N/A	No
Muddy Fork	9-53-6	C	Not Rated	N/A	No
Overflow Branch	9-50-32-1	C	Not Rated	N/A	No
Poplar Branch	9-50-32-4	C	Not Rated	N/A	No
Potts Creek (Pilot Branch)	9-53-6-3	C	Not Rated	N/A	No
Roberts Branch	9-53-7-(2)	C	Not Rated	N/A	No
Roberts Branch (Joe's Lake)	9-53-7-(1)	B	Not Rated	N/A	No
Shoal Creek	9-50-31	C	Not Rated	N/A	No
Suck Creek	9-53-2.7	WS-III	Not Rated	N/A	No
Sugar Branch	9-53-32-3	C	Not Rated	N/A	No
Sulphur Springs Branch (Little Hickory Creek)	9-50-30-3	C	Not Rated	N/A	No
Swainsville Creek	9-50-32-2	C	Not Rated	N/A	No
Unnamed Tributary between Shelby Raw Water Intakes	9-50-27-(2)	WS-IV, CA	Not Rated	N/A	No
Unnamed Tributary between Shelby Raw Water Intakes (North Club Lake)	9-50-27-(1)	WS-IV	Not Rated	N/A	No
Williams Creek	9-50-26	WS-IV	Not Rated	N/A	No
N/A denotes that data was not available.					

3. Existing Water Quality Programs

3.1. Local Programs:

a) Watershed Protection Overlay District (Unified Development Ordinance Section 10-1)

The watershed protection overlay districts are designed to protect designated public water supply watershed from activities that could degrade water quality. The Purpose of this is to implement the provisions of the Water Supply Watershed Protection Act (NCGS 143-214.5) which requires the City of Shelby to adopt minimum land use regulations to protect water quality of public surface water supplies within the City's zoning jurisdiction. Development within this district shall employ best management practices to minimize water quality impacts.

b) Flood Hazard District Overlay Requirements (UDO Section 10-2)

The Flood Hazard Overlay District is designed for the purpose of protecting people and property from the hazards of flooding in accordance with the authority provided in NCGS 160A-381 and 160A-174. This program addresses many issues such as Artificial Obstructions with Floodways, building design requirements above base flood elevations, and on-site sewage disposal system requirements that avoid impairment or contamination from it during flooding.

3.2. State Programs:

NCDEQ Erosion and Sediment Control

The North Carolina Department of Environmental Quality implements the Sedimentation Pollution Control Act (SPCA) by adopting rules, setting standards, and providing guidance. This program currently reviews plans for all construction sites greater than or equal to 1.0 acre within the City's jurisdictional limits. This state agency is also responsible for field inspections and enforcement as required.

4. Permitting Information

4.1. Responsible Party Contact List: See Appendix B (pg. 25) for a list of each measurable goal sorted by measure. Contact information for responsible parties is listed below.

	BMP	Contact Person	Position	Phone #	Fax #	Email Address
BMP's and Measurable Goals for Public Education and Outreach						
1	Semi-annual newsletters included with utility billings	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
2	Distribute stormwater brochures through public facilities	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
3	Informational Website linked to City webpage	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
4	Establish Reporting Hotline	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
5	Coordinate with other in-house communication tools	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
BMP's and Measurable Goals for Public Involvement and Participation						
1	Establish a stormwater steering committee of citizens and stakeholders	Walt Scharer	Director of Planning Services	704-484-6829	704-484-6804	walt.scharer@cityofshelby.com
2	Storm drain marking/Stream Clean Up Day	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
3	Annual Public Meeting on program progress	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
BMP's and Measurable Goals for Illicit Discharge and Elimination						
1	Develop and adopt ordinance regarding illicit connections	Justin Wright	Civil Engineer	704-484-6840	704-484-6808	justin.wright@cityofshelby.com
2	Establish stormwater system map through the Geographic Information System (GIS)	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
3	Identify illicit connections through dry weather screening and video inspections	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
4	Train employees on how to inspect for illicit connections and establish a tracking system for managing reported problems	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com

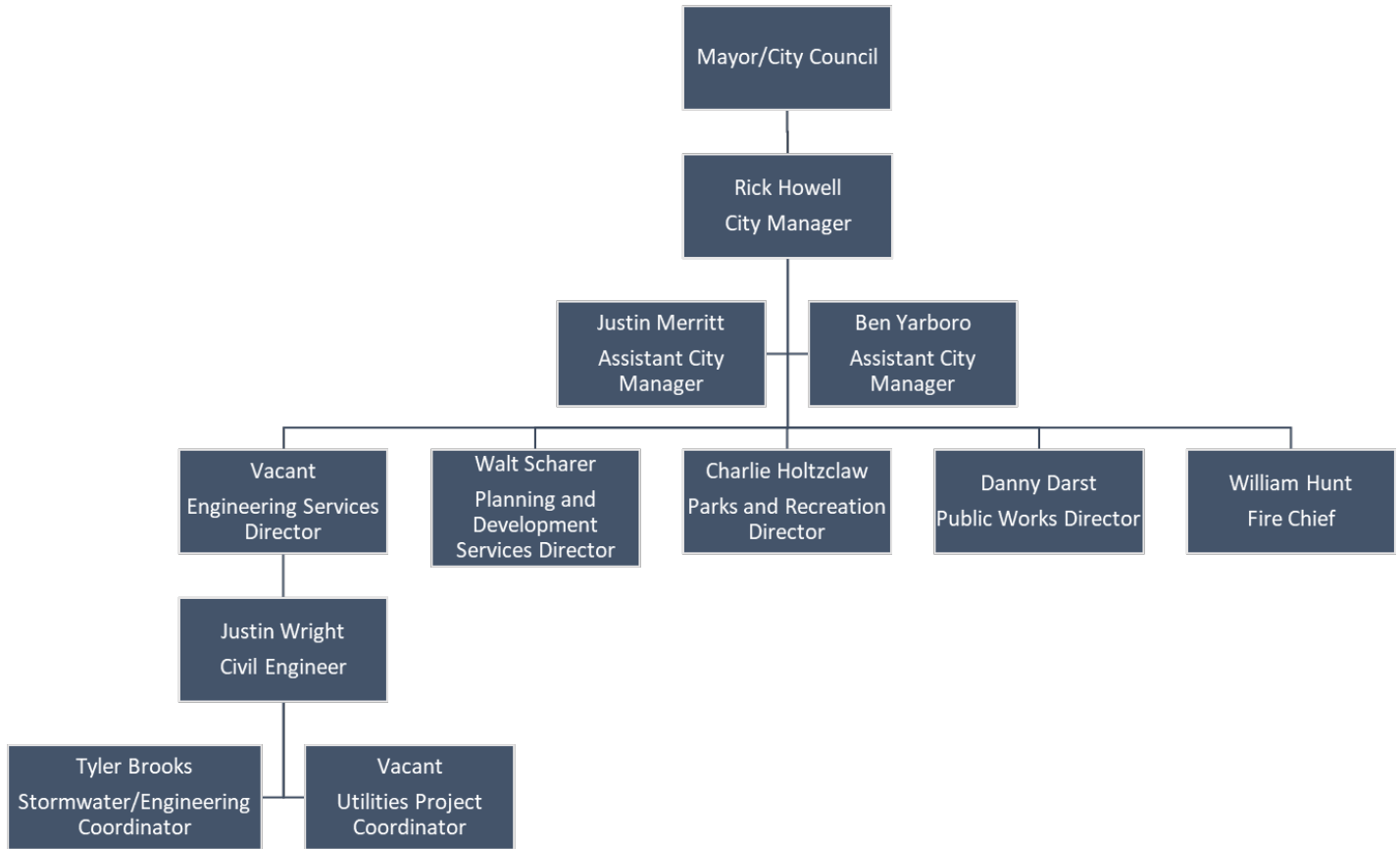
	BMP	Contact Person	Position	Phone #	Fax #	Email Address
5	Utilize local hotline set up under Public Involvement Program for public reporting of illicit discharge/illegal dumping	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
6	Coordinate with local wastewater program on identification of potential cross connections between sanitary sewer and storm sewers.	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
7	Identify responsible party within organization to manage follow up and enforcement actions.	Walt Scharer	Director of Planning Services	704-484-6829	704-484-6804	walt.scharer@cityofshelby.com
BMP's and Measurable Goals for Construction Site Stormwater Runoff Control						
1	Rely on existing measures implemented through NCDENR Land Quality Section.	Zahid Khan	Land Quality Supervisor	704-663-1699	704-663-6040	Zahid.Khan@ncdenr.gov
2	Develop a contractor's checklist for controls/inspections at construction sites	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
3	Provide education and training materials for contractors (distribute with zoning and building permits)	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
BMP's and Measurable Goals for Post Construction Storm Water Management in New Development and Redevelopment						
1	Develop and adopt an ordinance for development and redevelopment of properties meeting the minimum criteria established by NCDENR	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
2	Establish regulatory controls for ensuring long-term maintenance of on-site structures.	Ben Yarboro	Assistant City Manager	704-484-6840	704-484-6808	ben.yarboro@cityofshelby.com
3	Encourage Low Impact Development and better site design for stormwater control	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
4	Maintain a Stormwater Administrative Manual to provide information to developers on the requirements of the City of Shelby Phase II Stormwater Program	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com

	BMP	Contact Person	Position	Phone #	Fax #	Email Address
BMP's and Measurable Goals for Pollution Prevention/Good Housekeeping for Municipal Operations						
1	Develop training materials on pollution prevention for public facilities, using existing materials gathered from other organizations or creating new tools as needed. Educate all employees annually on the need for controls to protect stormwater from exposure to potential pollutants.	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
2	Provide training for those employees that maintain the drainage system with the focus on disposal of floatables, grit, sediment, and other pollutants removed from the system.	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
3	Provide training to employees that manage and apply chemicals for control of dust, pests, vermin, and weeds and/or are used to enhance the growth or condition of public urban landscape and recreation facilities. Training will target the safe and effective application, storage and disposal of chemicals used.	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
		Danny Darst	Director of Public Works	704-484-6846	704-484-6856	danny.darst@cityofshelby.com
		Charlie Holtzclaw	Director of Parks and Recreation	704-484-6839	704-484-6884	charlie.holtzclaw@cityofshelby.com
4	Annually inspect vehicle washing and fueling operations to ensure that they are in good working order and that they minimize exposure of stormwater to chemicals, fuels, and other liquids.	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com

	BMP	Contact Person	Position	Phone #	Fax #	Email Address
5	Inspect all materials storage facilities to determine priority for reducing exposure to stormwater.	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
6	Inspect salt storage facility and application equipment annually to identify and eliminate exposure to stormwater and/or ineffective/inappropriate application. Evaluate current snow and ice management program and ensure that effective measures are in place to minimize contamination of stormwater.	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
7	Develop standard operating procedures for various facilities and/or operations such as street sweeping activities and parking lot (garage) maintenance activities to ensure that the greatest reduction of pollutant loading to stormwater that can be achieved.	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
8	Evaluate your procedures for managing trash and garbage collection to ensure that exposure of contaminant materials is minimized.	Danny Darst	Director of Public Works	704-484-6846	704-484-6856	danny.darst@cityofshelby.com
9	Evaluate spill response program for in-house activities as well as community response and adjust as needed to ensure highest potential for minimizing impacts on stormwater.	William Hunt	Fire Chief	704-484-6835	704-484-6847	william.hunt@cityofshelby.com

	BMP	Contact Person	Position	Phone #	Fax #	Email Address
10	Maintain inventory of hazardous chemicals and other potentially hazardous materials and ensure that limited but sufficient quantity of items are on hand to minimize risk of spill or contamination of stormwater.	William Hunt	Fire Chief	704-484-6835	704-484-6847	william.hunt@cityofshelby.com
11	Mechanical street sweeping shall be completed on city maintained streets and public parking lots at a minimum of 2 times per year.	Danny Darst	Director of Public Works	704-484-6846	704-484-6856	danny.darst@cityofshelby.com
12	Catch basin and conveyance system maintenance shall follow the Operation and Maintenance guidelines developed by the City of Shelby.	Tyler Brooks	Stormwater Engineering Coordinator	704-484-6840	704-484-6808	tyler.brooks@cityofshelby.com
13	Limit the use of de-icing with chemicals on city maintained streets and public parking lots to the maximum extent practicable.	Danny Darst	Director of Public Works	704-484-6846	704-484-6856	danny.darst@cityofshelby.com

4.2. Organizational Chart:



4.3. Signing Official

Authorized Representative: City Manager

Name: J. Richard Howell

The City Manager is designated by resolution adopted by the City Council as the signing official.

4.4. Duly Authorized Representative

4.4.1. Resolution designating City Manager as the responsible party is attached in Appendix A.

5. Co-Permitting Information

N/A

6. Reliance on other government entity

6.1. Name of Entity: North Carolina Department of Environmental Quality

6.2. Measure Implemented: Construction Site Stormwater Runoff Controls

6.3. Contact Information:

- Name: Zahid Khan
- Address: 610 East Center Avenue, Suite 301, Mooresville, NC 28115
- Phone Number: 704-663-1699

6.4. Legal Agreements: Yes, the Sedimentation Pollution Control Act of 1973 (SPCA)

7. Stormwater Management Program Plan

7.1. Public Education and Outreach on Storm Water Impacts

7.1.1. BMP Summary Table: See Appendix B for the details on the following BMP's:

- Semi-annual newsletters included with utility billings.
- Distribute stormwater brochures through public and private facilities.
- Informational website linked to City web page.
- Maintain reporting hotline.
- Coordinate with other in-house communication tools.

7.1.2. Target Audience: The target audience for this measure will be households, businesses, and industries. Efforts will be made to target materials to school age children, the general public, and City employees. Materials will also be created to focus on different types of uses, such as residential, commercial, and industrial.

7.1.3. Target Pollutant Sources:

- **Trash:** An accumulation of trash and debris can clog stormwater pipes, creating hazards for vehicles, pedestrians, and homes.
- **Sediment:** Sediment removal reduces sedimentation of waterways and improves water quality for aquatic life, recreational uses, and drinking water supplies.
- **Car Washing:** Car washing can introduce pollutants into the stormwater system and is normally done under conditions where the runoff is not diluted.
- **Disposal of Household Chemicals and Used Oil:** Improper disposal of chemicals and oil degrades waterways and water quality.

- **Application of Lawn Care Products:** Overuse and improper application of lawn products poses risks to the natural environment, as well as people and animals.
- **Fecal Coliform:** Point and non-point pollution sources can increase levels of fecal coliform in a waterway.

7.1.4. Outreach Program: The City of Shelby's approach for the outreach program will use different methods to distribute information and inform the public. Outreach efforts will focus on mailers, flyers, and brochures to make the public aware of the stormwater program. Informational flyers and brochures will also be distributed at City booths at public events held in Shelby. Outreach efforts will also include updates to the City's website that will include general stormwater information and email links to report violations. In addition to the web-based information, a hotline will also be established for the public to contact City Staff.

7.1.5. Decision Process: The overall purpose of the City of Shelby stormwater plan is to provide a solid foundation of information for the public. The approach outlined in this application represents progressive steps designed to build on each other. It also allows for an evaluation of the BMP's effectiveness and the ability to make adjustments as needed. This approach will also accommodate any future revisions to the final stormwater rules that will be adopted by the State.

7.1.6. Evaluation: The effectiveness of this measure will be evaluated on an annual basis through a review of the number of materials developed and distributed. Additionally, the number of contacts through the hotline and email will be tracked to document the impact that the materials are having on the public.

7.2. Public Involvement and Participation

7.2.1. BMP Summary Table: See Appendix B for the details on the following BMP's.

- Establish a stormwater steering committee/advisory board of citizens and stakeholders.
- Storm drain marking/Stream Clean-Up Day/Litter Sweeps/Tree Planting Events
- Annual Public Meeting on program progress

7.2.2. Target Audience: The target audience will be the general public.

7.2.3. Participation Program: The Stormwater Division hosts and/or provides support/sponsorship for several creek and river clean-up events each year as well as litter sweeps throughout the City. Staff has a booth at several public events throughout the year allowing the public to discuss stormwater with Staff and get information on the program. Annually, a presentation is given at a City Council meeting providing an update on the program progress. These meetings are open to the public.

7.2.4. Decision Process: The annual presentation at the City Council Meeting gives any interested party an opportunity to see how the stormwater program operates and what it is doing in the City. With citizens paying a stormwater fee, it provides an opportunity to see where their money is being spent. The storm drain marking / Stream Clean Up Day / Litter Sweeps were established to ensure that citizen's take some "ownership" of the program and work with the City to ensure goals are met. These events, along with being present at public events, provides an opportunity for the Stormwater Staff to "teach" the public about the importance of the program and how they can help.

7.2.5. Evaluation: The effectiveness will be evaluated by holding an Annual Public Meeting on program progress in compliance with State and Local requirements for a public hearing.

7.3. Illicit Discharge Detection and Elimination

7.3.1. BMP Summary Table: See Appendix B for the details on the following BMP's.

- Maintain an ordinance regarding illicit connections.
- Maintain a stormwater system map through the Geographic Information System (GIS)
- Identify illicit connections through dry weather screening and video inspections
- Train employees on how to inspect for illicit connections and establish a tracking system for managing reported problems
- Utilize local hotline set up under Public Involvement Program for public reporting of illicit discharge/illegal dumping.
- Coordinate with local wastewater program on identification of potential cross connections between sanitary sewer and storm sewers.
- Identify responsible party within organization to manage follow up and enforcement actions.

7.3.2. Stormwater System Map: The City has completed a GIS inventory of approximately 95% of the stormwater system. The City is currently working to determine unidentified areas found during the initial survey of the system. All maps are available through the City of Shelby Utilities Department for review and comment.

7.3.3. Regulatory Mechanism: The City will maintain ordinances (Appendix A) for defining and correcting illicit connections and discharges to the stormwater system. City Staff will follow procedures outlined in Section 7.3.5 below to identify problem areas and trace it to the source.

7.3.4. Enforcement: The Code of Ordinances has been amended to allow for enforcement actions to be initiated for stormwater violations. Enforcement involves notification of the property owner, establishing a remediation period, and issuance of fines as needed.

7.3.5. Detection and Elimination: The City's approach to detect and eliminate illicit discharges starts with a general evaluation of the stormwater system. The evaluations will primarily be conducted during prolonged dry periods during the summer months. Once the preliminary evaluation is complete, a more detailed investigation of the stormwater system will be conducted. Once discharges are detected enforcement actions will be taken.

7.3.5.1. Procedures for locating priority areas: The City will use several different methods to identify illicit connections. First, dry weather evaluations of stormwater outfalls will be conducted to identify problem areas. Second, on-site inspections of industries and businesses will be conducted on an as-needed basis. These inspections will be coordinated through existing inspection programs in various City Departments. Third, the general public is provided with reporting mechanisms to notify City personnel of illicit connections. The City also trains employees to identify illicit connections and report possible violations to appropriate staff members. Additional detection methods will be evaluated during the permit cycle and changes will be made as needed.

7.3.5.2. Procedures for tracing the source of an illicit discharge: The City has an Illicit Discharge Detection and Elimination Procedure (APENDIX F) that is used to direct staff on how to report, document, investigate and remedy an illicit discharge. This procedure instructs staff to use methods such as dye testing, sampling and camera inspections to help trace the source of an illicit discharge.

7.3.5.3. Procedures for removing the source of the illicit discharge: The City has adopted an ordinance specifying the procedures and authority to eliminate an illicit connection or discharge. The ordinance gives City employees the right to perform on-site inspections, grants right-of-entry powers, outlines corrective actions, and specifies procedures for issuing fines and citations.

7.3.5.4. Procedures for evaluation of illicit connection and discharge component: A stormwater advisory group composed of designated City employees will evaluate the program on an annual basis. The group will evaluate the suggested BMP's for that year and determine whether they were met. If the goals of the suggested BMP's are not fulfilled, the group will decide whether to devise a new strategy for the BMP, modify the implementation method, or extend the time frame for the strategy.

7.3.6. Allowable Non-Stormwater Discharges

- Water line and hydrant flushing
- Flushing and clearing of stormwater conveyances with potable water
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration (defined at 40 CFR §35.2005(20))
- Uncontaminated pumped ground water
- Discharges from uncontaminated potable water sources
- Foundation and crawl space drains
- Air conditioning condensation (commercial/residential)
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual residential and charity car washing
- Flows from riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Street wash water
- Flows from firefighting activities
- Splash pad (spray ground) water from potable water source only

7.3.7. Outreach: The City will inform the public about the hazards of illicit connections and illegal dumping through the methods discussed in the Public Education component. As for City employees, this information is integrated into annual training programs.

7.3.8. Staff Training: City staff are trained in meetings that include employees from various departments. The presentations include pictures that are representative of common illicit discharges and review of the Illicit Discharge Detection and Elimination Procedure (Appendix F). City staff are directed to report all possible illicit discharges to their immediate supervisor who will relay the information to the Stormwater/Engineering Coordinator.

7.3.9. Decision Process: The program approach for illicit discharge detection and elimination was developed by reviewing technical documents from NCDEQ and USEPA. It was determined that inspections would need to be coordinated with other City Departments. From these inspections, corrective measures would be initiated and followed up by designated staff members. It was determined that outreach activities should be combined with the public education program.

7.3.10. Evaluation: The success of the program will be evaluated on meeting the proposed deadlines and finding and correcting illicit discharges into the stormwater system. The measurable goals for each BMP are listed in the BMP Summary Table in Appendix B.

7.4. Construction Site Stormwater Runoff Control

7.4.1 BMP Summary Table: See Appendix B for the details on the following BMP's.

- Rely on existing measures implemented through NCDEQ.
- Develop a contractor's checklist for controls/inspections at construction sites
- Provide education and training materials for contractors (distribute with zoning and building permits)

7.5. Post-Construction Stormwater Management in New Development and Redevelopment

7.5.1. BMP Summary Table: See Appendix B for the details on the following BMP's.

- Maintain an ordinance for development and redevelopment of properties meeting the minimum criteria established by NCDEQ.
- Maintain regulatory controls for ensuring long-term maintenance of on-site structures.
- Encourage Low Impact Development and better site design for stormwater control
- Maintain a Stormwater Administrative Manual (Appendix C) to provide information to developers on the requirements of the City of Shelby Phase II Stormwater Program.

7.5.2. Non-Structural BMPs: The following non-structural BMP's have been adopted by the City Council.

- The City of Shelby Unified Development Ordinance allows for voluntary open space set-asides in certain residential and mixed-use zoning districts. If a developer chooses this option, they may be allowed smaller lots sizes.
- The City of Shelby Unified Development Ordinance requires all new non-residential developments to provide on-site landscaping.

7.5.3 Structural SCMs: The City's development ordinance refers developers and engineers to the NCDEQ Stormwater Design Manual for guidance on specifying and designing SCM's for sites. NCDEQ has compiled a list of acceptable SCM's for use, which meet the requirements of the Phase II Stormwater Program. During a site plan review, staff reviews submitted calculations to verify that the design meets the requirements of the NCDEQ Stormwater Design Manual.

7.5.4. Natural Resource Protection: None at this time.

7.5.5. Open Space Protection: Protected through requirements of Planned Unit Developments and through the Watershed Overlay Protection District regulations.

7.5.6. Tree Preservation: Required through the zoning process and verified for compliance at the completion of construction. The Urban Forestry Regulations (Chapter 16 Article IV of the Code of Ordinances) also addresses the issue of tree preservation.

7.5.7. Redevelopment: None at this time.

7.5.8. Development in areas with Existing Infrastructure: Capital water and sewer plans and construction projects have been completed in areas with sufficient land to allow for the installation of the SCMs necessary to meet the requirements set forth by NCDEQ.

7.5.9. Mixed-Use Development: Mixed-use development is currently allowed in most zoning districts and specifically in a Planned Unit Development (UDO Section 9-10)

7.5.10. Street Design

7.5.10.1. Street Design Standards and Engineering Practices: City Engineering Department will review the current street design standards on a case-by-case

basis and determine if the width of travel lanes may be reduced. This review will consider width of the streets under each street classification individually.

7.5.10.2. Alternative Parking for Residential Lots: The City of Shelby Standard Details currently requires driveway widths to be a minimum of 12 feet and allow a maximum of 16 feet in width. The City does allow shared driveways on residential lots. The City currently does not regulate the type of driveway that is required outside of the right-of-way. As such, a two-track driveway is acceptable outside of the NCDOT or City of Shelby right-of-way.

7.5.11. Green Infrastructure Elements and Street Design

7.5.11.1. Green Infrastructure in Construction: City staff will perform technical reviews on the various green infrastructure practices and incorporate those that are most feasible into the “City of Shelby Standard Details” as needed. These Standard Details are referenced during both new construction and street improvements and repairs.

7.5.11.2. Pervious Materials for Paving Surfaces: The City of Shelby will allow pervious materials for areas being paved if specific criteria are met (vehicular loads, traffic volumes, soil types, maintenance responsibility, etc.). The guidelines for this will be determined by City Staff and included in the “City of Shelby Standard Details” as needed.

7.5.12. Reduced Parking Requirements: The City of Shelby will consider requests reduce parking requirements upon submittal of additional pedestrian facilities to City of Shelby Planning Services Director. These requests are reviewed on a case-by-case basis.

7.5.13. Transportation Demand Management Alternatives: The City of Shelby will review this topic and where feasible will incorporate this into our development requirements and make modifications to the applicable ordinances and details as needed.

7.5.14. Minimizing Stormwater from Parking Lots: The City of Shelby Unified Development Ordinance currently requires landscaping for parking lots. The requirements require that large maturing trees be planted within 75 feet of each parking space. In large parking lots, this will lead to the installation of landscaping islands, which will help reduce runoff.

7.5.15. Green Infrastructure Practices: Green infrastructure will be included in the “City of Shelby Standard Details” as needed and will be implemented for development and redevelopment within our jurisdiction. Developers will be required to submit a stormwater management plan as part of the site plan review process.

7.5.16. Regulatory Mechanism: The City has adopted and will maintain ordinances (Appendix A) for defining post-construction stormwater management. City Staff will follow procedures outlined in the ordinances to enforce stormwater management for new development and re-development projects throughout the City.

7.5.17. Operation and Maintenance: All long-term maintenance activities will be the responsibility of the property owner or a homeowner's association. City staff members will be responsible for receiving annual maintenance inspection reports from a qualified professional. The City has established a reporting, notification, and enforcement mechanism for corrective action in its ordinance.

7.5.18. Decision Process: To meet this requirement, City staff updates and maintains City Ordinances to ensure that non-structural BMP's and structural SCM's would meet or exceed State requirements.

7.5.18.1 Priority Areas: One priority area in Shelby is property adjoining the First Broad

River, which runs through the jurisdiction. The First Broad River is the water supply for the City of Shelby and other municipalities downstream.

7.5.18.2 Specific Concerns: None.

7.5.19. Evaluation: The measurable goals are to implement a comprehensive Stormwater Management Permit program to provide improvements to stormwater quality discharging from new development and re-development. The measurable goals will be evaluated through monitoring and inspecting sites with Stormwater Management Permits to determine the effectiveness of the non-structural BMP's and structural SCM's.

7.6 Pollution Prevention/Good Housekeeping for Municipal Operations

7.6.1 BMP Summary Table: See Appendix B for the details on the following BMP's.

- Utilize training materials on pollution prevention for public facilities, using existing materials gathered from other organizations or creating new tools as needed. Educate employees on the need for controls to protect stormwater from exposure to potential pollutants.
- Provide training for those employees that maintain the drainage system with a focus on disposal of floatables, grit, sediment, and other pollutants removed from the system.
- Provide training to employees that manage and apply chemicals for control of dust, pests, vermin, and weeds and/or are used to enhance the growth or condition of public urban landscape and recreation facilities. Training will target the safe and effective application, storage and disposal of chemicals used.
- Annually inspect vehicle washing and fueling operations to ensure that they are in good working order and that they minimize exposure of stormwater to chemicals, fuels, and other liquids.
- Inspect all materials storage facilities to determine priority for reducing exposure to stormwater.
- Inspect salt storage facility and application equipment annually to identify and eliminate exposure to stormwater and/or ineffective/inappropriate application. Evaluate current snow and ice management program and ensure that effective measures are in place to minimize contamination of stormwater.
- Maintain standard operating procedures for various facilities and/or operations such as street sweeping activities and parking lot (garage) maintenance activities to ensure that the greatest reduction of pollutant loading to stormwater that can be achieved.
- Evaluate the procedures for managing trash and garbage collection to ensure that exposure of contaminant materials is minimized.
- Evaluate the spill response program for in-house activities as well as community response and adjust as needed to ensure the highest potential for minimizing impacts on stormwater.
- Maintain an inventory of hazardous chemicals and other potentially hazardous materials and ensure that a limited but sufficient quantity of items are on hand to minimize the risk of a spill or contamination of stormwater.
- Mechanical street sweeping shall be completed on city maintained streets and public parking lots at a minimum of two times per year.
- Catch basin and conveyance system cleaning and maintenance shall follow the Operation and Maintenance guidelines developed by the City of Shelby (Appendix E).
- Limit the use of de-icing with chemicals on city maintained streets and public parking lots to the maximum extent practicable.

7.6.2 Affected Operations: City staff reviewed the operations listed below and determined that the wastewater plant, public works facility and airport required individual permits.

- Airport
- Maintenance Yard

- Parks and Cemeteries Maintenance
- Vehicle and Equipment Maintenance
- Drainage System Maintenance
- Material Storage Yard
- Equipment Storage
- Wastewater Treatment Plant
- Parking Lot Maintenance
- Street Sweeping
- Grounds Maintenance and Chemical Application

7.6.2.1 Individual NPDES Permitted Operations

- Wastewater Treatment Plant (Permit NC0024538, Certificate of Coverage NCG080700)
- Shelby-Cleveland County Regional Airport (Permit NCG150048)
- Shelby Vehicle Maintenance Facility: (No-Exposure Certificate NCGNE0531)

7.6.3 Training: Municipal employee education will be done by holding training sessions for various City Departments. Particular emphasis will be placed on the Public Works, Utilities, Parks and Planning Departments and target street sweeping, chemical application, mowing and clearing activities, automotive fluid and chemical disposal, illicit discharge detection and vehicle/equipment washing. Applicable procedures will also be reviewed with each individual department training. Handouts and posters will also be developed to inform other City Departments about the stormwater program, how to report violations, and good housekeeping measures for municipal operations.

7.6.4 Maintenance and Inspections: The Public Works Department provides street sweeping for all City-maintained streets. The uptown area is swept weekly and the entire City is swept every six months. The City currently operates two street sweepers, each with GPS tracking to maintain a record of mileage swept. The City also maintains trash receptacles in the downtown area, some city parking lots, and city parks. The City also provides garbage collection for all City residents, with weekly garbage collection. The City currently does not have a dedicated drainage system inspection program, but does clean stormwater infrastructure on an as needed basis. Inspections occur during rain events as flow is monitored. The City also performs inspections as part of the illicit discharge and detection program.

7.6.5 Vehicular Operations: Street Sweeping is used on an as needed basis to clean all city maintained parking lots. Salt storage areas are covered under a permanent structure and salt spreaders are serviced prior to each winter weather event. In an effort to minimize stormwater impacts, the City only applies salt as needed and relies on snow plowing as the primary means of road clearing. City staff follow the Operations and Maintenance of Municipal Vehicles and Equipment procedure (Appendix E). This procedure address issues such as leaks, maintenance practices and vehicle washing.

7.6.6 Waste Disposal: All waste collected from the storm sewer system is deposited in the Cleveland County Landfill.

7.6.7 Existing ordinances: City Staff members identified the following ordinances that affect water quality.

- Watershed Protection Overlay District Regulations
- Flood Hazard District Overlay Requirements
- Urban Forestry Ordinance- Regulates the planting, maintenance, and removal of trees located on public property.
- Solid Waste Ordinance - Littering prohibited on any city street, sidewalk, or public property.

- Nuisance Ordinance - Accumulation of junk, trash, and debris on private property is prohibited. The nuisance ordinance is enforced by a full-time Code Enforcement Officer.
- Sewer Services Reporting Requirements - Specifies response procedures and reporting for sanitary sewer overflows.
- Water and Wastewater Treatment Plants - Addresses the multiple aspects of discharges from these facilities.

7.6.8 Decision Process: The pollution prevention plan was developed by reviewing existing policies and ordinances that affect water quality. The deficiencies in these policies were noted and incorporated into the BMP's. Important factors considered were the importance of employee training, implementing new BMP's, and documenting current practices that affect water quality.

7.6.9 Evaluation: The measurable goals are to increase the awareness of water quality among all employees and to introduce new BMP's into everyday work activities. The measurable goals will be evaluated through facility inspections to ensure employees are following applicable standard operating procedures..

APPENDIX A

Resolutions and Ordinances

RESOLUTION NO. 36-2011

A RESOLUTION APPROVING AND ACCEPTING THE CITY OF SHELBY COMPREHENSIVE STORMWATER MANAGEMENT PROGRAM REPORT, AUTHORIZING THE CITY MANAGER AS THE DULY AUTHORIZED REPRESENTATIVE OF THE CITY OF SHELBY AND AUTHORIZING CITY STAFF TO SUBMIT TO THE STATE OF NORTH CAROLINA AN NPDES STORMWATER PERMIT APPLICATION FOR COMPLIANCE WITH THE PHASE II STORMWATER REQUIREMENTS PURSUANT TO SESSION LAW 2006-246 SENATE BILL 1566

WHEREAS, in accordance with applicable provisions of Session Law 2006-246 Senate Bill 1566, the City of Shelby has been provided notice pursuant to a letter dated February 9, 2010 that we are required to develop a stormwater management program and apply for a stormwater permit as a regulated public entity owning a municipal separate storm sewer system (MS4); and,

WHEREAS, City staff have developed a Comprehensive Stormwater Management Program Report dated June 6, 2011; and,

WHEREAS, City staff has also completed the required stormwater permit for submission to the State of North Carolina Department of Environment and Natural Resources Water Quality Division; and,

WHEREAS, the City Manager has reviewed and approved of the work prepared by City staff and is prepared to execute the stormwater permit application on behalf of the City of Shelby as the Duly Authorized Representative; and,

WHEREAS, the City Council of the City of Shelby has conducted a public meeting to allow the public an opportunity to review and comment on the development and submission of the Comprehensive Stormwater Management Program Report and stormwater permit application.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SHELBY, NORTH CAROLINA:

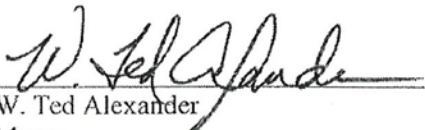
Section 1. The City Council acknowledges, accepts and approves the document entitled Comprehensive Stormwater Management Program Report dated June 6, 2011.

Section 2. The City Manager of the City of Shelby is hereby appointed as the Duly Authorized Representative by the Shelby City Council.

Section 3. The City Manager is hereby authorized and directed to sign the stormwater permit application as the Duly Authorized Representative and submit the application to the appropriate officials at the North Carolina Department of Environment and Natural Resources.


Section 4. The appropriate City staff are hereby authorized and directed to begin implementation of the City of Shelby Phase II Stormwater program consistent with the actions and outline as found in the City of Shelby Comprehensive Stormwater Management Program Report.

Adopted and approved this the 20th day of June A. D. 2011.



W. Ted Alexander
Mayor

ATTEST:



Bernadette A. Parduski, MMC
City Clerk



RESOLUTION NO. 16-2019

A RESOLUTION APPROVING AND ACCEPTING THE REVISED
CITY OF SHELBY STORMWATER QUALITY MANAGEMENT PROGRAM

WHEREAS, City staff developed a Stormwater Quality Management Program dated June 6, 2011 to meet the requirements of the City of Shelby's Stormwater Discharge NPDES Permit No. NCS000560 that was effective on December 1, 2012; and,

WHEREAS, the City of Shelby's Stormwater Discharge NPDES Permit No. NCS000560 was renewed on February 1, 2018 which requires the City to keep an updated Stormwater Quality Management Program; and,

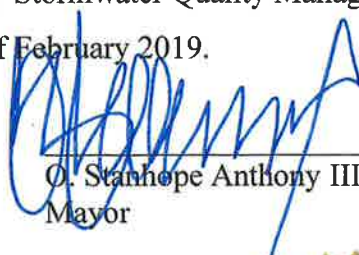
WHEREAS, City staff has revised the Stormwater Quality Management Program dated February 18, 2019 to meet the requirements of the current NPDES Discharge Permit.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SHELBY, NORTH CAROLINA:

Section 1. The City Council acknowledges, accepts, and approves the document entitled City of Shelby Stormwater Quality Management Program, revised February 18, 2019.

Section 2. The appropriate City staff are hereby authorized and directed to continue the implementation of the City of Shelby Phase II Stormwater program consistent with the actions and outline as found in the City of Shelby Stormwater Quality Management Program.

Adopted and approved this the 18th day of February 2019.

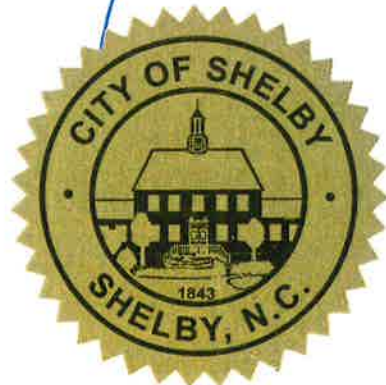


O. Stanhope Anthony III
Mayor

ATTEST:



Bernadette A. Parduski, NC-CMC, IIMC-MMC
City Clerk



APPENDIX B

BMP Summary Table

1. BMP's and Measurable Goals for Public Education and Outreach

	BMP	Measurable Goals	Target Audience/Selection Criteria	Responsible Position
1	Semi-annual newsletters included with utility billings	Distribute semi-annual City newsletter to all utility billing customers. Include articles in the newsletter that targets a specific stormwater problem and how citizens and businesses can reduce their impacts. Track the number of articles or inserts included in the newsletter.	Households, Business & Industry City prints newsletter 2 to 4 times a year. Valuable resource for informing citizens of City activities and programs.	Stormwater Engineering Coordinator
2	Distribute stormwater brochures through selected public and private facilities	Brochures distributed through displays at public and private facilities should include information on steps to reduce pollution sources including proper disposal of used oil and toxic materials, public reporting of illicit discharge. Track the number of brochures distributed at the various locations.	Households Public library is a central location for reaching a diverse group of citizens spanning all social and economic backgrounds. Also provides a neutral environment for disseminating information.	Stormwater Engineering Coordinator
3	Informational Website linked to City webpage	Maintain a stormwater information page for the existing internet website. Provide information on water quality, stormwater pollutants and ways to minimize them, municipal stormwater projects and activities. Also provide contacts for reporting and questions. Add a counter to record number of users.	Households, Business & Industry Many businesses and homes have access to the internet and use this resource as an aid in obtaining information	Stormwater Engineering Coordinator
4	Maintain Reporting Hotline	Maintain a hotline for communication with the public. Track number and type of issues as well as disposition of calls. Report annually on data gathered and issues addressed.	Households A hotline offers the public a resource for obtaining information and reporting violations	Stormwater Engineering Coordinator
5	Coordinate with other in-house communication tools	Provide educational materials for City employees once a year using existing distribution methods. Focus on the importance of carrying out duties without impacting clean water.	City Employees City employees are responsible for the maintenance of an extensive portion of the stormsewer system and their activities directly impact water quality. City Employees actions are also visible to the public and can be used as an outreach tool.	Stormwater Engineering Coordinator

2. BMP's and Measurable Goals for Public Involvement and Participation

	BMP	Measurable Goals	Target Audience/Selection Criteria	Responsible Position
1	Establish a stormwater steering committee of citizens and stakeholders	Create a Stormwater Steering Committee to make recommendations to City Staff on various issues. Committee will meet quarterly.	Households, Business & Industry Valuable input from varying perspectives can be used to help create City activities and programs.	Director of Planning Services
2	Storm drain marking/Stream Clean Up Day	Organize a day in which citizens of all ages can participate in the event to improve water quality and to get more people involved with preventing pollutants from being added to the stormwater system.	Households, Business & Industry Valuable mechanism for informing citizens of stormwater program and allowing citizens to take some "ownership" and interest in the stormwater system.	Stormwater Engineering Coordinator
3	Annual Public Meeting on program progress	Organize this annual meeting to report on how various aspects of the stormwater program, such as the reporting hotline and maintenance/repairs have worked in the past year.	Households, Business & Industry Public meeting to keep all those impacted informed of the progress the stormwater program has made each year.	Director of Engineering Services

3. BMP's and Measurable Goals for Illicit Discharge and Elimination

	BMP	Measurable Goals	Target Audience/Selection Criteria	Responsible Position
1	Maintain an ordinance regarding illicit connections	In year 1 develop ordinance to include illicit detection, right of entry, prohibition of certain discharges, enforcement actions and penalties for dumping, spills, and willful illicit connections. Adopt by elected officials and have copy of ordinance in annual report file.	Households, Business & Industry Ordinances will impact all property within the City.	Civil Engineer
2	Maintain a stormwater system map through the Geographic Information System (GIS)	Maintain a stormwater system layer in the City's current GIS mapping system. This system will be used to map stormwater infrastructure, receiving stream, and maintenance activities/inspections.	City Employees City employees are responsible for gathering field data, creating, and maintaining the stormwater map.	Stormwater Engineering Coordinator
	Identify illicit connections through dry weather screening and video inspections	Develop an inspection program that approaches the city stormwater system with a strategic method for identifying illicit connections. These connections will then be updated on our GIS mapping system.	Households, Business & Industry All property owners will be subject to the inspection of stormwater systems on their property by the City Staff.	Stormwater Engineering Coordinator
4	Train employees on how to inspect for illicit connections and establish a tracking system for managing reported problems	Develop an annual training program that focuses on the common types of illicit connections and informs all city employees of what to look for when they are completing jobs that may not be directly related to the stormwater system. Information gathered from employees will be uploaded to the GIS system.	City Employees All employees need to be aware of stormwater issues and be able to identify situations that need further attention and/or action.	Stormwater Engineering Coordinator
5	Utilize local hotline set up under Public Involvement Program for public reporting of illicit discharge/illegal dumping	Use the hotline for communication with the public. This system will allow for direct reporting in an effort to encourage citizen input. Report annually on number of calls that the hotline receives.	Households, Business & Industry All citizens will be able to assist in monitoring the stormwater system and report violations or situations or concern.	Stormwater Engineering Coordinator

	BMP	Measurable Goals	Target Audience/Selection Criteria	Responsible Position
6	Coordinate with local wastewater program on identification of potential cross connections between sanitary sewer and storm sewers.	Maintain an ordinance to include illicit detection, right of entry, prohibition of certain discharges, enforcement actions and penalties for dumping, spills, and willful illicit connections. Adopt by elected officials and have copy of ordinance in annual report file.	Households, Business & Industry Ordinances will impact all property within the City.	Stormwater Engineering Coordinator
7	Identify responsible party within organization to manage follow up and enforcement actions.	Maintain an illicit connections ordinance adopted by elected official and have copy of ordinance in annual report file.	Households, Business & Industry All property owners in the City will be subject to these regulations.	Director of Planning Services

4. BMP's and Measurable Goals for Construction Site Stormwater Runoff Control

	BMP	Measurable Goals	Target Audience/Selection Criteria	Responsible Position
1	Rely on existing measures implemented through NCDENR Land Quality Section.	All plan approvals and enforcement actions will be conducted by NCDENR Land Quality Section.	Developers and Contractors All land disturbing activities resulting in over 1 acre are impacted	NCDENR Land Quality Supervisor
2	Develop a contractor's checklist for controls/inspections at construction sites	All contractors will be provided a checklist with the issuance of a building permit. City staff will complete inspections to ensure all items on list are being complied with.	Developers and Contractors All land disturbing activities	Stormwater Engineering Coordinator
3	Provide education and training materials for contractors (distribute with zoning and building permits)	All construction or grading work requiring a zoning or building permit will receive informational materials. Report annually on number of contractors that have been provided stormwater information.	Developers and Contractors All construction work requiring a zoning or building permit will receive informational materials	Stormwater Engineering Coordinator

5. BMP's and Measureable Goals for Post Construction Storm Water Management in New Development and Redevelopment

	BMP	Measurable Goals	Target Audience/Selection Criteria	Responsible Position
1	Maintain an ordinance for development and redevelopment of properties meeting the minimum criteria established by NCDEQ	Maintain an ordinance of standards and practices for post-construction controls. Report annually on progress made in developing and adopting the ordinance.	Households, Developers, and Contractors Post-construction measures will have a significant impact on many construction projects.	Stormwater Engineering Coordinator
2	Maintain regulatory controls for ensuring long-term maintenance of on-site structures.	Maintain ordinance that requires the long-term maintenance of structural controls for new and redevelopment projects. Annually report on program status.	Households, Developers, and Contractors. Adoption and implementation will impact the entire community.	Assistant City Manager
3	Encourage Low Impact Development and better site design for stormwater control	Begin working with developers during the plan review process to determine alternatives that minimize the stormwater impacts of proposed developments.	Developers, and Contractors Development projects can reduce levels of TSS through design and planning	Stormwater Engineering Coordinator
4	Maintain a Stormwater Administrative Manual to provide information to developers on the requirements of the City of Shelby Phase II Stormwater Program	Maintain the Stormwater Administrative Manual as a guide for developers to use to meet the Phase II post-construction stormwater requirements. The Administrative Manual will also be posted on the stormwater informational website.	Developers and Contractors	Stormwater Engineering Coordinator

6. BMP's and Measureable Goals for Pollution Prevention/Good Housekeeping for Municipal Operation

	BMP	Measurable Goals	Target Audience/Selection	Responsible
			Criteria	Position
1	Develop training materials on pollution prevention for public facilities, using existing materials gathered from other organizations or creating new tools as needed. Educate all employees annually on the need for controls to protect stormwater from exposure to potential pollutants.	Annually educate all employees on clean water issues and on workplace responsibilities to reduce or eliminate pollutants from stormwater. Maintain program annually and report on number of employees trained and subjects covered.	City Employees All employees need to be aware of stormwater issues and know where to direct any questions from citizens.	Stormwater Engineering Coordinator
2	Provide training for those employees that maintain the drainage system with the focus on disposal of floatables, grit, sediment, and other pollutants removed from the system.	Annually provide training to all employees who maintain the drainage system with a focus on floatable, grit, sediment, and disposal of pollutants removed from the drainage system. Report annually on number of employees trained and subjects covered.	Public Works Employees (Stormsewer Maintenance) Employees that maintain the stormsewer system need to know of new ordinances that impact daily activities.	Stormwater Engineering Coordinator

	BMP	Measurable Goals	Target Audience/Selection Criteria	Responsible Position
3	Provide training to employees that manage and apply chemicals for control of dust, pests, vermin, and weeds and/or are used to enhance the growth or condition of public urban landscape and recreation facilities. Training will target the safe and effective application, storage and disposal of chemicals used.	Annually provide training to all employees who manage and apply chemicals to address safe storage, application and disposal of residual chemicals. Repeat training annually throughout the permit. Report on number of employees trained and subjects covered.	Public Works and Parks and Recreation Employees (Property Maintenance). Employees that apply chemicals need to know proper handling and dispensing procedures.	Stormwater Engineering Coordinator And Director of Public Works And Director of Parks and Recreation
4	Annually inspect vehicle washing and fueling operations to ensure that they are in good working order and that they minimize exposure of stormwater to chemicals, fuels, and other liquids.	Inspect vehicle washing and fueling operations and document findings and actions taken to address any problems identified. Report on finding in annual permit report.	Public Works Employees Employees that maintain vehicle washing and fueling areas need to know ordinances that impact these work areas.	Stormwater Engineering Coordinator
5	Inspect all materials storage facilities to determine priority for reducing exposure to stormwater.	Inspect material storage facilities and establish priorities for addressing issues identified. Address corrective activity in next fiscal year unless high hazard was identified. Report on number and type of sites inspected and actions taken in each annual report.	Public Works Employees Improper materials storage could introduce contaminants into the stormsewer system.	Stormwater Engineering Coordinator

	BMP	Measurable Goals	Target Audience/Selection Criteria	Responsible Position
6	Inspect salt storage facility and application equipment annually to identify and eliminate exposure to stormwater and/or ineffective/inappropriate application. Evaluate current snow and ice management program and ensure that effective measures are in place to minimize contamination of stormwater.	Inspect salt storage facilities and application equipment. Identify problems and address when found. Report annually on inspections and resulting actions.	Public Works Employees (Streets Maintenance) Proper storage keeps high concentrations of salt from entering the stormwater system and vehicle maintenance ensures proper application.	Stormwater Engineering Coordinator
7	Develop standard operating procedures for various facilities and/or operations such as street sweeping activities and parking lot (garage) maintenance activities to ensure that the greatest reduction of pollutant loading to stormwater that can be achieved.	Beginning in Year 4 (four), develop and then implement standard operating procedures for facilities and operations. Annually report on facilities and/or operations targeted and results of activities.	Public Works Routine activities should be documented for reporting.	Stormwater Engineering Coordinator

	BMP	Measurable Goals	Target Audience/Selection Criteria	Responsible Position
8	Evaluate procedures for managing trash and garbage collection to ensure that exposure of contaminant materials is minimized.	Beginning in Year 3 (three), evaluate garbage collection practices to determine if procedures or equipment adjustments need to be made to address potential for pollution of stormwater. Focus on issues such as spills in the street, hydraulic hose ruptures, customer storage practices. Report on findings and any work plan that develops as a result.	Public Works Employees Can identify problems that may exist with current procedures.	Director of Public Works
9	Evaluate spill response program for in-house activities as well as community response and adjust as needed to ensure highest potential for minimizing impacts on stormwater.	In Year 2 (two) evaluate current spill response practices and determine if adjustments are needed to reduce the risk of polluting bodies of water (streams, ponds, lakes, ocean). Implement recommended changes in Year 3 (three) and report on findings and strategies in annual reports.	Fire Department Employees Ensures that employees responding to spills protect receiving waters.	Fire Chief
10	Maintain inventory of hazardous chemicals and other potentially hazardous materials and ensure that limited but sufficient quantity of items are on hand to minimize risk of spill or contamination of stormwater.	Beginning in Year 1 (one), determine if inventory of hazardous chemicals used by the organization has been completed. If not, complete inventory in same year. Determine if quantities are appropriate and set up standards for purchasing by end of Year 2 (two).	Fire Department Employees Ensures that chemical handling is done properly.	Fire Chief

	BMP	Measurable Goals	Target Audience/Selection Criteria	Responsible Position
11	Mechanical street sweeping shall be completed on city maintained streets and public parking lots at a minimum of 2 times per year.	Monitor and evaluate/modify sweeping routes to ensure city maintained streets and public parking lots are swept at least 2 times per year. Include results in annual permit report.	Public Works Employees Can identify problems that may exist with current procedures.	Director of Public Works
12	Catch basin and conveyance system maintenance shall follow the Operation and Maintenance guidelines developed by the City of Shelby.	Document and track all catch basin and conveyance system inspections and maintenance. A summary of completed tasks will be included in the annual permit report.	Public Works Employees Employees that perform inspections and repairs will complete forms for each project	Stormwater Engineering Coordinator
13	Limit the use of de-icing with chemicals on city maintained streets and public parking lots to the maximum extent practicable.	Use snow removal instead of de-icing with chemicals as feasible while maintaining safe travel conditions. Track the amount (lbs.) of salt or other chemicals applied. Findings will be included in the annual permit report.	Public Works Employees Employees are responsible for loading sand and/or chemicals and applying as required.	Director of Public Works

APPENDIX C

Stormwater Administrative Manual

City of Shelby
Phase II Stormwater Ordinance
Administrative Manual



January 2014

Revised June 20, 2022

TABLE OF CONTENTS

SECTION 1: INTRODUCTION AND PURPOSE	4
1.1 INTRODUCTION	4
1.2 PURPOSE.....	4
1.3 EFFECTIVE DATE.....	4
1.4 STORMWATER REVIEW FEE	5
1.5 STORMWATER ADMINISTRATOR.....	5
1.6 PROCESS FOR AMENDING THE ADMINISTRATIVE MANUAL	5
SECTION 2: PHASE II STORMWATER ORDINANCE	5
2.1 LOCATION OF PHASE II STORMWATER ORDINANCE	5
SECTION 3: STORMWATER BMP DESIGN MANUAL	5
3.1 USE OF NC DEQ DESIGN MANUAL REQUIRED	5
SECTION 4: CONCEPT PLAN AND CONSULTATION MEETING	6
4.1 PURPOSE OF CONCEPT PLAN AND CONSULTATION MEETING.....	6
SECTION 5: OVERVIEW OF SUBMITTAL AND APPROVAL PROCESS	7
5.1 STORMWATER MANAGEMENT PLAN SUBMITTALS CHECKLIST	7
5.2 STORMWATER PERMITTING FLOW CHART.....	8
SECTION 6: STORMWATER MANAGEMENT PERMIT	9
6.1 PURPOSE OF STORMWATER MANAGEMENT PERMIT.....	9
6.2 APPLICATION FOR STORMWATER MANAGEMENT PERMIT.....	10
SECTION 7: OPERATION AND MAINTENANCE AGREEMENT	10
7.1 PURPOSE OF OPERATION AND MAINTENANCE AGREEMENT.....	10
7.2 OPERATION AND MAINTENANCE MANUAL	10
7.3 ANNUAL MAINTENANCE AND INSPECTION REPORT	11
SECTION 8: FINAL PLAT AND ACCESS EASEMENT	11
8.1 PURPOSE OF FINAL PLAT	11
8.2 NOTES ON FINAL PLAT.....	12
8.3 ACCESS EASEMENT ON FINAL PLAT.....	12
8.4 WRITTEN ACCESS EASEMENT.....	13
SECTION 9: SECURITIES FOR INSTALLATION AND MAINTENANCE	13
9.1 PURPOSE OF A SECURITY	13
9.2 SECURITY SUBMITTALS AND AMOUNTS	13
9.3 RELEASE OF CONSTRUCTION PERFORMANCE SECURITY	14
SECTION 10: AS-BUILT SUBMITTALS	14
10.1 CERTIFICATION OF COMPLETION AND AS-BUILTS.....	14
SECTION 11: LOW-DENSITY PROJECTS	15
11.1 DEED RESTRICTIONS AND PROTECTIVE COVENANTS	15

EXHIBITS

EXHIBIT A: Stormwater Management Permit Application Form16

EXHIBIT B: Stormwater Permit Checklist19

EXHIBIT C: High Density Operation and Maintenance Agreement Template22

EXHIBIT D: Low Density Operation and Maintenance Agreement Template.....27

EXHIBIT E: High Density Stormwater Access Easement Template.....33

EXHIBIT F: Low Density Stormwater Access Easement Template38

EXHIBIT G: Stormwater Certification of Completion Form43

EXHIBIT H: Annual Inspection Report Form45

EXHIBIT I: Ordinance No. 41-2013 (See Ordinance 64-2018 for update)48
Ordinance No. 64-2018.....50

EXHIBIT J: Phase II Stormwater Ordinance.....51

SECTION 1: INTRODUCTION AND PURPOSE

1.1 INTRODUCTION

The National Pollutant Discharge Elimination System (NPDES) Phase II Stormwater program was created by the passage of amendments to the Clean Water Act (CWA). The goal of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's surface waters.

The City of Shelby was issued a permit to discharge stormwater to the nation's surface waters effective December 1, 2012. The permit was renewed with an effective date of February 1, 2017. One requirement of this permit was that the City adopt a NPDES Phase II Stormwater Ordinance to control the adverse effects of polluted stormwater runoff associated with new development and redevelopment projects. The Phase II Stormwater Ordinance was adopted by the Shelby City Council via Ordinance 41-2013 on November 18, 2013. The ordinance was revised in 2018 to reflect changes made to the North Carolina Department of Environmental Quality (NCDEQ) Stormwater Design Manual. The revised ordinance was adopted by the Shelby City Council via Ordinance 64-2018.

Additional information on the Phase II Stormwater Ordinance or the Administrative Manual can be obtained by contacting the Engineering Department at 704-484-6840, the Planning and Building Services Department at 704-484-6829, or visiting the City's website at www.cityofshelby.com.

1.2 PURPOSE

The purpose of this Administrative Manual is to provide general guidance for the implementation and administration of the Phase II Stormwater Ordinance. The Administrative Manual includes the following:

- Application requirements and forms
- Submission schedule
- Fee schedule
- Operation and Maintenance agreement
- Requirements for recordation of documents
- Inspection report forms
- Requirements for submittal of securities
- Information on the Design Manual
- Phase II Stormwater Ordinance

1.3 EFFECTIVE DATE

This Administrative Manual shall be effective June 20, 2022.

1.4 STORMWATER REVIEW FEE

The City of Shelby has a Stormwater Review Fee included in the City of Shelby Fee Schedule, which is updated from time to time by City Council.

1.5 STORMWATER ADMINISTRATOR

The person responsible for administering and enforcing the Phase II Stormwater Ordinance is the Stormwater Administrator. The powers and duties for the Stormwater Administrator are specified in the Phase II Stormwater Ordinance.

1.6 PROCESS FOR AMENDING THE ADMINISTRATIVE MANUAL

The Administrative Manual may be updated due to policy changes, design changes, etc. as necessary. The Stormwater Administrator is responsible for all amendments to the Administrative Manual with the exception of policy related changes. All policy related changes to the Manual require approval by the City Manager.

SECTION 2: PHASE II STORMWATER ORDINANCE

2.1 LOCATION OF PHASE II STORMWATER ORDINANCE

The Phase II Stormwater Ordinance is found in the City of Shelby Unified Development Ordinance. A copy of the ordinance is included as Exhibit J in this Administrative Manual or can be obtained via the City's website at www.cityofshelby.com, from the Stormwater Coordinator, or from the Shelby Planning and Development Services Department.

SECTION 3: STORMWATER BMP DESIGN MANUAL

3.1 USE OF NC DEQ DESIGN MANUAL REQUIRED

As specified in the Phase II Stormwater Ordinance, the City has adopted the Stormwater Design Manual (Design Manual) published by the North Carolina Department of Environmental Quality , Division of Energy, Mineral, and Land Resources. The latest edition of the Design Manual shall be used for the design of any stormwater control measures (SCMs) that are a part of the project design submittal.

Electronic copies of the Design Manual are available at the following website: <https://deq.nc.gov/about/divisions/energy-mineral-land-resources/energy-mineral-land-permit-guidance/stormwater-bmp-manual> or via a link on the City's website.

SECTION 4: CONCEPT PLAN AND CONSULTATION MEETING

4.1 PURPOSE OF CONCEPT PLAN AND CONSULTATION MEETING

The landowner, the landowner's duly authorized agent, or anyone having interest in the property by reason of a written contract with the owner may request a consultation meeting to discuss a proposed Concept Plan for the stormwater management system to be utilized in the proposed development project.

The purpose of the Concept Plan is to demonstrate how a proposed development project shall comply with the post construction requirements of the City's Phase II Stormwater Ordinance. The Concept Plan is not a detailed design but is meant to provide the basic information necessary for the reviewer to understand the approach to be taken for stormwater management, and to ensure that compliance with Phase II Stormwater Ordinance requirements can be achieved by the proposed design(s).

The consultation meeting should take place before final site design engineering commences. The purpose of this meeting is to discuss the post-construction measures necessary for the proposed project, as well as to discuss and assess constraints, opportunities, and potential approaches to stormwater management. Local watershed plans, open space and natural area protection plans, and other relevant resource protection plans may be discussed during the consultation meeting.

The consultation meeting to review the Concept Plan shall be scheduled with the City's Engineering Department at 704-484-6840. The Planning and Development Services Department may attend the consultation meeting to discuss relevant issues concerning the proposed development project.

SECTION 5: OVERVIEW OF SUBMITTAL AND APPROVAL PROCESS

5.1 STORMWATER MANAGEMENT PLAN SUBMITTALS CHECKLIST

Table 1: Submittal Checklist

	Submittals Required (* indicates that a standard form is to be used)	Administrative Manual Section	Phase II Stormwater Ordinance Section ⁽²⁾
1	Stormwater Management Permit Application*	9	202(A)
2	Design Drawings	9	203(B)
3	Stormwater Calculations	9	203(B)
4	Supplemental EZ Form(s) from NCDEQ <i>Design Manual</i> *	9	203(B)
5	Construction Performance Security	12	404(A)
6	Operation and Maintenance Manual	10	402(A)
7	Operation and Maintenance Agreement w/ Addenda*	10	402(A)
8	Written Access Easement*	12	402(A)
9	Final Plat with Access Easement Shown	11	405(A)
10	Certified As-Built Drawings	13	203(C)
11	Certification of Completion*	13	203(C)
12	Maintenance Security	12	404(A)
13	Annual Inspection Report*	10	401(B)

Notes:

- (1) An asterisk (*) indicates that a standard form is to be utilized. Standard forms are available from the Stormwater Coordinator.
- (2) See Section 2.1 for the location of the Phase II Stormwater Ordinance.

Items 1-4, the Stormwater Management Permit Application, Design Drawings, Stormwater Calculations, and Supplemental EZ Form(s) from the *Design Manual* (latest edition) must be submitted to begin the review and permitting process.

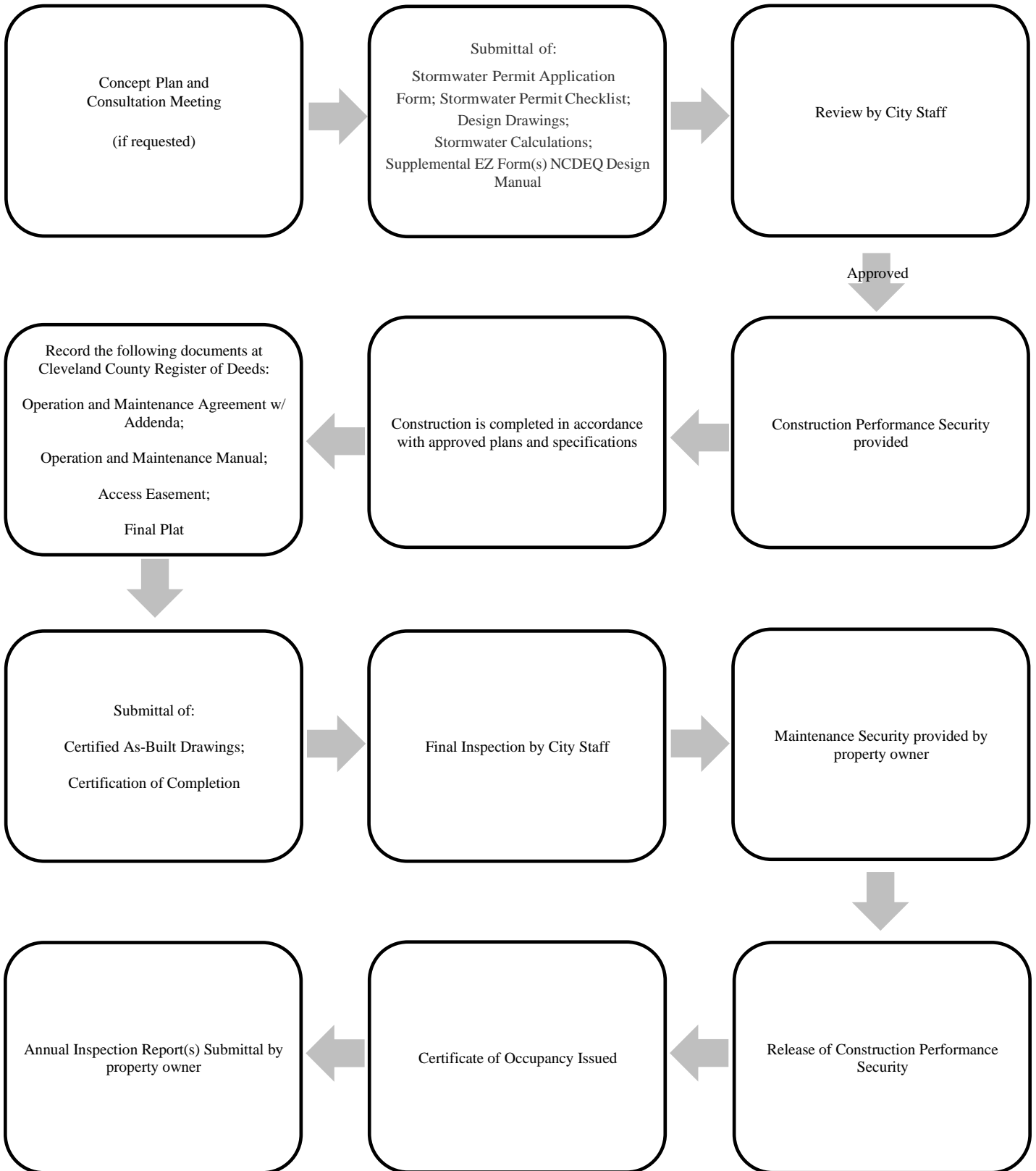
Item 5, the Construction Performance Security must be submitted before onsite construction begins. The amount of the construction performance security will be 125% of the total estimated construction cost for the complete installation of the SCM(s).

Items 6-9, Operation and Maintenance Manual, Operation and Maintenance Agreement with Addenda, Written Access Easement, and Final Plat with Access Easement shall be recorded at the Register of Deeds' office. The landowner shall pay the document recording fee. Hard copies of all recorded documents must be provided to the City prior to a Certificate of Occupancy being issued.

Items 6-12, Operation and Maintenance Manual, Operation and Maintenance Agreement with Addenda, Written Access Easement, Final Plat with Access Easement, Certified As-Built Drawings, Certification of Completion, and Maintenance Security must be submitted and approved prior to a Certificate of Occupancy being issued.

Item 13, Annual Inspection Reports must be submitted on/or before the date specified by the Stormwater Administrator.

5.2 STORMWATER PERMITTING FLOW CHART



SECTION 6: STORMWATER MANAGEMENT PERMIT

6.1 PURPOSE OF STORMWATER MANAGEMENT PERMIT

The purpose for issuance of the Stormwater Management Permit is to provide a mechanism for the review and approval of the methods and design to be used for the management and control of stormwater for a development or redevelopment site to ensure that it complies with the requirements of the Phase II Stormwater Ordinance. A Stormwater Management Permit is required for all development and redevelopment projects unless the project is exempt pursuant to the Phase II Stormwater Ordinance Sections 105(B) and 202(A). No land development activity, including land clearing and grading, can be initiated for such development or redevelopment until a Stormwater Management Permit has been issued by the Stormwater Administrator. A Stormwater Management Permit shall govern the design, installation, and construction of stormwater management and control practices on the site, including structural SCMs and elements of site design for stormwater management other than structural SCMs. Compliance after the project is completed is assured by the maintenance provisions of the adopted Phase II Stormwater Ordinance.

The purpose of the Stormwater Management Permit Application is to demonstrate how post-construction stormwater runoff is proposed to be controlled and managed and how the proposed project will meet the requirements of the Phase II Stormwater Ordinance. A properly submitted, reviewed, and approved Stormwater Management Permit Application is required for the issuance of a Stormwater Management Permit. The content and form of the Stormwater Management Permit Application shall be established by the Stormwater Administrator.

All design drawings, calculations, and supplemental form(s) submitted with the application shall be prepared by a registered North Carolina professional engineer, surveyor, soil scientist, or landscape architect in accordance with Section 203(B) of the Phase II Stormwater Ordinance. The engineer, surveyor, soil scientist, or landscape architect shall perform services only in their area of competence, and shall verify that the design of all stormwater management facilities and practices meet the requirements for City application, that the designs are sufficient to comply with applicable standards and policies found in the Design Manual, and that the design(s) comply with the Phase II Stormwater Ordinance.

The Stormwater Coordinator shall review the stormwater management permit application submittal within 15 working days after a complete application is submitted. Upon review and approval of the stormwater management permit application, design drawings, stormwater calculations, and supplemental form(s), a stormwater management permit will be issued to the owner (or owner's agent) with a copy to the designer. Land development activities may not begin until the stormwater management permit is issued.

6.2 APPLICATION FOR STORMWATER MANAGEMENT PERMIT

A copy of the standard Stormwater Management Permit Application Form will be furnished to the developer by the City (see Exhibit A and Exhibit B in this manual). The design drawings, stormwater calculations, and the supplemental form(s) from the Design Manual must be submitted with the Stormwater Management Permit Application Form in order for the submittal to be considered complete.

SECTION 7: OPERATION AND MAINTENANCE AGREEMENT

7.1 PURPOSE OF OPERATION AND MAINTENANCE AGREEMENT

The owner of each structural SCM installed pursuant to the Phase II Stormwater Ordinance shall maintain and operate it so as to preserve and continue its function in controlling stormwater quality and quantity at the degree or amount of function for which the structural SCM was designed.

To meet this requirement, an Operation and Maintenance Agreement is required for all SCMs. The purpose of this legal agreement is to ensure that each BMP receives adequate maintenance so that it can satisfactorily perform its pollutant removal function. The agreement also designates the responsible party who shall be in charge of maintaining the SCM. An addendum for each type of SCM shall be attached to the Operation and Maintenance Agreement when it is submitted to the City for review and approval. The standard format Operation and Maintenance Agreement shall be furnished by the City and is included as Exhibit C and D in this administrative manual.

The Operation and Maintenance Agreement and Operation and Maintenance Manual should be submitted for review and approval once the Stormwater Management Permit is issued. The Operation and Maintenance Agreement and Operation and Maintenance Manual must be recorded at the Cleveland County Register of Deeds prior to a Certificate of Occupancy being issued.

The recorded Operation and Maintenance Agreement and Operation and Maintenance Manual shall also be referenced on the final plat.

A SCM Maintenance Plan must be attached as an addendum to the Operation and Maintenance Agreement, which identifies the specific maintenance activities to be performed for each type SCM being utilized.

7.2 OPERATION AND MAINTENANCE MANUAL

An Operation and Maintenance Manual is required for all SCMs. The Operation and Maintenance Manual shall include all site SCMs and shall indicate what operation and maintenance actions are required to be performed, what criteria shall be used to determine when those actions are necessary, and who is responsible for those actions. A copy of the Operation and Maintenance Manual shall be kept at the site along with the records of inspections, maintenance, and repairs.

7.3 ANNUAL MAINTENANCE AND INSPECTION REPORT

The Operation and Maintenance Agreement requires that each SCM shall be inspected on an annual basis. The Owner shall provide an annual inspection report for each SCM, performed by a qualified professional according to the City's Phase II Stormwater Ordinance Section 401(B). The standard format Maintenance and Inspection Checklist form shall be furnished by the City or provided by the developer for review of the form by the City prior to the date the maintenance inspection is due. The annual inspection report shall be submitted to the City on/or before the date specified by the Stormwater Administrator.

The inspection report for each SCM must indicate the status of each item inspected, and any maintenance that was conducted or repairs that were made as a result of the inspection. The inspector shall certify that at the time of the inspection the SCM was performing properly and was in compliance with the terms and conditions of the approved Operation and Maintenance Agreement and Operation and Maintenance Manual. The inspector should allow enough time before the due date of the annual report to conduct the necessary inspection(s) and allow for any recommended maintenance and repairs to be made prior to the submittal of the report.

The owner of the SCM shall keep records of inspections, maintenance, and repairs for a minimum of five (5) years from the date of creation of the record and shall submit the same to the Stormwater Coordinator upon request.

SECTION 8: FINAL PLAT AND ACCESS EASEMENT

8.1 PURPOSE OF FINAL PLAT

Enforceable restrictions on property usage are required to run with the land to ensure that future development and redevelopment maintains the site in compliance with Phase II Stormwater Ordinance requirements. This shall be achieved through specific notations on final plats as described below. Final plats shall be reviewed and approved by the City prior to recordation. Final plats shall be prepared by a surveyor licensed in the State of North Carolina, and shall be prepared in accordance with the requirements of the Standards of Practice for Surveying in North Carolina and the mapping requirements of G.S. 47-30.

The surveyor shall include applicable restrictions from the recorded final plat on each lot survey, which is provided to the purchaser at the time of closing. This will ensure that the new property owner is aware of the restrictions and measures necessary to comply with the Phase II Stormwater Ordinance.

Plats are required for all projects unless they meet *all* five of the following criteria:

1. Property for the project is not subdivided;
2. All SCMs are within the project's property boundary;
3. SCMs serve only the property where they are located;
4. SCMs are maintained by the property owner; and
5. Right of entry to inspect and maintain the SCMs is granted in a recorded easement.

If no plat is required for the site, then the Operations and Maintenance Agreement(s) shall be recorded with the Cleveland County Register of Deeds so as to appear in the chain of title of all subsequent purchasers under generally accepted searching principles.

8.2 NOTES ON FINAL PLAT

The notes herein are related to stormwater management and the Phase II Stormwater Ordinance and are not intended to be in conflict with any other requirements for final plats. The following shall appear on all final plats with and shall be recorded at the Cleveland County Register of Deeds' Office:

1. The following language shall appear on the final plat regarding SCM maintenance: "This property contains a stormwater management facility that must be maintained according to the Operation and Maintenance Agreement and Operation and Maintenance Manual recorded in Deed Book____and Page_____"
2. The following language shall appear on the final plat regarding the access easement from the SCM(s) to a public right of way: "The Access Easement shown is for the purpose of granting access to the City of Shelby to carry out all provisions of the City's Phase II Stormwater Ordinance, including but not limited to inspections of the stormwater SCM device(s). This Access Easement is recorded in Deed Book_____and Page_____"
3. The area of the access easement shall be shown on the final plat.
4. Structural SCM(s) shall be clearly identified with an identification name and number on the final plat (subject to City approval).

8.3 ACCESS EASEMENT ON FINAL PLAT

The access easement shown on the final plat shall encompass the structural SCM(s) and shall be of sufficient width to allow access for heavy equipment to enter the site and work around the perimeter of the structural SCM(s). A minimum width of 20 feet shall be provided for the access easement to the structural SCM(s). A minimum additional width of twenty feet around the outside perimeter of the structural SCM(s), measured from the top of the bank or the toe of the slope, shall be provided as a part of the access easement unless otherwise required by the City. A cleared access area within this easement

must have a minimum stabilized width of 12 feet with a maximum longitudinal grade of 15 percent and a maximum cross slope of 5 percent. Additionally, the permanent drainage easement shall extend 10 feet around the perimeter of all SCMs to allow for adequate maintenance and repair. The 10-foot wide area of the permanent drainage easement around the perimeter of the SCM is to be relatively flat with a maximum cross slope of 2 percent.

In subdivisions where a stormwater SCM serves more than one lot, the SCM shall be located on a separate lot that is owned by the homeowners' association. This lot shall have a minimum frontage of 20 feet.

8.4 WRITTEN ACCESS EASEMENT

A written access easement describing the access easement shown on the final plat shall also be provided for review and approval by the City. The written access easement shall be executed by the developer and the City and then recorded by the developer at the Cleveland County Register of Deeds' office. The standard format Stormwater Access Easement shall be furnished by the City and is included as Exhibit E and F in this administrative manual.

SECTION 9: SECURITIES FOR INSTALLATION AND MAINTENANCE

9.1 PURPOSE OF A SECURITY

The City may require the submittal of a performance security to ensure that the construction of the site SCM(s) are in accordance with the design drawings approved by the Stormwater Administrator. A maintenance security may be required to ensure that, in accordance with the Operation and Maintenance Agreement and the Operation and Maintenance Manual, the owner takes the required actions to inspect, maintain, repair, and if necessary reconstruct the SCM(s) so that adequate performance is achieved.

9.2 SECURITY SUBMITTALS AND AMOUNTS

The installation and maintenance securities may be in the form of a surety bond, irrevocable letter of credit, certified check, or other form of surety approved by the Stormwater Administrator.

The construction performance security must be submitted before onsite construction begins. The amount of the construction performance security shall be 125% of the total estimated construction cost for the complete installation of the SCM(s). The amount of the construction performance security must be approved by the Stormwater Administrator.

The maintenance security must be submitted and approved before a certificate of occupancy can be issued. The amount of the maintenance security shall be based upon a reasonable estimate of the annual cost of inspection, operation and maintenance of the SCM(s) approved under the stormwater management permit in accordance with Section 404 (B)(2) of the Phase II Stormwater Ordinance.

The maintenance security for stormwater facilities shall be perpetual.

To meet this purpose, *The Economics of Structural Stormwater BMPs in North Carolina* by Dr. Bill Hunt and Ada Wassink shall be used to calculate the appropriate amount of the maintenance security. The example security amounts below were calculated using formulas found in this study:

Table 2: Annual Maintenance Security Amount Examples

BMP Drainage Area (acres)	Bioretention	Stormwater Wetland	Wet Detention Basin
0.5	\$3,200	\$4,100	\$7,700
1	\$3,500	\$4,500	\$9,200
2	\$3,900	\$5,000	\$11,100
3	\$4,200	\$5,400	\$12,400

9.3 RELEASE OF CONSTRUCTION PERFORMANCE SECURITY

The City shall perform an onsite inspection to determine if the SCM(s) have been constructed in accordance with the approved drawings and the requirements of the Phase II Stormwater Ordinance. The construction performance security shall not be released until after the City's receipt and acceptance of the Certified As-Built Drawings, Certification of Completion, and the Maintenance Security.

SECTION 10: AS-BUILT SUBMITTALS

10.1 CERTIFICATION OF COMPLETION AND AS-BUILTS

The designer shall furnish a Certification of Completion form, to certify under seal that the stormwater management and control measures and devices, including the structural SCMs, have been completed in conformance with the drawings and specifications approved by the City, are functioning as designed, and are in conformance with the requirements of the Phase II Stormwater Ordinance. The Certification of Completion statement form shall be furnished by the City and is included as Exhibit G in this administrative manual.

The as-built drawings shall be based upon information obtained by a surveyor licensed in the State of North Carolina, after construction is completed and accepted by the designer. The as-built drawings shall show the final location, size, and depth for all stormwater management facilities, controls, measures, devices, and structures, including SCMs, as installed.

The Certification of Completion and as-built drawings must be submitted and approved prior to a Certificate of Occupancy being issued.

SECTION 11: LOW-DENSITY PROJECTS

11.1 DEED RESTRICTIONS AND PROTECTIVE COVENANTS

A development project is low-density if it has no more than two dwelling units per acre or twenty-four percent built-upon areas for all residential and non-residential development.

A stormwater management permit shall be required for a development project with an overall density at or below the relevant low-density threshold, if the development project contains an area or areas that could be developed so that the overall density would exceed the low-density threshold. The approval of the stormwater management permit application shall require an enforceable restriction on property usage, such as a recorded deed restriction or protective covenants, to ensure that the development project maintains the site consistent with the development project plans and the low-density development standards in accordance with Section 302(E) of the Phase II Stormwater Ordinance.

EXHIBIT A
Stormwater Management Permit Application Form



City of Shelby
Planning and Development Services Department

App. No.:	
Fee:	Paid:
Date:	

Stormwater Permit Application Form

Address of Subject Property:

Project Name: _____

Applicant(s) Name: _____

Company: _____

Address: _____

Email: _____

Phone: _____

Owner(s) Name: _____

Address: _____

Email: _____

Phone: _____

****MUST attach Affidavit with owner's permission, if not the owner of subject property.***

Property Information

Tax ID Number: _____

Deed Book and Page Number (if applicable): _____

Total Site Area: _____

Total Disturbed Area: _____

Existing Built Upon Area (BUA): _____

Proposed Built Upon Area (BUA): _____

Provide a **detailed description** of the **proposed project**. Attach additional pages or documentation if necessary.

SUBMISSION REQUIREMENTS:

ALL items included on the attached “City of Shelby Stormwater Permit Checklist” must be completed and submitted prior to the stormwater plan review process being initiated.

Oath: By signing, I hereby certify that all information that I have provided in this application is correct and complete to the best of my knowledge. I understand that providing false or incomplete information may be grounds for denial of my request or may result in future action by the City Council to revoke the permit.

Signature of Applicant

Date

DO NOT WRITE BELOW THIS LINE

Based upon the information provided with this application, the work as proposed meets the requirements of the zoning ordinance and other land use regulations in effect in the city’s jurisdiction. Applicable description of use limitations is attached.

Approved Plan Title: _____

Approved Plan Date: _____

Additional Remarks/Conditions:

Stormwater Administrator

Date

<p>Stormwater Permit Number</p> <p>_____</p>

EXHIBIT B
Stormwater Permit Checklist



City of Shelby

STORMWATER PERMIT CHECKLIST Requirements for filing an application

Project Name: _____

- 1. One (1) completed **checklist** (this form).
- 2. One (1) completed **application**, signed by the applicant.
- 3. Stormwater review fee is included with submittal of application. Make checks payable to "City of Shelby".
- 4. Three (3) copies of a **stormwater management site plan**, no larger than 24" by 36" and drawn to scale, that shows and meets the following criteria: **Must be signed and sealed by a registered engineer, surveyor, architect, or landscape architect licensed to practice in the State of North Carolina.*

- Existing and proposed contours.
- Existing and proposed watersheds and sub-watershed boundaries.
- Proposed impervious surfaces (buildings, parking lots, roads, etc.).
- Proposed stormwater discharge points.
- Proposed drainage easements with dimensions.
- Type, size, and location of all proposed stormwater conveyances (culverts, grass swales, etc.).
- Type, size, and location of existing and proposed structural SCM(s) (wet/dry detention basin, bioretention, infiltration basin, etc.).
- Details and specifications for each structural SCM being utilized.
- Proposed maintenance access for future maintenance of stormwater structures.
- Total area of property.
- Total area disturbed.
- Amount of pervious and impervious area.

Site Plan Sheet Requirements:

- Title Block with the following information:
 - Name of development.
 - Name of map or plan.
 - Owner's name with address and daytime phone number.
 - Site location.
 - Date(s) map(s) prepare or revised.
 - Scale of drawing.
 - Name, address, and phone number of map preparer.
 - Vicinity map
 - North arrow and graphic scale.
4. Submitted plans have been designed in accordance with the NCDEQ Stormwater Design Manual.

- 5.** Submitted plans have been designed to meet the requirements for:
 - High-Density Projects
 - Low-Density Projects
 as defined in the City of Shelby Phase II Stormwater Ordinance.

- 6.** One (1) copy of a *DRAFT* **stormwater agreement**.

- 7.** One (1) copy of a *DRAFT* **maintenance agreement**.

- 8.** One (1) copy of a *DRAFT* **deed restrictions / protective covenants**.

- 9.** Three (3) copies of **completed Supplemental EZ form(s) from NCDEQ *Design Manual***.

- 10.** Three (3) copies of hydraulic or hydrologic details and computations used in the design, including but not limited to the following criteria:
 - Drainage area for each SCM
 - Slopes
 - Flow paths
 - Peak flows
 - Runoff volume
 - Storage volume
 - Channel geometry

- 11.** Three (3) copies of **stormwater specifications and calculations**.

- 12.** One (1) copy or PDF version, at 8.5" by 11" of the **stormwater management site plan, hydraulic or hydrologic details and computations, stormwater specifications and calculations**, and any additional information submitted for review.

- 13. Contact person/Appointed Agent.** This person will be contacted if additional information is required.

Name: _____

Company: _____

Address: _____

Email: _____

Phone: _____

EXHIBIT C
High Density
Operation and Maintenance Agreement Template

STATE OF NORTH CAROLINA

CLEVELAND COUNTY

STORMWATER OPERATION AND MAINTENANCE AGREEMENT

THIS AGREEMENT, made and entered into this the ____ day of _____, 20____, by and between City of Shelby, hereinafter referred to as “City”, and _____, hereinafter referred to as “Owner”;

WITNESSETH:

THAT WHEREAS, Owner certifies they are all of the owners of certain real estate and are this day accepting responsibility for the stormwater control measure(s) (SCM) installed on that certain real property having a street address of _____ and, as described in the deed and as shown on the plat thereof recorded in the Deed Book _____, Page _____, and/or Plat Book _____, Page _____, of the Cleveland County Registry; and

WHEREAS, as a part of the construction of the development, the City’s Phase II Stormwater Ordinance required that a stormwater control measure(s) (SCM) be constructed and the SCM(s) being more particularly described as follows:

_____;

;and

WHEREAS, the Owner accepts responsibility for the maintenance of the SCM(s) listed above as prescribed in the attached minimum maintenance measures addendum/addenda; and

WHEREAS, the Owner grants access to the City of Shelby to inspect the SCM(s); and

WHEREAS, the Owner understands that this Agreement shall endure to the benefit of his successors in title, whomsoever they may be in the future.

NOW, THEREFORE, it is understood and agreed by and between the parties:

1. The maintenance of the SCM(s) listed above shall be the sole responsibility of the Owner.
2. This agreement and the responsibility for the maintenance of the SCM(s) shall pass in the chain of title to the Owner's successor in interest.
3. Access is granted to the City of Shelby to carry out all provisions of the City's Phase II Stormwater Ordinance, including but not limited to inspections of the SCM(s).
4. Annually, the Owner shall provide an annual inspection report for each SCM listed above from a qualified professional in accordance with the City's Phase II Stormwater Ordinance.
5. The annual inspection shall occur before _____ of each year with the first report due _____. The inspection report(s) shall be submitted to

City of Shelby
Attn: Stormwater Administrator
PO Box 207
Shelby, NC 28151

6. An addendum shall be included with this stormwater agreement for each different type of SCM that is utilized. These addenda shall describe the minimum maintenance measures to be performed for each SCM.
7. This Agreement imposes no liability of any kind whatsoever to the City and the Owner agrees to hold the City harmless from any liability in the event the SCM(s) fail to operate properly.
8. A copy of this Agreement shall be filed in the office of the Cleveland County Register of Deeds and in the office of the Stormwater Administrator.

IN WITNESS WHEREOF, the owner(s) have set their hands the date above written.

OWNER(S): _____

Type Name: _____

Title: _____

Type Name: _____

Title: _____

ATTEST: _____

(Seal if appropriate)

STATE OF _____

COUNTY OF _____

I, _____, a Notary Public of the County of _____ and
State of _____, do hereby certify
that _____ personally appeared before me this day and
acknowledged the due execution of the foregoing Stormwater Operation and Maintenance Agreement,
together with attached addendum/addenda.

WITNESS my hand and official seal this ____ day of _____, 20____.

Notary Public

(SEAL)

My Commission Expires: _____

STATE OF _____

COUNTY OF _____

I, _____, a Notary Public of the County of _____ and
State of _____, do hereby certify
that _____ personally appeared before me this day and
acknowledged the due execution of the foregoing Stormwater Operation and Maintenance Agreement,
together with attached addendum/addenda.

WITNESS my hand and official seal this ____ day of _____, 20____.

Notary Public

(SEAL)

My Commission Expires: _____

CITY OF SHELBY,

A North Carolina Municipal Corporation

Ben Yarboro
Stormwater Administrator

ATTEST:

Carol Williams
City Clerk

(SEAL)

EXHIBIT D
Low Density
Operation and Maintenance Agreement Template

STATE OF NORTH CAROLINA

CLEVELAND COUNTY

**STORMWATER OPERATION AND MAINTENANCE AGREEMENT
LOW DENSITY DEVELOPMENT**

THIS AGREEMENT, made and entered into this the ____ day of _____, 20____, by and between City of Shelby, hereinafter referred to as “City”, and _____, hereinafter referred to as “Owner”;

WITNESSETH:

THAT WHEREAS, Owner certifies they are all of the owners of certain real estate and are this day accepting responsibility for the stormwater management on certain real property having a street address of _____ and, as described in the deed thereof recorded in the Deed Book _____, Page _____, of the Cleveland County Registry; and

WHEREAS, the construction of the development complies with the City’s Phase II Storm water Ordinance as the total built-upon area is less than the maximum built-upon area limit for low density developments; and

WHEREAS, the Owner accepts responsibility for the maintenance of the stormwater system on this property; and

WHEREAS, the Owner grants access to City of Shelby to inspect the stormwater system; and

WHEREAS, the Owner understands that this Agreement shall endure to the benefit of his successors in title, whomsoever they may be in the future.

NOW, THEREFORE, it is understood and agreed by and between the parties:

1. The following protective covenants are intended to ensure ongoing compliance with City of Shelby Stormwater Management Permit Number _____, as issued by the City under the City of Shelby Phase II Stormwater Ordinance.
 - i. The City of Shelby is made a beneficiary of these covenants to the extent necessary to maintain compliance with the stormwater management permit.
 - ii. These covenants are to run with the land and be binding on all persons and parties claiming under them.
 - iii. The covenants pertaining to stormwater may not be altered or rescinded without the express written consent of the City.
 - iv. Alteration of the drainage as shown on the approved plan may not take place without the concurrence of the City.
 - v. This project may not be sold or subdivided, in whole or in part, without first receiving a permit modification from the City.
 - vi. Construction of additional impervious areas such that low-density requirements are no longer met will require a permit modification prior to construction. An engineering system will be required to collect and treat the runoff from all built-upon area associated with the project, including that area permitted under the *low-density* option.

The allotted amount of impervious area includes any built-upon area constructed within the lot property boundaries, and that portion of the right-of-way between the front lot line and the edge of the pavement. Built-upon area *is defined in the City of Shelby Phase II Stormwater Ordinance.*
 - vii. Filling in or piping of any vegetative conveyances (ditches, swales, etc.) associated with the development except for average driveway crossings, is strictly prohibited by any persons.
 - viii. Each lot will maintain a 30 foot wide vegetated buffer between all impervious areas and perennial and intermittent surface waters.
 - ix. All roof drains shall terminate at least 30 foot from the mean high water mark of all perennial and intermittent surface waters.
 - x. Each lot, whose ownership is not retained by the permittee, shall submit a separate stormwater permit application to the City of Shelby and receive a permit prior to construction. The application shall demonstrate compliance with the maximum BUA limit and the low-density requirements set forth in City of Shelby Phase II Stormwater Ordinance. Lots whose ownership is retained by the permittee shall be submitted as modifications to the original permit.

2. The maintenance of the stormwater system on this real property shall be the sole responsibility of the Owner.

3. This agreement and the responsibility for the maintenance of the stormwater system shall pass in the chain of title to the Owner's successor in interest.

4. Access is granted to the City of Shelby to carry out all provisions of the City's Phase II Stormwater Ordinance, including but not limited to inspections of the stormwater system.

5. This Agreement imposes no liability of any kind whatsoever to the City and the Owner agrees to hold the City harmless from any liability in the event the stormwater system fails to operate properly.

6. A copy of this Agreement shall be filed in the office of the Cleveland County Register of Deeds and in the office of the Stormwater Administrator.

IN WITNESS WHEREOF, the owner(s) have set their hands the date above written.

OWNER(S): _____

Type Name: _____

Title: _____

Type Name: _____

Title: _____

ATTEST: _____

(Seal if appropriate)

STATE OF _____

COUNTY OF _____

I, _____, a Notary Public of the County of _____ and State of _____, do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of the foregoing Stormwater Operation and Maintenance Agreement, together with attached addendum/addenda.

WITNESS my hand and official seal this ____ day of _____, 20____.

Notary Public

(SEAL)

My Commission Expires: _____

STATE OF _____

COUNTY OF _____

I, _____, a Notary Public of the County of _____ and State of _____, do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of the foregoing Stormwater Operation and Maintenance Agreement, together with attached addendum/addenda.

WITNESS my hand and official seal this ____ day of _____, 20____.

Notary Public

(SEAL)

My Commission Expires: _____

CITY OF SHELBY,

A North Carolina Municipal Corporation

Ben Yarboro
Stormwater Administrator

ATTEST:

Carol Williams
City Clerk

(SEAL)

EXHIBIT E
High Density
Stormwater Access Easement Template

STATE OF NORTH CAROLINA

CLEVELAND COUNTY

STORMWATER ACCESS EASEMENT

THIS DEED OF EASEMENT, made this the _____ day of _____, 20____, by and between _____ (check one) a [] North Carolina Limited Liability Company, [] North Carolina Corporation, [] foreign Business Organization licensed to conduct business in North Carolina, [] owner of real property in the City of Shelby, North Carolina; having a mailing address of _____ of _____, (hereinafter referred to as "Grantor") and CITY OF SHELBY, a North Carolina Municipal Corporation duly organized and existing under the laws of the State of North Carolina, having a mailing address of Post Office Box 207, Shelby, North Carolina, and being situated in Cleveland County, (hereinafter referred to as "Grantee");

WITNESSETH:

Owner(s) certifies they are all of the owners of certain real estate located in Shelby, North Carolina, hereafter referred to as "**easement premises**", the same being the land conveyed to _____ pursuant to deed recorded in Deed Book _____, Page _____, in the office of the Cleveland County Register of Deeds, which deed is hereby referred to for greater certainty of description; and

WHEREAS, development of said property is subject to the National Pollutant Discharge System (NPDES) Phase II Stormwater Regulations and the Phase II Stormwater Ordinance adopted by the City of Shelby which requires the Grantor to construct, operate, and maintain a structural stormwater control measure(s) (SCM) on the described property according to the Operation and Maintenance Agreement and the Operation and Maintenance Manual recorded in Deed Book _____ and Page _____ and which is referenced herein; and

WHEREAS, the Grantor accepts responsibility for the maintenance of all SCM(s) located on the subject property; and

WHEREAS, the parties have determined that it is in the best interest for the Grantor to allow the Grantee access to the SCM(s) in order to carry out all provisions of the City of Shelby's Phase II Stormwater Ordinance, including but not limited to inspections of said SCM(s).

NOW, THEREFORE, said Grantor does hereby grant and convey unto said Grantee, its successors and assigns, a perpetual nonexclusive right and easement to access the SCM(s) being more particularly described as follows:

With respect to authority granted to the Grantee pursuant to this SCM easement for purposes of the SCM(s)' construction, inspection, maintenance, repair, and operation pursuant to the Phase II Stormwater Ordinance adopted by the City of Shelby being approximately _____ square feet of permanent easements and access locations as described and marked on said property, as shown on a survey plat prepared by _____ and dated _____ and marked thereon as "Stormwater Access Easement" in which was recorded in Plat Book _____, Page _____ of the Cleveland County Registry of Deeds.

Said Grantor's property is described in Deed Book _____, at Page _____, Cleveland County Registry, and has Tax Parcel Identification Number(s) of _____.

The Grantor further acknowledges that the Grantee is acquiring this easement for the purpose of performing any operation necessary to restore functionality to the SCM(s) in accordance with the City of Shelby Phase II Stormwater Ordinance, in the event that the Grantor or its subsequent successors or assigns fails to operate, maintain, or repair the SCM(s) so that it does not function as designed.

TO HAVE AND HOLD the above described real property interest to the Grantee in perpetuity for the uses and purposes herein described. Grantor covenants with Grantee that Grantor is seized of the premises in fee simple, has the right to convey the Easement, rights contained herein and will warrant and defend this conveyance against the lawful claims of all persons whomsoever, except for the following **EXCEPTIONS** to which Owners' title is subject:_____.

IN WITNESS WHEREOF, the Grantor(s) have set their hands the date above written.

OWNER(S): _____

Type Name:_____

Title:_____

Type Name:_____

Title:_____

ATTEST: _____

(Seal if appropriate)

STATE OF _____

COUNTY OF _____

I, _____, a Notary Public of the County of _____ and State of _____, do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of the foregoing Stormwater Access Easement.

WITNESS my hand and official seal this ____ day of _____, 20____.

Notary Public

(SEAL)

My Commission Expires: _____

STATE OF _____

COUNTY OF _____

I, _____, a Notary Public of the County of _____ and State of _____, do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of the foregoing Stormwater Access Easement.

WITNESS my hand and official seal this ____ day of _____, 20____.

Notary Public

(SEAL)

My Commission Expires: _____

ACCEPTANCE

CITY OF SHELBY,

A North Carolina Municipal Corporation

Ben Yarboro
Stormwater Administrator

ATTEST:

Carol Williams
City Clerk

(SEAL)

EXHIBIT F
Low Density
Stormwater Access Easement Template

STATE OF NORTH CAROLINA

CLEVELAND COUNTY

STORMWATER ACCESS EASEMENT

THIS DEED OF EASEMENT, made this the _____ day of _____, 20____, by and between _____ (check one) a [] North Carolina Limited Liability Company, [] North Carolina Corporation, [] foreign Business Organization licensed to conduct business in North Carolina, [] owner of real property in the City of Shelby, North Carolina; having a mailing address of _____, (hereinafter referred to as "Grantor") and CITY OF SHELBY, a North Carolina Municipal Corporation duly organized and existing under the laws of the State of North Carolina, having a mailing address of Post Office Box 207, Shelby, North Carolina, and being situated in Cleveland County, (hereinafter referred to as "Grantee");

WITNESSETH:

Owner(s) certifies they are all of the owners of certain real estate located in Shelby, North Carolina, hereafter referred to as "**easement premises**", the same being the land conveyed to _____ pursuant to deed recorded in Deed Book _____, Page _____, in the office of the Cleveland County Register of Deeds, which deed is hereby referred to for greater certainty of description; and

WHEREAS, development of said property is subject to the National Pollutant Discharge System (NPDES) Phase II Stormwater Regulations and the Phase II Stormwater Ordinance adopted by the City of Shelby which requires the Grantor to develop the site and convey stormwater in accordance with the City of Shelby Phase II Ordinance and maintain the property according to the Operation and Maintenance Agreement recorded in Deed Book _____ and Page _____ and which is referenced herein; and

WHEREAS, the Grantor accepts responsibility for the maintenance of the stormwater system(s) located on the subject property; and

WHEREAS, the parties have determined that it is in the best interest for the Grantor to allow the Grantee access to the property in order to carry out all provisions of the City of Shelby's Phase II Stormwater Ordinance, including but not limited to inspections of said stormwater system(s).

NOW, THEREFORE, said Grantor does hereby grant and convey unto said Grantee, its successors and assigns, a perpetual nonexclusive right and easement to access the permitted site to verify compliance with the Low-Density City of Shelby Stormwater Management Permit

_____.

Said Grantor's property is described in Deed Book _____, at Page _____, Cleveland County Registry, and has Tax Parcel Identification Number(s) of

_____.

The Grantor further acknowledges that the Grantee is acquiring this easement for the purpose of performing any operation necessary to restore functionality to the stormwater system(s) in accordance with the City of Shelby Phase II Stormwater Ordinance, in the event that the Grantor or its subsequent successors or assigns fails to operate, maintain, or repair the stormwater system(s) so that it does not function as designed.

TO HAVE AND HOLD the above described real property interest to the Grantee in perpetuity for the uses and purposes herein described. Grantor covenants with Grantee that Grantor is seized of the premises in fee simple, has the right to convey the Easement, rights contained herein and will warrant and defend this conveyance against the lawful claims of all persons whomsoever, except for the following **EXCEPTIONS** to which Owners' title is subject:_____.

IN WITNESS WHEREOF, the Grantor(s) have set their hands the date above written.

OWNER(S): _____

Type Name: _____

Title: _____

Type Name: _____

Title: _____

ATTEST: _____

(Seal if appropriate)

STATE OF _____

COUNTY OF _____

I, _____, a Notary Public of the County of _____ and
State of _____, do hereby certify
that _____ personally appeared before me this day and
acknowledged the due execution of the foregoing Stormwater Access Easement.

WITNESS my hand and official seal this ____ day of _____, 20____.

Notary Public

(SEAL)

My Commission Expires: _____

STATE OF _____

COUNTY OF _____

I, _____, a Notary Public of the County of _____ and
State of _____, do hereby certify
that _____ personally appeared before me this day and
acknowledged the due execution of the foregoing Stormwater Access Easement.

WITNESS my hand and official seal this ____ day of _____, 20____.

Notary Public

(SEAL)

My Commission Expires: _____

ACCEPTANCE

CITY OF SHELBY,

A North Carolina Municipal Corporation

Ben Yarboro
Stormwater Administrator

ATTEST:

Carol Williams
City Clerk

(SEAL)

EXHIBIT G
Stormwater Certification of Completion Form



City of Shelby

STORMWATER CERTIFICATION OF COMPLETION

Project Name: _____

City of Shelby Stormwater Permit No.: _____

Date: _____

I, as a duly registered _____ in the State of North Carolina, hereby certify:

1. That myself or a person under my direct supervision inspected the subject project site at sufficient intervals of construction progress to determine that the stormwater improvements were completed in accordance with the City Stormwater Permit and the approved plans and specifications.
2. That the stormwater improvements to the above referenced project have been installed as shown on the attached "as-built" drawings dated _____.
3. That all necessary easements for the stormwater improvements have been recorded at the Cleveland County Register of Deeds and are shown on the attached plot and deed of easement.

Signature: _____

Name (Print): _____

Professional Registration No.: _____

(SEAL)

Company: _____

Address: _____

Phone: _____

Submit to: City of Shelby
Attn: Stormwater Coordinator
PO Box 207
Shelby, NC 28151-0207

EXHIBIT H
Annual Inspection Report Form



Name: _____

Inspection Date: _____

Address: _____

SCM Type: _____ Inspector: _____

Permit Number: _____

Rain within last 48 hours? _____

Inspection type (check all that apply):

- Initial
- Follow-up
- Final construction
- Annual compliance
- Routine maintenance
- Other see notes

SCM accessibility:

- Accessible
- Not Accessible

Soil erosion:

- On banks of SCM
- In drainage area
- No

Stormwater collection:

- Stormwater running to SCM
- Stormwater being diverted

Inlet structure (pipe/swale/box/trench):

- No issues
- Damaged pipe
- Sediment present
- Woody vegetation
- Other see notes

Inlet dissipater:

- No issues
- Erosion at dissipater
- Clogged level spreader
- Woody vegetation
- Other see notes

Forbay:

- No issue
- Sediment level > 50%
- Trash/debris present
- Other see notes

Trash and debris:

- No issues
- Trash/debris present
- Other see notes

Media/Cell (If applicable):

- N/A
- No issues
- Sediment in media/cell
- Settling of media/cell
- Other see notes

Water Level (%):

Outlet structure:

- No issues
- Clogged structure
- Improper elevation
- Damaged structure
- Other see notes

Berm/dam (If applicable):

- N/A
- No issues
- Leaks in dam
- Holes in dam
- Breached dam
- Woody vegetation
- Other see notes

Outlet dissipaters:

- No issues
- Erosion at dissipater
- Clogged level spreader
- Other see notes

Proposed corrective actions: _____

Additional Notes: _____

I certify the inspected SCM **is** / **is not** (choose one) performing properly and in compliance with the terms and conditions of the approved maintenance agreement required by the City of Shelby Stormwater Management Permit.

Signature: _____ Date: _____

Inspector Certification #/Professional Stamp: _____

*Annual report is due April 1 or October 1 annually based on the Operation and Maintenance Agreement. *

**Annual report shall be submitted to the Stormwater Coordinator at PO Box 207, Shelby, NC 28151 or stormwater@cityofshelby.com . **

EXHIBIT I
Ordinance No. 41-2013

and

Ordinance No. 64-2018

ORDINANCE NO. 41-2013

AN ORDINANCE TO UPDATE THE CITY OF
SHELBY UNIFIED DEVELOPMENT ORDINANCE
(UDO) TO INCLUDE THE CITY OF SHELBY
PHASE II STORMWATER ORDINANCE

WHEREAS, in accordance with applicable provisions of Session Law 2006-246 and the State of North Carolina Department of Environment and Natural Resources (NCDENR) Division of Water Quality (DWQ) Permit No. NCS000560, City Staff has developed and drafted the City of Shelby Phase II Stormwater Ordinance; and,

WHEREAS, the State of North Carolina Department of Environment and Natural Resources has reviewed the proposed ordinance and found the language to be acceptable and to meet the requirements of the NPDES Phase II Stormwater program provided via written communication in a letter dated August 29, 2013; and,

WHEREAS, City Council now desires to proceed with the recommended updates for the City of Shelby Unified Development Ordinance based on the recommendations from staff and to meet the requirements of the City's NPDES Permit Number NCS000560.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SHELBY, NORTH CAROLINA:

Section 1. The City of Shelby Unified Development Ordinance shall be updated to include the City of Shelby Phase II Stormwater Ordinance as incorporated herein as Exhibit A and the Phase II Stormwater Map as incorporated herein as Exhibit B within Article X Environmental and Special Purpose Regulations.

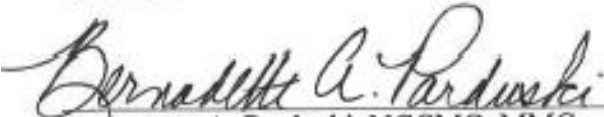
Section 2. This Ordinance shall become effective upon its adoption and approval on the date of November 18, 2013.

Adopted and approved this the 18th day of November 2013.



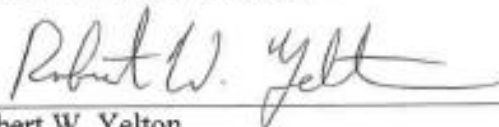
O. Stanhope Anthony, III
Mayor

ATTEST:



Bernadette A. Parduski, NCCMC, MMC
City Clerk

APPROVED AS TO FORM:



Robert W. Yelton
City Attorney



ORDINANCE NO. 64-2018

**A PROPOSED ORDINANCE AMENDING THE
UNIFIED DEVELOPMENT ORDINANCE OF
THE CITY OF SHELBY, NORTH CAROLINA**

WHEREAS, the City of Shelby was issued a permit by the North Carolina Department of Environmental Quality (NCDEQ) to discharge stormwater to surface waters effective December 1, 2012; and,

WHEREAS, the City of Shelby adopted Ordinance 21-2013 on November 18, 2013 outlining the requirements of the Phase II Stormwater Permit; and,

WHEREAS, the Original Permit was renewed effective February 1, 2018, which included new requirements as well as updated definitions; and,

WHEREAS, on January 1, 2017, the NCDEQ Stormwater Design Manual was also updated with new requirements and definitions; and,

WHEREAS, the City of Shelby intends to adopt the new requirements and definitions; and,

WHEREAS, the Shelby Planning and Zoning Board has reviewed the proposed changes to the Phase II Stormwater Management regulations; and,

WHEREAS, the Shelby Planning and Zoning Board found that the proposed changes are consistent with the Comprehensive Land Use Plan; and,

WHEREAS, in accordance with GS 160A-364, a public hearing on this proposed amendment was held by City Council on November 19, 2018 after due publication of said hearing as required by law; and,

WHEREAS, after hearing all who wished to be heard on this matter and upon review of the findings and recommendations of the Planning and Zoning Board, City Council now desires to act on this matter.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SHELBY, NORTH CAROLINA:

Section 1. This zoning text amendment is consistent with the City of Shelby Comprehensive Land Use Plan.

Section 2. In accordance with Chapter 160A, Article 19 of the North Carolina General Statutes, as amended, the Shelby Unified Development Ordinance, is hereby amended by deleting the current Stormwater references found in section 10-1.1 and 10-3 of the Unified Development

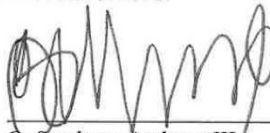
Ordinance No. 64-2018
November 19, 2018
Page 2

Ordinance and adding the attached Exhibit A as the replacement for 10-3 of the Unified Development Ordinance.

Section 3. The City Clerk of the City of Shelby is hereby authorized and directed to cause the provisions of Section 2 of this ordinance to be properly codified, and the City Clerk is further authorized and directed to cause her official records and the Official Zoning Map of the City of Shelby to be properly amended to reflect the approved zoning changes.

Section 4. This ordinance shall become effective upon its adoption and approval.

ADOPTED AND APPROVED this the 19th day of November 2018.



O. Stanhope Anthony III
Mayor

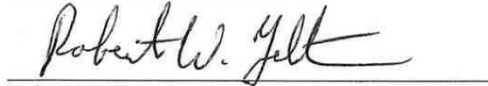
ATTEST:



Bernadette A. Parduski, NC-CMC, IIMC-MMC
City Clerk



APPROVED AS TO FORM:



Robert W. Yelton
City Attorney

EXHIBIT J
Phase II Stormwater Ordinance

City of Shelby

Phase II Stormwater Ordinance



Adopted November 18, 2013

Revised November 19, 2018

Table of Contents

SECTION 1: GENERAL PROVISIONS.....	5
xx-101 Title.....	5
xx-102 Authority	5
xx-103 Findings	5
xx-104 Purpose	5
(A) General.....	5
(B) Specific.....	6
xx-105 Applicability and Jurisdiction.....	7
(A) General.....	7
(B) Exemptions	7
(C) No Development or Redevelopment Until Compliance and Permit	7
(D) Map.....	7
xx-106 Interpretation.....	8
(A) Meaning and Intent.....	8
(B) Text Controls in Event of Conflict.....	8
(C) Authority for Interpretation	8
(D) References to Statutes, Regulations, and Documents	8
(E) Computation of Time.....	8
(F) Delegation of Authority	8
(G) Usage	8
(1) Mandatory and Discretionary Terms	8
(2) Conjunctions	9
(3) Tense, Plurals, and Gender.....	9
(H) Measurement and Computation.....	9
xx-107 Design Manual	9
(A) Reference to Design Manual	9
(B) Relationship of Design Manual to Other Laws and Regulations	9
(C) Changes to Standards and Specifications	9
xx-108 Relationship to Other Laws, Regulations and Private Agreements.....	10
(A) Conflict of Laws	10
(B) Private Agreements	10
xx-109 Severability.....	10
xx-110 Effective Date and Transitional Provisions.....	10
(A) Effective Date.....	10
(B) Final Approvals, Complete Applications.....	10
(C) Violations Continue	11
SECTION 2: ADMINISTRATION AND PROCEDURES	12
xx-201 Review and Decision-Making Entities.....	12
(A) Stormwater Administrator	12
(1) Designation.....	12
(2) Powers and Duties	12
xx-202 Review Procedures.....	12
(A) Permit Required; Must Apply for Permit.....	12
(B) Effect of Permit.....	13
(C) Authority to File Applications.....	13
(D) Establishment of Application Requirements, Schedule, and Fees	13
(1) Application Contents and Form	13

(2)	Submission Schedule.....	13
(3)	Permit Review Fees.....	13
(4)	Administrative Manual	13
(E)	Submittal of Complete Application.....	14
(F)	Review	14
(1)	Approval	14
(2)	Fails to Comply.....	14
(3)	Revision and Subsequent Review	14
xx-203	Applications for Approval	15
(A)	Concept Plan and Consultation Meeting.....	15
(1)	Existing Conditions / Proposed Site Plans.....	15
(2)	Natural Resources Inventory.....	15
(3)	Stormwater Management System Concept Plan	16
(B)	Stormwater Management Permit Application	16
(C)	As-Built Plans and Final Approval.....	16
(D)	Other Permits.....	16
xx-204	Approvals	17
(A)	Effect of Approval.....	17
(B)	Time Limit/Expiration.....	17
xx-205	Appeals.....	17
(A)	Right of Appeal.....	17
SECTION 3: STANDARDS.....		18
xx-301	General Standards.....	18
xx-302	Development Standards for Low-Density Projects	18
xx-303	Development standards for High-Density Projects	18
xx-304	Standards for Stormwater Control Measures	19
(A)	Evaluation According to Contents of Design Manual.....	19
(B)	Determination of Adequacy; Presumptions and Alternatives.....	19
xx-305	Dedication of SCMS, Facilities & Improvements	19
xx-306	VarianceS	20
xx-307	Additional standards for special situations.....	21
(A)	Nutrient Sensitive Waters	21
SECTION 4: MAINTENANCE.....		22
xx-401	General Standards for Maintenance	22
(A)	Function of SCMs As Intended.....	22
(B)	Annual Maintenance Inspection and Report.....	22
xx-402	Operation and Maintenance Agreement	22
(A)	In General.....	22
(B)	Special Requirement for Homeowners' and Other Associations.....	23
xx-403	Inspection Program	24
xx-404	Performance Security for Installation and Maintenance	25
(A)	May Be Required	25
(B)	Amount	25
(1)	Installation	25
(2)	Maintenance	25
(C)	Uses of Performance Security	25
(1)	Forfeiture Provisions	25
(2)	Default.....	26
(3)	Costs in Excess of Performance Security.....	26

(4)	Refund.....	26
xx-405	Notice to <i>owners</i>	26
(A)	Deed Recordation and Indications On Plat.....	26
(B)	Signage.....	26
xx-406	Records of Installation and Maintenance Activities	27
xx-407	Nuisance	27
xx-408	Maintenance Easement	27
SECTION 5: ENFORCEMENT AND VIOLATIONS		28
xx-501	General	28
(A)	Authority to Enforce.....	28
(B)	Violation Unlawful.....	28
(C)	Each Day a Separate Offense.....	28
(D)	Responsible Persons/Entities.....	28
(1)	Person Maintaining Condition Resulting In or Constituting Violation.....	28
(2)	Responsibility For Land or Use of Land.....	29
xx-502	Remedies and Penalties	29
(A)	Remedies.....	29
(1)	Withholding of Certificate of Occupancy.....	29
(2)	Disapproval of Subsequent Permits and Development Approvals.....	29
(3)	Injunction, Abatements, etc.....	29
(4)	Correction as Public Health Nuisance, Costs as Lien, etc.....	29
(5)	Stop Work Order.....	30
(B)	Civil Penalties.....	30
(C)	Criminal Penalties.....	30
xx-503	Procedures	30
(A)	Initiation/Complaint.....	30
(B)	Inspection.....	30
(C)	Notice of Violation and Order to Correct.....	31
(D)	Extension of Time.....	31
(E)	Enforcement After Time to Correct.....	31
(F)	Emergency Enforcement.....	32
SECTION 6: DEFINITIONS		33
xx-601	Terms Defined	33
	1-year, 24-hour storm.....	33
	Best Management Practice (BMP).....	33
	Built-upon area (BUA).....	33
	Department.....	33
	Design Manual.....	33
	Development.....	33
	Division (DEMLR).....	34
	High-density project.....	34
	Larger common plan of development or sale.....	34
	Low-density project.....	34
	Minimum Design Criteria (MDC).....	34
	Owner.....	34
	Permeable pavement.....	34
	Planning jurisdiction.....	35
	Primary SCM.....	35
	Redevelopment.....	35

Runoff Treatment.....	35
Runoff Volume Match.....	35
Secondary SCM.....	35
Stormwater Runoff.....	35
Stormwater Control Measure (SCM).....	35
Structural BMP.....	36
Substantial progress.....	36
Vegetative buffer	36
Vegetative conveyance.....	36
<i>SECTION 7: Illicit Discharges</i>	<i>37</i>
xx-701 Illicit Discharges and Connections	37
(A) Illicit Discharges	37
(B) Illicit Connections	38
(C) Industrial or Construction Activity Discharges.....	39
(D) Inspections	40
(E) Nuisance.....	40

SECTION 1: GENERAL PROVISIONS

xx-101 TITLE

This ordinance shall be officially known as “The City of Shelby Phase II Stormwater Ordinance.” It is referred to herein as “this ordinance.”

xx-102 AUTHORITY

The City Council of the City of Shelby is authorized to adopt this ordinance pursuant to North Carolina law, including but not limited to Article 14, Section 5 of the Constitution of North Carolina; the Charter of the City of Shelby; North Carolina General Statutes 143-214.7 and rules promulgated by the Environmental Management Commission thereunder; Session Law 2004-163; Chapter 160A, §§ 174, 185 and; Chapter 160A, Article 19 (Planning and Regulation of Development).

xx-103 FINDINGS

It is hereby determined that:

Development and *redevelopment* alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, flooding, soil erosion, stream channel erosion, nonpoint and point source pollution, and sediment transport and deposition, as well as reducing groundwater recharge;

These changes in stormwater runoff contribute to increased quantities of water-borne pollutants and alterations in hydrology that are harmful to public health and safety as well as to the natural environment; and

These effects can be managed and minimized by applying proper design and well-planned controls to manage stormwater runoff from *development* sites.

Further, the Federal Water Pollution Control Act of 1972 (“Clean Water Act”) and federal Phase II Stormwater Rules promulgated under it, as well as rules of the North Carolina Environmental Management Commission promulgated in response to federal Phase II requirements, compel certain urbanized areas, including this jurisdiction, to adopt minimum stormwater controls such as those included in this ordinance.

Therefore, the City Council of the City of Shelby establishes this set of water quality and quantity regulations to meet the requirements of state and federal law regarding control of stormwater runoff and discharge.

xx-104 PURPOSE

(A) General

The purpose of this ordinance is to protect, maintain and enhance the public health, safety, environment and general welfare by establishing minimum requirements and procedures to control the adverse effects of increased post-*development* stormwater runoff and nonpoint and point source pollution associated with new *development* and

redevelopment as well as illicit discharges into municipal stormwater systems. It has been determined that proper management of construction-related and post-*development* stormwater runoff will minimize damage to public and private property and infrastructure; safeguard the public health, safety, and general welfare; and protect water and aquatic resources.

(B) Specific

1. Establishing decision-making processes for *development* that protect the integrity of watersheds and preserve the health of water resources;
2. Requiring that new *development* and *redevelopment* maintain the pre-*development* hydrologic response in their post-*development* state as nearly as practicable for the applicable design storm to reduce flooding, streambank erosion, nonpoint and point source pollution and increases in stream temperature, and to maintain the integrity of stream channels and aquatic habitats;
3. Establishing minimum post-*development* stormwater management standards and design criteria for the regulation and control of stormwater runoff quantity and quality;
4. Establishing design and review criteria for the construction, function, and use of *structural stormwater control measures (SCMs)* that may be used to meet the minimum post-*development* stormwater management standards;
5. Encouraging the use of better management and site design practices, such as the use of vegetated conveyances for stormwater and the preservation of greenspace, riparian buffers and other conservation areas to the maximum extent practicable;
6. Establishing provisions for the long-term responsibility for and maintenance of *structural SCMs and nonstructural stormwater BMPs* to ensure that they continue to function as designed, are maintained appropriately, and pose no threat to public safety;
7. Establishing administrative procedures for the submission, review, approval and disapproval of *stormwater management plans*, for the inspection of approved projects, and to assure appropriate long-term maintenance.
8. Coordinating site design plans that include open space and natural areas with the City of Shelby open space and natural area protection plans, policies or ordinances;
9. Controlling illicit discharges into the municipal separate stormwater system.

xx-105 **APPLICABILITY AND JURISDICTION**

(A) General

Beginning with and subsequent to its effective date, this ordinance shall be applicable to all *development* and *redevelopment*, including, but not limited to, site plan applications, subdivision applications, and grading or land disturbing applications, unless exempt pursuant to Subsection (B) of this Section, Exemptions.

(B) Exemptions

Development that cumulatively disturbs less than one acre and is not part of a *larger common plan of development or sale* is exempt from the provisions of this ordinance.

Redevelopment that cumulatively disturbs less than one acre and is not part of a larger common plan of *development* or sale is exempt from the provisions of this ordinance.

Development and *redevelopment* that disturb less than one acre are not exempt if such activities are part of a *larger common plan of development or sale*, even though multiple, separate or distinct activities take place at different times on different schedules.

Activities that are exempt from permit requirements of Section 404 of the federal Clean Water Act as specified in 40 CFR 232 (primarily, ongoing farming and forestry activities) are exempt from the provisions of this ordinance.

(C) No Development or Redevelopment Until Compliance and Permit

No *development* or *redevelopment* shall occur except in compliance with the provisions of this ordinance or unless exempted. No *development* for which a permit is required pursuant to this ordinance shall occur except in compliance with the provisions, conditions, and limitations of the permit.

(D) Map

The provisions of this ordinance shall apply within the areas designated on the map titled "Phase II Stormwater Map of Shelby, North Carolina" ("the Stormwater Map"), which is adopted simultaneously herewith. The Stormwater Map and all explanatory matter contained thereon accompanies and is hereby made a part of this ordinance.

The Stormwater Map shall be kept on file by the Stormwater Administrator and shall be updated to take into account changes in the land area covered by this ordinance and the geographic location of all *structural SCMs* permitted under this ordinance. In the event of a dispute, the applicability of this ordinance to a particular area of land or SCM shall be determined by reference to the North Carolina Statutes, the North Carolina Administrative Code, and local zoning and jurisdictional boundary ordinances.

xx-106 INTERPRETATION

(A) Meaning and Intent

All provisions, terms, phrases, and expressions contained in this ordinance shall be construed according to the general and specific purposes set forth in Section 104, Purpose. If a different or more specific meaning is given for a term defined elsewhere in the Code of Ordinances of the City of Shelby, North Carolina, the meaning and application of the term in this ordinance shall control for purposes of application of this ordinance.

(B) Text Controls in Event of Conflict

In the event of a conflict or inconsistency between the text of this ordinance and any heading, caption, figure, illustration, table, or map, the text shall control.

(C) Authority for Interpretation

The Stormwater Administrator has authority to determine the interpretation of this ordinance. Any person may request an interpretation by submitting a written request to the Stormwater Administrator, who shall respond in writing within 30 days. The Stormwater Administrator shall keep on file a record of all written interpretations of this ordinance.

(D) References to Statutes, Regulations, and Documents

Whenever reference is made to a resolution, ordinance, statute, regulation, manual (including the *Design Manual*), or document, it shall be construed as a reference to the most recent edition of such that has been finalized and published with due provision for notice and comment, unless otherwise specifically stated.

(E) Computation of Time

The time in which an act is to be done shall be computed by excluding the first day and including the last day. If a deadline or required date of action falls on a Saturday, Sunday, or holiday observed by the City of Shelby, the deadline or required date of action shall be the next day that is not a Saturday, Sunday or holiday observed by the City of Shelby. References to days are calendar days unless otherwise stated.

(F) Delegation of Authority

Any act authorized by this Ordinance to be carried out by the Stormwater Administrator of City of Shelby may be carried out by his or her designee.

(G) Usage

(1) Mandatory and Discretionary Terms

The words “shall,” “must,” and “will” are mandatory in nature, establishing an obligation or duty to comply with the particular provision. The words “may” and “should” are permissive in nature.

(2) Conjunctions

Unless the context clearly indicates the contrary, conjunctions shall be interpreted as follows: The word “and” indicates that all connected items, conditions, provisions and events apply. The word “or” indicates that one or more of the connected items, conditions, provisions or events apply.

(3) Tense, Plurals, and Gender

Words used in the present tense include the future tense. Words used in the singular number include the plural number and the plural number includes the singular number, unless the context of the particular usage clearly indicates otherwise. Words used in the masculine gender include the feminine gender, and vice versa.

(H) Measurement and Computation

Lot area refers to the amount of horizontal land area contained inside the lot lines of a lot or site.

xx-107 DESIGN MANUAL

(A) Reference to Design Manual

The Stormwater Administrator shall use the policy, criteria, and information, including technical specifications, standards, and the Minimum Design Criteria in the *Design Manual*, as defined in Section 6, as the basis for decisions about stormwater permits and about the design, implementation and performance of *structural SCMs and non-structural stormwater BMPs*.

The *Design Manual* includes a list of acceptable stormwater treatment practices, including specific design criteria for each stormwater practice. Stormwater treatment practices that are designed, constructed, and maintained in accordance with these design and sizing criteria will be presumed to meet the minimum water quality performance standards of the Phase II laws.

(B) Relationship of Design Manual to Other Laws and Regulations

If the specifications or guidelines of the *Design Manual* are more restrictive or apply a higher standard than other laws or regulations, that fact shall not prevent application of the specifications or guidelines in the *Design Manual*.

(C) Changes to Standards and Specifications

If the standards, specifications, guidelines, policies, criteria, or other information in the *Design Manual* are amended subsequent to the submittal of an application for approval pursuant to this ordinance but prior to approval, the new information shall control and shall be utilized in reviewing the application and in implementing this ordinance with regard to the application.

xx-108 RELATIONSHIP TO OTHER LAWS, REGULATIONS AND PRIVATE AGREEMENTS

(A) Conflict of Laws

This ordinance is not intended to modify or repeal any other ordinance, rule, regulation or other provision of law. The requirements of this ordinance are in addition to the requirements of any other ordinance, rule, regulation or other provision of law. Where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule, regulation or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human or environmental health, safety, and welfare shall control.

(B) Private Agreements

This ordinance is not intended to revoke or repeal any easement, covenant, or other private agreement. However, where the regulations of this ordinance are more restrictive or impose higher standards or requirements than such an easement, covenant, or other private agreement, the requirements of this ordinance shall govern. Nothing in this ordinance shall modify or repeal any private covenant or deed restriction, but such covenant or restriction shall not legitimize any failure to comply with this ordinance. In no case shall City of Shelby be obligated to enforce the provisions of any easements, covenants, or agreements between private parties.

xx-109 SEVERABILITY

If the provisions of any section, subsection, paragraph, subdivision or clause of this ordinance shall be adjudged invalid by a court of competent jurisdiction, such judgment shall not affect or invalidate the remainder of any section, subsection, paragraph, subdivision or clause of this ordinance.

xx-110 EFFECTIVE DATE AND TRANSITIONAL PROVISIONS

(A) Effective Date

This Ordinance shall take effect on November 19, 2018.

(B) Final Approvals, Complete Applications

All *development* and *redevelopment* projects for which complete and full applications were submitted and approved by the City of Shelby prior to the effective date of this ordinance and which remain valid, unexpired, unrevoked and not otherwise terminated at the time of *development* or *redevelopment* shall be exempt from complying with all provisions of this ordinance dealing with the control and/or management of post-construction runoff, but shall be required to comply with all other applicable provisions, including but not limited to illicit discharge provisions.

A phased development plan shall be deemed approved prior to the effective date of this ordinance if it has been approved by all necessary government units, it remains valid, unexpired, unrevoked and not otherwise terminated, and it shows:

1. For the initial or first phase of development, the type and intensity of use for a specific parcel or parcels, including at a minimum, the boundaries of the project and a subdivision plan that has been approved.

2 For any subsequent phase of development, sufficient detail so that implementation of the requirements of this ordinance to that phase of development would require a material change in that phase of the plan.

(C) Violations Continue

Any violation of provisions existing on the effective date of this ordinance shall continue to be a violation under this ordinance and be subject to penalties and enforcement under this ordinance unless the use, *development*, construction, or other activity complies with the provisions of this ordinance.

SECTION 2: ADMINISTRATION AND PROCEDURES

xx-201 REVIEW AND DECISION-MAKING ENTITIES

(A) Stormwater Administrator

(1) Designation

A Stormwater Administrator shall be designated by the Shelby City Manager to administer and enforce this ordinance.

(2) Powers and Duties

In addition to the powers and duties that may be conferred by other provisions of the Code of Ordinances of the City of Shelby and other laws, the Stormwater Administrator shall have the following powers and duties under this ordinance:

- a. To review and approve, approve with conditions, or disapprove applications for approval of plans pursuant to this ordinance.
- b. To make determinations and render interpretations of this ordinance.
- c. To establish application requirements and schedules for submittal and review of applications and appeals, to review and make recommendations to the Shelby City Council on applications for *development* or *redevelopment* approvals.
- d. To enforce the provisions of this ordinance in accordance with its enforcement provisions.
- e. To maintain records, maps, forms and other official materials as related to the adoption, amendment, enforcement, and administration of this ordinance.
- f. To provide expertise and technical assistance to the Shelby City Council and City of Shelby Stormwater Advisory Board, upon request.
- g. To designate appropriate other person(s) who shall carry out the powers and duties of the Stormwater Administrator.
- h. To take any other action necessary to administer the provisions of this ordinance.

xx-202 REVIEW PROCEDURES

(A) Permit Required; Must Apply for Permit

A stormwater permit is required for all *development* and *redevelopment* unless exempt pursuant to this ordinance. A permit may only be issued subsequent to a properly submitted and reviewed permit application, pursuant to this section.

(B) Effect of Permit

A stormwater permit shall govern the design, installation, and construction of stormwater management and control practices on the site, including *structural SCMs* and elements of site design for stormwater management other than *structural SCMs*.

The permit is intended to provide a mechanism for the review, approval, and inspection of the approach to be used for the management and control of stormwater for the *development* or *redevelopment* site consistent with the requirements of this ordinance, whether the approach consists of *structural SCMs* or other techniques such as low-impact or low-density design. The permit does not continue in existence indefinitely after the completion of the project; rather, compliance after project construction is assured by the maintenance provisions of this ordinance.

(C) Authority to File Applications

All applications required pursuant to this Code shall be submitted to the Stormwater Administrator by the land *owner* or the land *owner's* duly authorized agent.

(D) Establishment of Application Requirements, Schedule, and Fees

(1) Application Contents and Form

The Stormwater Administrator shall establish requirements for the content and form of all applications and shall amend and update those requirements from time to time. At a minimum, the stormwater permit application shall describe in detail how post-*development* stormwater runoff will be controlled and managed, the design of all stormwater facilities and practices, and how the proposed project will meet the requirements of this ordinance.

(2) Submission Schedule

The Stormwater Administrator shall establish a submission schedule for applications. The schedule shall establish deadlines by which complete applications must be submitted for the purpose of ensuring that there is adequate time to review applications; and that the various stages in the review process are accommodated.

(3) Permit Review Fees

The Shelby City Council shall establish permit review fees as well as policies regarding refund of any fees upon withdrawal of an application, and may amend and update the fees and policies from time to time.

(4) Administrative Manual

For applications required under this Code, the Stormwater Administrator shall compile the application requirements, submission schedule, fee schedule, a copy of this ordinance, and information on how and where to obtain the Design

Manual in an Administrative Manual, which shall be made available to the public.

(E) Submittal of Complete Application

Applications shall be submitted to the Stormwater Administrator pursuant to the application submittal schedule in the form established by the Stormwater Administrator, along with the appropriate fee established pursuant to this section.

An application shall be considered as timely submitted only when it contains all elements of a complete application pursuant to this ordinance, along with the appropriate fee. If the Stormwater Administrator finds that an application is incomplete, the applicant shall be notified of the deficient elements and shall be provided with an opportunity to submit a complete application. However, the submittal of an incomplete application shall not suffice to meet a deadline contained in the submission schedule established above.

(F) Review

The Stormwater Administrator shall review the application and determine whether the application complies with the standards of this ordinance.

(1) Approval

If the Stormwater Administrator finds that the application complies with the standards of this ordinance, the Stormwater Administrator shall approve the application. The Stormwater Administrator may impose conditions of approval as needed to ensure compliance with this ordinance. The conditions shall be included as part of the approval.

(2) Fails to Comply

If the Stormwater Administrator finds that the application fails to comply with the standards of this ordinance, the Stormwater Administrator shall notify the applicant and shall indicate how the application fails to comply. The applicant shall have an opportunity to submit a revised application.

(3) Revision and Subsequent Review

A complete revised application shall be reviewed by the Stormwater Administrator after its re-submittal and shall be approved, approved with conditions or disapproved.

If a revised application is not re-submitted within thirty (30) calendar days from the date the applicant was notified, the application shall be considered withdrawn, and a new submittal for the same or substantially the same project shall be required along with the appropriate fee for a new submittal.

One re-submittal of a revised application may be submitted without payment of an additional permit review fee. Any re-submittal after the first re-submittal shall be accompanied by an additional permit review fee, as established pursuant to this ordinance.

xx-203 APPLICATIONS FOR APPROVAL

(A) Concept Plan and Consultation Meeting

Before a stormwater management permit application is deemed complete, the Stormwater Administrator or developer may request a consultation on a concept plan for the post-construction stormwater management system to be utilized in the proposed *development* project. This consultation meeting should take place at the time of the preliminary plan of subdivision or other early step in the *development* process. The purpose of this meeting is to discuss the post-construction stormwater management measures necessary for the proposed project, as well as to discuss and assess constraints, opportunities and potential approaches to stormwater management designs before formal site design engineering is commenced. Local watershed plans, open space and natural area protection plans, and other relevant resource protection plans should be consulted in the discussion of the concept plan.

To accomplish this goal, the following information should be included in the concept plan, which should be submitted in advance of the meeting:

(1) Existing Conditions / Proposed Site Plans

Existing conditions and proposed site layout sketch plans, which illustrate at a minimum: site boundaries, existing and proposed topography; perennial and intermittent streams; mapping of predominant soils from soil surveys (if available); boundaries of existing predominant vegetation; proposed limits of clearing and grading; and location of existing and proposed roads, buildings, parking areas and other impervious surfaces.

(2) Natural Resources Inventory

A written or graphic inventory of natural resources at the site and surrounding area as it exists prior to the commencement of the project. This description should include a discussion of soil conditions, forest cover, geologic features, topography, wetlands, and native vegetative areas on the site, as well as the location and boundaries of other natural feature protection and conservation areas such as lakes, ponds, floodplains, stream buffers and other setbacks (e.g., drinking water well setbacks, septic setbacks, etc.). Particular attention should be paid to environmentally sensitive features that provide particular opportunities or constraints for *development* and stormwater management.

(3) Stormwater Management System Concept Plan

A written or graphic concept plan of the proposed post-*development* stormwater management system including: preliminary selection and location of proposed structural stormwater controls; low-impact design elements; location of existing and proposed conveyance systems such as grass channels, swales, and storm drains; flow paths; location of floodplain/floodway limits; relationship of site to upstream and downstream properties and drainages; and preliminary location of any proposed stream channel modifications, such as bridge or culvert crossings.

(B) Stormwater Management Permit Application

The stormwater management permit application shall detail how post-*development* stormwater runoff will be controlled and managed and how the proposed project will meet the requirements of this ordinance, including Section 3, Standards. All such plans shall be prepared by a qualified registered North Carolina professional engineer, surveyor, soil scientist or landscape architect, and the engineer, surveyor, soil scientist or landscape architect shall perform services only in their area of competence, and shall verify that the design of all stormwater management facilities and practices meets the submittal requirements for complete applications, that the designs and plans are sufficient to comply with applicable standards and policies found in the *Design Manual*, and that the designs and plans ensure compliance with this ordinance.

The submittal shall include all of the information required in the submittal checklist established by the Stormwater Administrator. Incomplete submittals shall be treated pursuant to Section xx-202(D).

(C) As-Built Plans and Final Approval

Upon completion of a project, and before a certificate of occupancy shall be granted, the applicant shall certify that the completed project is in accordance with the approved stormwater management plans and designs, and shall submit actual “as built” plans for all stormwater management facilities or practices after final construction is completed.

The plans shall show the final design specifications for all stormwater management facilities and practices and the field location, size, depth, and planted vegetation of all measures, controls, and devices, as installed. The designer of the stormwater management measures and plans shall certify, under seal, that the as-built stormwater measures, controls, and devices are in compliance with the approved stormwater management plans and designs and with the requirements of this ordinance. A final inspection and approval by the Stormwater Administrator shall occur before the release of any performance securities.

(D) Other Permits

No certificate of compliance or occupancy shall be issued by the City of Shelby without final as-built plans and a final inspection and approval by the Stormwater Administrator, except where multiple units are served by the stormwater practice or

facilities, in which case the City of Shelby may elect to withhold a percentage of permits or certificates of occupancy until as-built plans are submitted and final inspection and approval has occurred.

xx-204 APPROVALS

(A) Effect of Approval

Approval authorizes the applicant to go forward with only the specific plans and activities authorized in the permit. The approval shall not be construed to exempt the applicant from obtaining other applicable approvals from local, state, and federal authorities.

(B) Time Limit/Expiration

An approved plan shall become null and void if the applicant fails to make *substantial progress* on the site within one year after the date of approval. The Stormwater Administrator may grant a single, one-year extension of this time limit, for good cause shown, upon receiving a written request from the applicant before the expiration of the approved plan.

In granting an extension, the Stormwater Administrator may require compliance with standards adopted since the original application was submitted unless there has been substantial reliance on the original permit and the change in standards would infringe the applicant's vested rights.

xx-205 APPEALS

(A) Right of Appeal

Any aggrieved person affected by any decision, order, requirement, or determination relating to the interpretation or application of this ordinance made by the Stormwater Administrator, may file an appeal to the City of Shelby Zoning Board of Adjustment within 30 days after receipt of said written decision, order, requirement, or determination.

SECTION 3: STANDARDS

xx-301 GENERAL STANDARDS

All *development* and *redevelopment* to which this ordinance applies shall comply with the standards of this section and the requirements of 15A NCAC 02H.1003.

xx-302 DEVELOPMENT STANDARDS FOR LOW-DENSITY PROJECTS

- (A) *Low-density projects* shall comply with each of the following standards: Stormwater runoff from the *development* shall be designed to maximize dispersed flow through vegetated areas and minimize channelization of flow;
- (B) Stormwater that cannot be released as dispersed flow shall be transported from the *development* by vegetated conveyances as outlined in 15A NCAC 02H.1003(2)(c);
- (C) The project may use curb and gutter with outlets to convey stormwater to grassed swales or vegetated areas. Requirements for curb outlet systems are outlined in 15A NCAC 02H.1003(2)(d);
- (D) All *built-upon area* shall be at a minimum of 30 feet landward of all perennial and intermittent surface waters. A perennial or intermittent surface water shall be deemed present if the feature is approximately shown on either the most recent version of the soil survey map prepared by the Natural Resources Conservation Service of the United States Department of Agriculture (USDA) or the most recent version of the 1:24,000 scale (7.5 minute) quadrangle topographic maps prepared by the United States Geologic Survey (USGS). An exception to this requirement may be allowed when surface waters are not present in accordance with the provisions of 15A NCAC 2B .0233 (3)(a) or similar site-specific determination made using *Division*-approved methodology;
- (E) The approval of the stormwater permit shall require an enforceable restriction on property usage that runs with the land, such as a recorded deed restriction or protective covenants, to ensure that future *development* and *redevelopment* maintains the site consistent with the approved project plans.

xx-303 DEVELOPMENT STANDARDS FOR HIGH-DENSITY PROJECTS

High-density projects shall implement stormwater control measures that comply with each of the following standards:

- (A) The measures shall control and treat runoff from the first inch of rain. Runoff volume drawdown time shall be pursuant to standards specific to each practice as provided in the *Design Manual*;
- (B) The measures shall discharge the storage volume at a rate equal to or less than the pre-development discharge rate for the one-year, 24-hour storm;
- (C) Stormwater Control Measures (SCMs) shall be designed, constructed, and maintained so that the project achieves either “*runoff treatment*” or “*runoff volume match*” as defined in the *Design Manual*;

(D) General engineering design criteria for all projects shall be in accordance with 15A NCAC 02H .1003(3), as explained in the *Design Manual*;

(E) All *built-upon area* shall be at a minimum of 30 feet landward of all perennial and intermittent surface waters. A surface water shall be deemed present if the feature is approximately shown on either the most recent version of the soil survey map prepared by the Natural Resources Conservation Service of the United States Department of Agriculture (USDA) or the most recent version of the 1:24,000 scale (7.5 minute) quadrangle topographic maps prepared by the United States Geologic Survey (USGS). An exception to this requirement may be allowed when surface waters are not present in accordance with the provisions of 15A NCAC 2B .0233 (3)(a) or similar site-specific determination made using *Division*-approved methodology;

(F) The approval of the stormwater permit shall require an enforceable restriction on property usage that runs with the land, such as recorded deed restrictions or protective covenants, to ensure that future *development* and *redevelopment* maintains the site consistent with the approved project plans.

xx-304 STANDARDS FOR STORMWATER CONTROL MEASURES

(A) Evaluation According to Contents of Design Manual

All stormwater control measures (SCMs) and stormwater treatment practices required under this ordinance shall be evaluated by the Stormwater Administrator according to the policies, criteria, and information, including technical specifications, standards, and the specific design criteria for each stormwater practice, in the *Design Manual*. The Stormwater Administrator shall determine whether proposed structural SCMs and non-structural BMPs will be adequate to meet the requirements of this ordinance.

(B) Determination of Adequacy; Presumptions and Alternatives

Stormwater treatment practices that are designed, constructed, and maintained in accordance with the criteria and specifications in the *Design Manual* will be presumed to meet the minimum water quality and quantity performance standards of this ordinance. Whenever an applicant proposes to utilize a practice or practices not designed and constructed in accordance with the criteria and specifications in the *Design Manual*, the applicant shall have the burden of demonstrating that the practice(s) will satisfy the minimum water quality and quantity performance standards of this ordinance. The Stormwater Administrator may require the applicant to provide the documentation, calculations, and examples necessary for the Stormwater Administrator to determine whether such an affirmative showing is made.

xx-305 DEDICATION OF SCMS, FACILITIES & IMPROVEMENTS

Unless otherwise approved by the Shelby City Council, ownership and maintenance responsibility of any existing or future stormwater management facilities shall remain with the owner of the property or a legally established property owner's association. Such

facilities shall meet all the requirements of this ordinance and include adequate and perpetual access and sufficient area, by easement or otherwise, for inspection and regular maintenance.

xx-306 VARIANCES

(A) Any person may petition the City of Shelby for a variance granting permission to use the person's land in a manner otherwise prohibited by this ordinance. To qualify for a variance, the petitioner must show all of the following:

- (1) Unnecessary hardships would result from strict application of this ordinance.
- (2) The hardships result from conditions that are peculiar to the property, such as the location, size, or topography of the property.
- (3) The hardships did not result from actions taken by the petitioner.
- (4) The requested variance is consistent with the spirit, purpose, and intent of this ordinance; will secure public safety and welfare; and will preserve substantial justice.

(B) The City of Shelby may impose reasonable and appropriate conditions and safeguards upon any variance it grants.

(C) Statutory exceptions

Notwithstanding subdivision (A) of this section, exceptions from the 30-foot landward location of built-upon area requirement as well as the deed restrictions and protective covenants requirements shall be granted in any of the following instances:

- (1) When there is a lack of practical alternatives for a road crossing, railroad crossing, bridge, airport facility, or utility crossing as long as it is located, designed, constructed, and maintained to minimize disturbance, provide maximum nutrient removal, protect against erosion and sedimentation, have the least adverse effects on aquatic life and habitat, and protect water quality to the maximum extent practicable through the use of structural SCMs and non-structural BMPs.
- (2) When there is a lack of practical alternatives for a stormwater management facility; a stormwater management pond; or a utility, including, but not limited to, water, sewer, or gas construction and maintenance corridor, as long as it is located 15 feet landward of all perennial and intermittent surface waters and as long as it is located, designed, constructed, and maintained to minimize disturbance, provide maximum nutrient removal, protect against erosion and sedimentation, have the least adverse effects on aquatic life and habitat, and protect water quality to the maximum extent practicable through the use of structural SCMs and non-structural BMPs.
- (3) A lack of practical alternatives may be shown by demonstrating that, considering the potential for a reduction in size, configuration, or density of the proposed activity and all alternative designs, the basic project purpose cannot be practically accomplished in a manner, which would avoid or result in less adverse impact to surface waters.

xx-307 ADDITIONAL STANDARDS FOR SPECIAL SITUATIONS

(A) Nutrient Sensitive Waters

In addition to the standards for stormwater handling set out in the *Design Manual, development* and *redevelopment* that drains in whole or part to class NSW waters shall design and implement the best stormwater practices that reduce nutrient loading, while still meeting the other requirements of this ordinance.

SECTION 4: MAINTENANCE

xx-401 GENERAL STANDARDS FOR MAINTENANCE

(A) Function of SCMs As Intended

The *owner* of each *structural SCM* installed pursuant to this ordinance shall maintain and operate it so as to preserve and continue its function in controlling stormwater quality and quantity at the degree or amount of function for which the *structural SCM* was designed.

(B) Annual Maintenance Inspection and Report

The person responsible for maintenance of any *structural SCM* installed pursuant to this ordinance shall submit to the Stormwater Administrator an inspection report from one of the following persons performing services only in their area of competence: a qualified registered North Carolina professional engineer, surveyor, landscape architect, soil scientist, aquatic biologist, or person certified by the North Carolina Cooperative Extension Service for stormwater treatment practice inspection and maintenance. The inspection report shall contain all of the following:

- (1) The name and address of the *landowner*;
- (2) The recorded book and page number of the lot of each *structural SCM*;
- (3) A statement that an inspection was made of all *structural SCMs*;
- (4) The date the inspection was made;
- (5) A statement that all inspected *structural SCMs* are performing properly and are in compliance with the terms and conditions of the approved maintenance agreement required by this ordinance; and
- (6) The original signature and seal of the engineer, surveyor, or landscape architect.

All inspection reports shall be on forms supplied by the Stormwater Administrator. An original inspection report shall be provided to the Stormwater Administrator beginning one year from the date of as-built certification and each year thereafter on or before the date of the as-built certification.

xx-402 OPERATION AND MAINTENANCE AGREEMENT

(A) In General

Prior to the conveyance or transfer of any lot or building site to be served by a *structural SCM* pursuant to this ordinance, and prior to issuance of any permit for *development* or *redevelopment* requiring a *structural SCM* pursuant to this ordinance, the

applicant or *owner* of the site must execute an operation and maintenance agreement that shall be binding on all subsequent *owners* of the site, portions of the site, and lots or parcels served by the *structural SCM*. Until the transference of all property, sites, or lots served by the *structural SCM*, the original *owner* or applicant shall have primary responsibility for carrying out the provisions of the maintenance agreement.

The operation and maintenance agreement shall require the *owner* or *owners* to maintain, repair and, if necessary, reconstruct the *structural SCM*, and shall state the terms, conditions, and schedule of maintenance for the *structural SCM*. In addition, it shall grant to City of Shelby a right of entry in the event that the Stormwater Administrator has reason to believe it has become necessary to inspect, monitor, maintain, repair, or reconstruct the *structural SCM*; however, in no case shall the right of entry, of itself, confer an obligation on City of Shelby to assume responsibility for the *structural SCM*.

The operation and maintenance agreement must be approved by the Stormwater Administrator prior to plan approval, and it shall be referenced on the final plat and shall be recorded with the Cleveland County Register of Deeds upon final plat approval. A copy of the recorded maintenance agreement shall be given to the Stormwater Administrator within fourteen (14) days following its recordation.

(B) Special Requirement for Homeowners' and Other Associations

For all *structural SCMs* required pursuant to this ordinance and that are to be or are owned and maintained by a homeowners' association, property owners' association, or similar entity, the required operation and maintenance agreement shall include all of the following provisions:

- (1) Acknowledgment that the association shall continuously operate and maintain the stormwater control and management facilities.
- (2) Establishment of an escrow account, which can be spent solely for sediment removal, structural, biological or vegetative replacement, major repair, or reconstruction of the *structural SCMs*. If *structural SCMs* are not performing adequately or as intended or are not properly maintained, the City of Shelby, in its sole discretion, may remedy the situation, and in such instances the City of Shelby shall be fully reimbursed from the escrow account. Escrowed funds may be spent by the association for sediment removal, structural, biological or vegetative replacement, major repair, and reconstruction of the *structural SCMs*, provided that the City of Shelby shall first consent to the expenditure.
- (3) Both developer contribution and annual sinking funds shall fund the escrow account. Prior to plat recordation or issuance of construction permits, whichever shall first occur, the developer shall pay into the escrow account an amount equal to fifteen (15) percent of the initial construction cost of the *structural SCMs*. Two-thirds (2/3) of the total amount of sinking fund budget shall be deposited into the escrow account within the first five (5) years and the full amount shall be deposited within ten (10) years following initial construction of the *structural SCMs*. Funds shall be deposited each year into the escrow account. A portion of the

annual assessments of the association shall include an allocation into the escrow account. Any funds drawn down from the escrow account shall be replaced in accordance with the schedule of anticipated work used to create the sinking fund budget.

(4) The percent of developer contribution and lengths of time to fund the escrow account may be varied by the City of Shelby depending on the design and materials of the stormwater control and management facility.

(5) Granting to the City of Shelby a right of entry to inspect, monitor, maintain, repair, and reconstruct *structural SCMs*.

(6) Allowing the City of Shelby to recover from the association and its members any and all costs the City of Shelby expends to maintain or repair the *structural SCMs* or to correct any operational deficiencies. Failure to pay the City of Shelby all of its expended costs, after forty-five days written notice, shall constitute a breach of the agreement. In case of a deficiency, the City of Shelby shall thereafter be entitled to bring an action against the association and its members to pay, or foreclose upon the lien hereby authorized by the agreement against the property, or both. Interest, collection costs, and attorney fees shall be added to the recovery.

(7) A statement that this agreement shall not obligate the City of Shelby to maintain or repair any *structural SCMs*, and the City of Shelby shall not be liable to any person for the condition or operation of *structural SCMs*.

(8) A statement that this agreement shall not in any way diminish, limit, or restrict the right of the City of Shelby to enforce any of its ordinances as authorized by law.

(9) A provision indemnifying and holding harmless the City of Shelby for any costs and injuries arising from or related to the structural SCM, unless the City of Shelby has agreed in writing to assume the maintenance responsibility for the SCM and has accepted dedication of any and all rights necessary to carry out that maintenance.

xx-403 INSPECTION PROGRAM

Inspections and inspection programs by City of Shelby may be conducted or established on any reasonable basis, including but not limited to routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to, reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in structural SCMs; and evaluating the condition of structural SCMs.

If the *owner* or occupant of any property refuses to permit such inspection, the Stormwater Administrator shall proceed to obtain an administrative search warrant pursuant to G.S. 15-27.2 or its successor. No person shall obstruct, hamper or interfere with the Stormwater Administrator while carrying out his or her official duties.

xx-404 PERFORMANCE SECURITY FOR INSTALLATION AND MAINTENANCE

(A) May Be Required

The City of Shelby may, at its discretion, require the submittal of a performance security or bond with surety, cash escrow, irrevocable letter of credit or other acceptable legal arrangement prior to issuance of a permit in order to ensure that the *structural SCMs* are

(1) installed by the permit holder as required by the approved stormwater management plan, and/or

(2) maintained by the *owner* as required by the operation and maintenance agreement.

(B) Amount

(1) Installation

The amount of an installation performance security shall be the total estimated construction cost of the SCMs approved under the permit, plus 25%. The estimate of construction cost shall be prepared by a qualified registered North Carolina Professional Engineer, Surveyor, Soil Scientist, or Landscape Architect.

(2) Maintenance

The amount of a maintenance performance security shall be the present value of an annuity of perpetual duration based on a reasonable estimate of the annual cost of inspection, operation and maintenance of the SCMs approved under the permit, at a discount rate that reflects the jurisdiction's cost of borrowing minus a reasonable estimate of long-term inflation.

(C) Uses of Performance Security

(1) Forfeiture Provisions

The performance security shall contain forfeiture provisions for failure, after proper notice, to complete work within the time specified, or to initiate or maintain any actions which may be required of the applicant or *owner* in accordance with this ordinance, approvals issued pursuant to this ordinance, or an operation and maintenance agreement established pursuant to this ordinance.

(2) Default

Upon default of the *owner* to construct, maintain, repair and, if necessary, reconstruct any *structural SCM* in accordance with the applicable permit or operation and maintenance agreement, the Stormwater Administrator shall obtain and use all or any portion of the security to make necessary improvements based on an engineering estimate. Such expenditure of funds shall only be made after requesting the *owner* to comply with the permit or maintenance agreement. In the event of a default triggering the use of installation performance security, the City of Shelby shall not return any of the unused deposited cash funds or other security, which shall be retained for maintenance.

(3) Costs in Excess of Performance Security

If the City of Shelby takes action upon such failure by the applicant or *owner*, the City of Shelby may collect from the applicant or *owner* the difference between the amount of the reasonable cost of such action and the amount of the security held, in addition to any other penalties or damages due.

(4) Refund

Within sixty days of the final approval, the installation performance security shall be refunded to the applicant or terminated, except any amount attributable to the cost (plus 25%) of landscaping installation and ongoing maintenance associated with the SCMs covered by the security. Any such landscaping shall be inspected one (1) year after installation with replacement for compliance with the approved plans and specifications and, if in compliance, the portion of the financial security attributable to landscaping shall be released.

xx-405 NOTICE TO OWNERS

(A) Deed Recordation and Indications On Plat

The applicable operations and maintenance agreement pertaining to every *structural SCM* shall be referenced on the final plat and shall be recorded with the county Register of Deeds upon final plat approval. If no subdivision plat is recorded for the site, then the operations and maintenance agreement shall be recorded with the county Register of Deeds so as to appear in the chain of title of all subsequent purchasers under generally accepted searching principles.

(B) Signage

Where appropriate in the determination of the Stormwater Administrator to assure compliance with this ordinance, *structural SCMs* shall be posted with a conspicuous sign stating who is responsible for required maintenance and annual inspection. The sign shall be maintained so as to remain visible and legible.

xx-406 RECORDS OF INSTALLATION AND MAINTENANCE ACTIVITIES

The *owner* of each *structural SCM* shall keep records of inspections, maintenance, and repairs for at least five years from the date of creation of the record and shall submit the same upon reasonable request to the Stormwater Administrator.

xx-407 NUISANCE

The *owner* of each stormwater SCM, whether *structural* or *non-structural BMP*, shall maintain it so as not to create or result in a nuisance condition.

xx-408 MAINTENANCE EASEMENT

Every *structural SCM* installed pursuant to this ordinance shall be made accessible for adequate maintenance and repair by a maintenance easement. The easement shall be recorded and its terms shall specify who may make use of the easement and for what purposes. Dedicated access and/or maintenance easements for structural BMPs on private property are for the use of the owner of the structural SCM(s). Dedication of access and/or maintenance easements for structural SCMs in no way binds or requires the City of Shelby to perform maintenance on structural SCMs on private property.

SECTION 5: ENFORCEMENT AND VIOLATIONS

xx-501 GENERAL

(A) Authority to Enforce

The provisions of this ordinance shall be enforced by the Stormwater Administrator, his or her designee, or any authorized agent of City of Shelby. Whenever this section refers to the Stormwater Administrator, it includes his or her designee as well as any authorized agent of City of Shelby.

(B) Violation Unlawful

Any failure to comply with an applicable requirement, prohibition, standard, or limitation imposed by this ordinance, or the terms or conditions of any permit or other *development* or *redevelopment* approval or authorization granted pursuant to this ordinance, is unlawful and shall constitute a violation of this ordinance.

(C) Each Day a Separate Offense

Each day that a violation continues shall constitute a separate and distinct violation or offense.

(D) Responsible Persons/Entities

Any person who erects, constructs, reconstructs, alters (whether actively or passively), or fails to erect, construct, reconstruct, alter, repair or maintain any structure, SCM, practice, or condition in violation of this ordinance shall be subject to the remedies, penalties, and/or enforcement actions in accordance with this section. Persons subject to the remedies and penalties set forth herein may include any architect, engineer, builder, contractor, developer, agency, or any other person who participates in, assists, directs, creates, causes, or maintains a condition that results in or constitutes a violation of this ordinance, or fails to take appropriate action, so that a violation of this ordinance results or persists; or an *owner*, any tenant or occupant, or any other person, who has control over, or responsibility for, the use or *development* of the property on which the violation occurs.

For the purposes of this article, responsible person(s) shall include but not be limited to:

(1) Person Maintaining Condition Resulting In or Constituting Violation

An architect, engineer, builder, contractor, developer, agency, or any other person who participates in, assists, directs, creates, causes, or maintains a condition that constitutes a violation of this ordinance, or fails to take appropriate action, so that a violation of this ordinance results or persists.

(2) Responsibility For Land or Use of Land

The *owner* of the land on which the violation occurs, any tenant or occupant of the property, any person who is responsible for stormwater controls or practices pursuant to a private agreement or public document, or any person, who has control over, or responsibility for, the use, *development* or *redevelopment* of the property.

xx-502 REMEDIES AND PENALTIES

The remedies and penalties provided for violations of this ordinance, whether civil or criminal, shall be cumulative and in addition to any other remedy provided by law, and may be exercised in any order.

(A) Remedies

(1) Withholding of Certificate of Occupancy

The Stormwater Administrator or other authorized agent may refuse to issue a certificate of occupancy for the building or other improvements constructed or being constructed on the site and served by the stormwater practices in question until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein.

(2) Disapproval of Subsequent Permits and Development Approvals

As long as a violation of this ordinance continues and remains uncorrected, the Stormwater Administrator or other authorized agent may withhold, and the Planning and Zoning Board and/or City Council may disapprove, any request for permit or *development* approval or authorization provided for by this ordinance or the zoning, subdivision, and/or building regulations, as appropriate for the land on which the violation occurs.

(3) Injunction, Abatements, etc.

The Stormwater Administrator, with the written authorization of the City Manager, may institute an action in a court of competent jurisdiction for a mandatory or prohibitory injunction and order of abatement to correct a violation of this ordinance. Any person violating this ordinance shall be subject to the full range of equitable remedies provided in the General Statutes or at common law.

(4) Correction as Public Health Nuisance, Costs as Lien, etc.

If the violation is deemed dangerous or prejudicial to the public health or public safety and is within the geographic limits prescribed by North Carolina G.S. § 160A-193, the Stormwater Administrator, with the written authorization of the

City Manager, may cause the violation to be corrected and the costs to be assessed as a lien against the property.

(5) Stop Work Order

The Stormwater Administrator may issue a stop work order to the person(s) violating this ordinance. The stop work order shall remain in effect until the person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violation or violations described therein. The stop work order may be withdrawn or modified to enable the person to take the necessary remedial measures to cure such violation or violations.

(B) Civil Penalties

Violation of this ordinance may subject the violator to a civil penalty to be recovered in a civil action in the nature of a debt if the violator does not pay the penalty within 30 days after notice of the violation is issued by the Stormwater Administrator. Civil penalties may be assessed up to the full amount of penalty to which the City of Shelby is subject for violations of its Phase II Stormwater permit, or if no Phase II Stormwater permit exists for the jurisdiction, civil penalties may be assessed up to the full amount allowed by law.

(C) Criminal Penalties

Violation of this ordinance may be enforced as a misdemeanor subject to the maximum fine permissible under North Carolina law.

xx-503 PROCEDURES

(A) Initiation/Complaint

Whenever a violation of this ordinance occurs, or is alleged to have occurred, any person may file a written complaint. Such complaint shall state fully the alleged violation and the basis thereof, and shall be filed with the Stormwater Administrator, who shall record the complaint. The complaint shall be investigated promptly by the Stormwater Administrator, or his or her designee.

(B) Inspection

The Stormwater Administrator, or his or her designee shall have the authority, upon presentation of proper credentials, to enter and inspect any land, building, structure, or premises to ensure compliance with this ordinance.

During any inspection as provided herein, the Stormwater Administrator may take any samples and perform any testing deemed necessary to aid in the pursuit of the inquiry or to record site activities.

If the *owner* or occupant of any property refuses to permit such inspection, the Stormwater Administrator shall proceed to obtain an administrative search warrant pursuant to G.S. 15-27.2 or its successor. No person shall obstruct, hamper or

interfere with the Stormwater Administrator while carrying out his or her official duties.

(C) Notice of Violation and Order to Correct

When the Stormwater Administrator, or his or her designee finds that any building, structure, or land is in violation of this ordinance, the Stormwater Administrator shall notify, in writing, the property *owner* or other person violating this ordinance. The notification shall indicate the nature of the violation, contain the address or other description of the site upon which the violation is occurring, order the necessary action to abate the violation, and give a deadline for correcting the violation. If civil penalties are to be assessed, the notice of violation shall also contain a statement of the civil penalties to be assessed, the time of their accrual, and the time within which they must be paid or be subject to collection as a debt.

The Stormwater Administrator may deliver the notice of violation and correction order personally, by a City of Shelby Code Enforcement Officer, by certified or registered mail, return receipt requested, or by any means authorized for the service of documents by Rule 4 of the North Carolina Rules of Civil Procedure.

If a violation is not corrected within a reasonable period of time, as provided in the notification, the Stormwater Administrator may take appropriate action under this ordinance to correct and abate the violation and to ensure compliance with this ordinance.

(D) Extension of Time

A person who receives a notice of violation and correction order, or the *owner* of the land on which the violation occurs, may submit to the Stormwater Administrator a written request for an extension of time for correction of the violation. On determining that the request includes enough information to show that the violation cannot be corrected within the specified time limit for reasons beyond the control of the person requesting the extension, the Stormwater Administrator may extend the time limit as is reasonably necessary to allow timely correction of the violation, up to, but not exceeding fourteen (14) days. The Stormwater Administrator may grant seven (7)-day extensions in addition to the foregoing extension if the violation cannot be corrected within the permitted time due to circumstances beyond the control of the person violating this ordinance. The Stormwater Administrator may grant an extension only by written notice of extension. The notice of extension shall state the date prior to which correction must be made, after which the violator will be subject to the penalties described in the notice of violation and correction order.

(E) Enforcement After Time to Correct

After the time has expired to correct a violation, including any extension(s) if authorized by the Stormwater Administrator, the Stormwater Administrator shall determine if the violation is corrected. If the violation is not corrected, the Stormwater Administrator may act to impose one or more of the remedies and penalties authorized by this ordinance.

(F) Emergency Enforcement

If delay in correcting a violation would seriously threaten the effective enforcement of this ordinance or pose an immediate danger to the public health, safety, or welfare, then the Stormwater Administrator may order the immediate cessation of a violation. Any person so ordered shall cease any violation immediately. The Stormwater Administrator may seek immediate enforcement, without prior written notice, through any remedy or penalty authorized by this article.

SECTION 6: DEFINITIONS

xx-601 TERMS DEFINED

When used in this Ordinance, the following words and terms shall have the meaning set forth in this section, unless other provisions of this Ordinance specifically indicate otherwise.

1-year, 24-hour storm

The surface runoff resulting from a 24-hour rainfall of an intensity expected to be equaled or exceeded, on average, once in 12 months and with a duration of 24 hours.

Best Management Practice (BMP)

Measures or practices used to reduce the amount of pollution entering surface waters. BMPs can be structural or non-structural and may take the form of a process, activity, physical structure or planning.

Built-upon area (BUA)

That portion of a project that is considered an impervious surface and partially impervious surface to the extent that the partially impervious surface does not allow water to infiltrate through the surface and into the subsoil. "Built-upon area" does not include a slatted deck, the water area of a swimming pool, a surface of number 57 stone, as designated by the American Society for Testing and Materials, laid at least four inches thick over a geotextile fabric (see N.C.G.S. 143-214.7(b2) for additional guidance), a trail as defined in G.S. 113A-85 that is either unpaved or paved as long as the pavement is porous with a hydraulic conductivity greater than 0.001 centimeters per second (1.41 inches per hour), or landscaping material, including, but not limited to, gravel, mulch, sand, and vegetation, placed on areas that receive pedestrian or bicycle traffic or on portions of driveways and parking areas that will not be compacted by the weight of a vehicle, such as the area between sections of pavement that support the weight of a vehicle.

Department

The North Carolina Department of Environmental Quality.

Design Manual

The stormwater design manual approved for use in Phase II jurisdictions by the *Department* for the proper implementation of the requirements of the federal Phase II stormwater program. All references herein to the *Design Manual* are to the latest published edition or revision.

Development

Any land-disturbing activity that increases the amount of *built-upon area* or that otherwise decreases the infiltration of precipitation into the soil.

Division (DEMLR)

The Division of Energy, Mineral, and Land Resources in the *Department*.

High-density project

Any project that exceeds the *low-density* threshold for dwelling units per acre or *built-upon area*.

Larger common plan of development or sale

Any area where multiple separate and distinct construction or land-disturbing activities will occur under one plan. A plan is any announcement or piece of documentation (including but not limited to a sign, public notice or hearing, sales pitch, advertisement, loan application, drawing, permit application, zoning request, or computer design) or physical demarcation (including but not limited to boundary signs, lot stakes, or surveyor markings) indicating that construction activities may occur on a specific plot.

Low-density project

A project that has no more than two dwelling units per acre or no more than twenty-four percent *built-upon area* (BUA) for all residential and non-residential *development*.

A project with an overall density at or below the relevant low-density threshold, but containing areas with a density greater than the overall project density, may be considered low density as long as the project meets or exceeds the post-construction model practices for low-density projects and locates the higher density in upland areas and away from surface waters and drainage ways to the maximum extent practicable.

Minimum Design Criteria (MDC)

The requirements set forth for siting, site preparation, design and construction, and post-construction monitoring and evaluation necessary for the City to issue stormwater permits that comply with State water quality standards adopted pursuant to G.S. 143-214.1.

Owner

The legal or beneficial owner of land, including but not limited to a mortgagee or vendee in possession, receiver, executor, trustee, or long-term or commercial lessee, or any other person or entity holding proprietary rights in the property or having legal power of management and control of the property. "Owner" shall include long-term commercial tenants; management entities, such as those charged with or engaged in the management of properties for profit; and every person or entity having joint ownership of the property. A secured lender not in possession of the property does not constitute an owner, unless the secured lender is included within the meaning of "owner" under another description in this definition, such as a management entity.

Permeable pavement

A paving material that absorbs water or allows water to infiltrate through the paving material. Permeable pavement materials include porous concrete, permeable interlocking

concrete pavers, concrete grid pavers, porous asphalt, and any other material with similar characteristics. Compacted gravel shall not be considered permeable pavement.

Planning jurisdiction

The territorial jurisdiction within which a municipality exercises the powers authorized by Article 19 of Chapter 160A of the General Statutes.

Primary SCM

A wet pond, stormwater wetland, infiltration system, sand filter, bioretention cell, permeable pavement, green roof, rainwater harvesting, or an approved new stormwater technology that is designed, constructed, and maintained in accordance with the MDC.

Redevelopment

Any *development* on previously-developed land, other than a rebuilding activity that results in no net increase in *built-upon area* and that provides equal or greater stormwater control than the previous *development*

Runoff Treatment

The volume of stormwater runoff generated from all of the built upon area of a project at build-out during a storm of the required storm depth is treated in one or more primary SCMs or a combination of Primary and Secondary SCMs that provides equal or better treatment.

Runoff Volume Match

The annual runoff volume after development shall not be more than ten percent higher than the annual runoff volume before development.

Secondary SCM

A SCM that does not achieve the annual reduction of Total Suspended Solids (TSS) of a “Primary SCM” but may be used in a treatment train with a primary SCM or other Secondary SCMs to provide pre-treatment, hydraulic benefits, or a portion of the required TSS removal.

Stormwater Runoff

The flow of water which results from precipitation and which occurs immediately following rainfall or as a result of snowmelt.

Stormwater Control Measure (SCM)

Also known as a Best Management Practice or BMP, is a permanent structural device that is designed, constructed, and maintained to remove pollutants from stormwater runoff by promoting settling or filtration; or to mimic the natural hydrologic cycle by promoting infiltration, evapo-transpiration, post-filtration discharge, reuse of stormwater, or a combination thereof.

Structural BMP

Also known as a structural SCM, is a physical device designed to trap, settle out, or filter pollutants from stormwater runoff; to alter or reduce stormwater runoff velocity, amount, timing, or other characteristics; to approximate the *pre-development* hydrology on a developed site; or to achieve any combination of these goals. Structural BMP includes physical practices such as constructed wetlands, vegetative practices, filter strips, grassed swales, and other methods installed or created on real property. “Structural BMP” is synonymous with “structural SCM,” “structural practice,” “stormwater control facility,” “stormwater control practice,” “stormwater treatment practice,” “stormwater management practice,” “stormwater control measures,” “structural stormwater treatment systems,” and similar terms used in this ordinance.

Substantial progress

For the purposes of determining whether sufficient progress has been made on an approved plan, one or more of the following construction activities toward the completion of a site or subdivision plan shall occur: obtaining a grading permit and conducting grading activity on a continuous basis and not discontinued for more than thirty (30) days; or installation and approval of on-site infrastructure; or obtaining a building permit for the construction and approval of a building foundation. “Substantial progress” for purposes of determining whether an approved plan is null and void is not necessarily the same as “substantial expenditures” used for determining vested rights pursuant to applicable law.

Vegetative buffer

An area of natural or established vegetation directly adjacent to surface water through which stormwater runoff flows in a diffuse manner to protect surface waters from degradation due to development activities.

Vegetative conveyance

A permanent, designed waterway lined with vegetation that is used to convey stormwater runoff at a non-erosive velocity within or away from a developed area.

SECTION 7: ILLICIT DISCHARGES

xx-701

ILLICIT DISCHARGES AND CONNECTIONS

(A) Illicit Discharges

No person shall cause or allow the discharge, emission, disposal, pouring, or pumping directly or indirectly to any stormwater conveyance, the waters of the State, or upon the land in manner and amount that the substance is likely to reach a stormwater conveyance or the waters of the State, any liquid, solid, gas, or other substance, other than stormwater; provided that non-stormwater discharges associated with the following activities are allowed and provided that they do not significantly impact water quality:

- (1) Water line and fire hydrant flushing;
- (2) Flushing and cleaning of stormwater conveyances with potable water;
- (3) Landscape irrigation;
- (4) Diverted stream flows;
- (5) Rising ground waters;
- (6) Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20));
- (7) Uncontaminated pumped ground water;
- (8) Discharges from uncontaminated potable water sources;
- (9) Foundation and crawl space drains;
- (10) Air conditioning condensation (commercial/residential);
- (11) Irrigation water;
- (12) Springs;
- (13) Water from crawl space pumps;
- (14) Footing drains;
- (15) Lawn watering;
- (16) Individual residential and charity car washing;
- (17) Flows from riparian habitats and wetlands;
- (18) Dechlorinated swimming pool discharges;

- (19) Street wash water;
- (20) Flows from firefighting activities;
- (21) Splash pad (spray ground) water from potable water source only; and
- (22) Other non-stormwater discharges for which a valid NPDES discharge permit has been approved and issued by the State of North Carolina, and provided that any such discharges to the municipal separate storm sewer system shall be authorized by the City of Shelby.

Prohibited substances include, but are not limited to:

- (1) Fats, oils, or grease;
- (2) Anti-freeze, parts cleaner, and other motor equipment fluids;
- (3) Chemicals, paints, pesticides, and other household hazardous wastes;
- (4) Animal waste;
- (5) Waste water;
- (6) Washdown from concrete trucks;
- (7) Garbage, litter, yard waste, or any other solid waste materials; and
- (8) Drainage from dumpster drains.

(B) Illicit Connections

(1) Connections to a stormwater conveyance or stormwater conveyance system that allow the discharge of non-stormwater, other than the exclusions described in subsection (A) above, are unlawful. Prohibited connections include, but are not limited to:

- (1) Floor drains;
- (2) Waste water from washing machines;
- (3) Waste water from sanitary sewers;
- (4) Wash water from commercial vehicle washing or steam cleaning; and
- (5) Wastewater from septic systems.

(2) This prohibition expressly includes, without limitation, illicit connections made prior to the adoption of this provision or any other ordinance prohibiting such connections, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection. The property *owner* or the person using said connection shall remove the connection within the time specified by the Stormwater Administrator.

(3) Where it is determined that said connection:

a. May result in the discharge of hazardous materials or may pose an immediate threat to health and safety, or is likely to result in immediate injury and harm to real or personal property, natural resources, wildlife, or habitat, or

b. Was made in violation of any applicable regulation or ordinance, other than this section, the Stormwater Administrator shall designate the time within which the connection shall be removed. In setting the time limit for compliance, the Stormwater Administrator shall take into consideration:

1. The quantity and complexity of the work,
2. The consequences of delay,
3. The potential harm to the environment, to the public health, and to public and private property, and
4. The cost of remedying the damage.

Spills

Spills or leaks of polluting substances released, discharged to, or having the potential to be released or discharged to the stormwater conveyance system, shall be contained, controlled, collected, and properly disposed. All affected areas shall be restored to their preexisting condition.

Persons in control of the polluting substances immediately prior to their release or discharge, and persons owning the property on which the substances were released or discharged, shall immediately notify the City of Shelby Fire Chief or his designee of the release or discharge, as well as making any required notifications under state and federal law. Notification shall not relieve any person of any expenses related to the restoration, loss, damage, or any other liability, which may be incurred as a result of said spill or leak, nor shall such notification relieve any person from other liability which may be imposed by State or other law.

(C) Industrial or Construction Activity Discharges

Any person subject to an industrial or construction activity NPDES stormwater discharge permit shall comply with provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the City of Shelby prior to authorization of discharges to the MS4.

(D) Inspections

The Stormwater Administrator or his or her designee shall have the authority, upon presentation of proper credentials, to enter and inspect any land, building, structure, or premises to ensure compliance with this ordinance.

During any inspection as provided herein, the Stormwater Administrator may take any samples and perform any testing deemed necessary to aid in the pursuit of the inquiry or to record site activities.

If the *owner* or occupant of any property refuses to permit such inspection, the Stormwater Administrator shall proceed to obtain an administrative search warrant pursuant to G.S. 15-27.2 or its successor. No person shall obstruct, hamper or interfere with the Stormwater Administrator while carrying out his or her official duties.

(E) Nuisance

Illicit discharges and illicit connections which exist within the Shelby City Limits and Extraterritorial Jurisdiction are hereby found, deemed, and declared to be dangerous or prejudiced to the public health or public safety and are found, deemed, and declared to be public nuisances. Such public nuisances shall be abated in accordance with the procedures set forth in the City of Shelby Code of Ordinances Chapter 16 Article 3.

APPENDIX D

Chemical Application of Pesticides, Herbicides, and Fertilizers



Chemical Application of Pesticides, Herbicides, And Fertilizers

1. Preparation

- a) Ensure appropriate personnel have current state certifications for chemical handling before handling any pesticide, herbicide, or fertilizer products if applicable.
- b) Calibrate product application equipment to avoid excessive application.
- c) Use products only if there is an actual pest problem.
- d) Periodically test soils for determining need to fertilize and appropriate amounts.
- e) Apply all products at a rate and in the season specified by the manufacturer (“Read the Label”).
- f) Know the weather conditions. Do not use products if rain is expected within a 24-hour period. Apply products only when wind speeds are low (i.e., less than 5 mph).

2. Process

- a) Always follow the manufacturer’s recommendations for mixing, application and disposal. (“Read the Label”).
- b) Do not mix or prepare products for application near storm drains or streams; preferably, mix inside a protected area with impervious secondary containment so that spills or leaks will not contact soils. If products must be mixed in the field, use precautions to prevent spills or leaks from contacting soils.
- c) Employ techniques to minimize off-target application (i.e., spray drift, over broadcasting.) of products.
- d) Do not apply to waterways including drainage ditches and storm drains.
- e) In areas that are maintained for aesthetics, do not spray products under or around fences, signs, etc. in an effort to avoid trimming the grass.

3. Clean-up

- a) Sweep or blow pavements or sidewalks where products or other solid chemicals have fallen, back onto grassy areas before applying irrigation water.
- b) Triple rinse product containers and use rinse water as product. Dispose of unused products as hazardous waste.
- c) Always follow all federal and state regulations governing use, storage, and disposal of products and their containers. (“Read the Label”)

4. Documentation

- a) Keep copies of safety data (SD) sheets for all products used.
- b) Restricted use products should seldomly be used and only be used by licensed individuals. If used documentation of application shall be maintained documenting at minimum the following per USDA and EPA regulations: Brand Name/Product Name, EPA Registration Number, Total Amount of Pesticide Applied, Date, Location of Treatment Area, Size of Treatment Area, Name of Certified Applicator and Applicator Certification Number.

APPENDIX E

**Municipally Maintained Streets, Catch Basins, and Conveyance Systems Operation and
Maintenance Manual**

Municipally Maintained Streets, Catch Basins and Conveyance Systems Operation and Maintenance Manual



June 20, 2022

Municipally Maintained Streets, Catch Basins and Conveyance Systems

Operation and Maintenance Manual

Objective

The objective of the Operations and Maintenance Manual (O&M Manual) is to ensure that all of the City of Shelby's streets and stormwater infrastructure are properly functioning and maintained. The maintenance activities detailed in this manual have been established with the goal of reducing pollutant runoff to the maximum extent practicable in an effort to comply with the City's NPDES Phase II Stormwater Discharge Permit (NCS000560) and protect our natural resources.

Stormwater Facility Operation

All municipally owned stormwater facilities or structural SCMs shall be operated and maintained according to their design specifications and in a manner that prevents or reduces adverse environmental impacts to the maximum extent practicable. Annual inspections will be completed and documented for all municipally owned stormwater facilities. If general maintenance or repairs are required, this work shall be completed in a timely manner with documentation of all work.

Stormwater Facility Inspection

Inspections are to be conducted by City staff as designated by the Stormwater Administrator to evaluate the performance of the stormwater facilities. Inspections will check for excessive silt accumulation, erosion, collapsed or misaligned pipes, and visual inspection of water quality concerns such as discolored water, oil sheen, and unusual odors.

Inspections will occur after heavy rainfall or severe weather to ensure facilities are functioning properly and are clear of debris. Routine inspection frequencies will depend on a variety of factors including weather conditions and the type and function of the stormwater structure. At a minimum, all facilities will be inspected once per year.

All inspection reports, recommendations, and maintenance records are to be documented in writing and kept on file with the Stormwater Administrator.

Stormwater Facility Maintenance and Repair

The City of Shelby's stormwater facility O&M program is structured to provide inspections of all facilities and to provide maintenance as required. All maintenance activities are to be documented in writing and kept on file with the Stormwater Administrator. When possible, photos will be taken of stormwater infrastructure to document before and after maintenance conditions. This will demonstrate the long-term effectiveness (or ineffectiveness) of various repair methods.

Stormwater SCMs

The City of Shelby owns numerous stormwater SCMs. These SCMs are to be inspected at least annually to check for sediment accumulation and overall functionality and maintenance conditions. They should also be inspected after heavy rain to evaluate overall performance and

drainage characteristics. All stormwater SCM inspections shall comply with the City of Shelby Stormwater Ordinance and shall be documented.

Storm Drain Inlets

The City of Shelby owns and maintains many storm drain inlets located along city maintained streets and parking lots. There are multiple types of drain inlets, and each inlet has a different set of features that must be properly maintained for proper performance.

All City storm drain inlets will be inspected annually to determine the overall condition of the structure and the amount of debris or sediment that has accumulated in the catch basins. If the depth of deposits is greater than or equal to two-thirds the depth of the basin, basin cleaning will be scheduled.

Storm drain inlets in areas that are prone to flooding or accumulate debris and trash more quickly will be inspected more frequently, especially before severe weather is forecast. The areas draining to these inlets will be inspected to see if the amount of suspended solids can be reduced. This may be accomplished through public education and involvement, posting “No Dumping” signs, and increasing enforcement.

While inspecting storm drains inlets, City staff will also check for evidence of illegal dumping or illicit discharges. If evidence of illegal dumping or potential illicit discharges is found, the Stormwater Coordinator shall be notified. The Stormwater Coordinator will then follow proper Illicit Discharge Detection and Elimination Procedure to ensure that the situation is satisfactorily resolved in a timely manner. The corrective actions as outlined in the Phase II Stormwater Ordinance will be followed if a violation is present.

The Stormwater Division shall schedule cleaning municipal storm drain inlets when inspections reveal an excessive accumulation of sediment or debris. Structural repairs to any part of storm drain inlets and/or catch basins will be performed as needed including replacement of damaged and/or deficient piping. All repair or construction activities shall be conducted in a manner that reduces adverse impacts to water quality.

Stormwater Piping, Drainage Channels, and Outfalls

The City owns several large box culverts and many miles of underground stormwater piping ranging in size from 4 to 84 inches in diameter. The installation dates of the piping ranges from the early 1900's to new piping that was recently installed. The piping is constructed of a wide variety of materials such as terracotta, reinforced concrete, corrugated metal, cast iron, ductile iron, PVC and high-density polyethylene (HDPE).

The City also has open conveyances that will be also be evaluated simultaneously during stormwater system inspections by City staff for trash, debris, sediment build-up, obstructions, and general water quality conditions.

The various types of piping will be inspected as needed to check for structural deficiencies, sediment accumulation, obstructions, tree roots, or any other unusual conditions such as improper cross-connections or excessive inflow/infiltration. Based on the characteristic of the

pipe being inspected, the City will utilize CCTV inspections, pole camera inspections, or physical entry into the larger easily accessible pipes. The maintenance and/or repairs may include excavation and repair, tree/brush removal, and physical cleaning. Efforts shall be made during maintenance and repairs activities to prevent uncured concrete, chemicals, sediment, etc. from entering the stormwater system by using drain covers, filter socks or fabric as required to prevent pollution runoff.

When cleaning is required, any necessary chemicals shall be utilized in a manner that does not contaminate runoff. For cleaning techniques such as jet/vacuum use, rodding or bucketing, the downstream end of the pipe will be blocked off and the debris will be captured and removed from the system if possible.

For storm culverts, ditches and swales, maintenance of free flowing conditions shall be achieved by physical removal of any debris, sediment or overgrown vegetation obstructing the flow of water.

Situations that require extensive repairs or that are in flood prone areas shall be discussed with the City Engineering Department prior to work being completed.

Stormwater major outfalls shall be periodically inspected (at least annually) to document any unusual conditions such as excessive erosion or water quality indicators that may be related to illicit connections or illicit discharges. Detailed outfall inspection procedures are found in the Illicit Discharge Detection and Elimination Procedure. The Stormwater Administrator shall be notified of areas of concern.

All maintenance and repair activities shall be documented and maintained by the Stormwater Division. Annually, a log of these activities shall be provided to the Stormwater Administrator.

Disposal of Debris

Any materials recovered from any part of the stormwater collection system will be handled and disposed of in accordance with all applicable state and federal regulations. Recovered materials shall be disposed of at the Cleveland County landfill unless a different site has been authorized.

Streets

The City of Shelby owns and maintains approximately 125 miles of public streets. The overall condition and cleanliness of City streets and parking lots shall constantly be evaluated during routine travels by City staff. Any areas of concern shall be reported to the Public Works Department. All City streets will be inspected once a year during visual pavement condition evaluations by the Engineering Department or the Public Works Department.

Streets that exhibit excessive staining, trash or sediment will be scheduled for cleaning or repairs as necessary. Streets that exhibit poor drainage or flooding shall be reviewed by the Engineering Department and the Public Works Department to determine if infrastructure modifications or improvements are warranted and feasible. The Stormwater Administrator shall be notified of any projects that will impact stormwater runoff or water quality.

City maintenance crews and contractors working for the City shall ensure that storm drain inlets are protected during construction or repair to prevent slurry mixes, sediment, dust, and other debris from entering the stormwater system by using drain covers or filter socks. If a filter sock is being utilized, remove and clean the filter sock when one-half of the available storage is filled with sediment.

An effort shall be made to avoid using water to clean up construction sites. Mechanically sweep and/or vacuum dust and debris following construction activities instead of washing the construction residue into the storm drain system. When feasible, do not schedule maintenance or repair activities when it is raining (or is likely to rain) before the work is completed. When street washing is necessary, a silt sack or approved equivalent shall be installed in the receiving catch basin to capture as much of the sediment as possible. Following washing activities, the silt sack and sediment shall be removed and disposed of properly.

Street Sweeping

All City streets with curb and gutter will be swept with either a mechanical or regenerative air street sweeper truck at a minimum of two times per year. Any street sweeping materials that are collected shall be disposed of at the Cleveland County landfill or another approved site. The tons of street sweeping materials collected, miles of streets swept and a map of streets swept shall be compiled utilizing the GPS tracking data from the truck sensors. The Stormwater Coordinator and the Public Works Department will review routes and frequencies on a semiannual basis to determine if modifications to the street sweeping program are needed to maximize the benefit of the program.

Streets that regularly exhibit high volumes of solids on the street shall be reported to the Stormwater Coordinator who will then review the cause of the excessive sediment accumulation.

The Uptown area has been identified as a hot spot for debris that adversely effects water quality. To improve water quality in this area, the City has implemented a weekly sweeping program in this area every Wednesday night.

Street sweeping operators shall:

- Maintain the speed of the street sweeper to maximize the amount of debris being collected while minimizing the amount of dust being created
- Use the water spray system on the truck(s) to reduce dust
- Maximize the efficiency of the sweeper by inspecting the brooms daily
- Avoid sweeping up any unknown substances (report these occurrences to the Assistant Public Works Director)
- Use pickup brooms in sensitive areas
- Avoid sweeping during rain events
- Clean street sweeper in the wash bay at the Public Works facility to prevent pollutant and sediment runoff
- Ensure proper disposal of all street sweeping materials collected

Parking Lot Maintenance

The City of Shelby currently has 6 public parking lots in the downtown area. The parking lots are swept monthly either with a mechanical or regenerative air street sweeper. During sweeping, operators visually inspect parking lots for excessive trash, sediment or debris that may require adjustment of the sweeping schedule.

Snow Removal and De-Icing

Snow removal is preferred over de-icing with the use of chemicals. The storage and application of materials used for roadway de-icing or traction control shall be conducted in a manner that reduces the amount of runoff pollution to the stormwater system. The City of Shelby primarily uses sand for traction, but will use a limited amount of salt for de-icing if necessary. All mixtures containing salt (or similar compounds) shall be stored in the dry storage shed located on the Public Works property at 820 W. Grover Street.

All snow plows/salt spreader operators are to be trained in the proper application rates of road salt or sand. The spreaders are to be examined prior to operation to ensure they are functioning properly and dispensing an appropriate amount of material.

The application of sand or mixtures containing salt will be only enough to accomplish the task and will take into consideration site specific characteristics such as road width and design, traffic concentration, and the proximity to surface waters.

Schedule street sweeping for removal of sand or mixtures containing salt when the snow and ice have melted.

Traffic Pavement Markings

The City has employees that are responsible for maintaining the traffic pavement markings on City streets and parking lots. Traffic pavement markings shall be inspected annually and repainted if justified. Any modifications to the existing markings layout should be discussed with the Public Works Director and Engineering Department prior to changes being made.

Employees involved in painting operations shall:

- Use only recommended types of paint
- Apply an appropriate amount of paint using an acceptable method
- Provide traffic control that ensures vehicles do not track wet paint
- Properly dispose of unused materials
- Avoid painting when it is raining or likely to rain before the paint can completely dry

Leaf/Grass Collection

The City collects leaves and grass clippings 12 months a year on a daily basis (weather permitting) using 2 vacuum truck. During “leaf season” (approximately November – February) the City operates 2 additional vacuum trucks on a daily basis. All leaves and grass clippings that are collected shall be disposed of at the Cleveland County landfill or other approved composting locations. The tons of leaves and grass collected shall be compiled and reported to the Stormwater Coordinator on at least an annual basis. Routes shall be reviewed at least annually to

determine the efficiency and effectiveness of the routes being completed. In addition to daily routes, during street surveys prior to forecasted storms, if excessive yard waste is located, street sweeping will be performed to prevent street flooding during the storm.

Limb, Branch, and Tree Trimming Collection

The City collects limbs, branches, and tree trimmings 12 months a year on a daily basis (weather permitting) using 2 grapple trucks and 1 Swa-Car. All material that is collected shall be disposed of at the Shelby Wastewater Treatment Plant or another approved site. Routes shall be reviewed at least annually to determine the efficiency and effectiveness of the routes being completed.

Bulky Waste Collection

The City collects bulky waste for one week in the spring and one week in the fall. Examples of items that are collected as follows: furniture, boxes, mattresses, and bagged clothes. The City will not collect items such as: electronics, appliances, tires, building materials, paints, oils, batteries, dirt/sod, and stumps. Items such as these shall be properly disposed of by the property owner. If any employee observes bulky items placed along the street for collection outside of a designated bulky waste collection week, the occurrence shall be reported to his/her supervisor as this is a violation that may be subject to citations and fines.

This O&M manual will be reviewed annually and revised as required

APPENDIX F
Illicit Discharge Detection and Elimination Procedure



Illicit Discharge Detection Elimination Procedure

I. Taking Illicit Discharge/ Illegal Dumping Complaint on the Stormwater Hotline (704-484-6866)

Information to obtain from the caller:

1. Obtain caller contact information- name, phone number
 - a. Callers may remain anonymous if they wish
2. Address of where the pollution took place (description of location if address is unknown)
3. Description of location on the property (front, back, side, street, etc.)
4. What was observed? Be sure to obtain date and time.
5. Who caused the pollution (name if known or a description of person or vehicle)?
6. What is believed to be the pollutant (if unknown what did it look like, what type of container was it in)?
7. Thank the caller for the report and ensure them City staff will perform an investigation.

Hazardous material response (petroleum products, chemicals, biohazards, etc.):

1. Create a work order for Stormwater with all information obtained by the caller.
2. Send email with information obtained to Stormwater/Engineering Coordinator and Civil Engineer.
3. Contact the Stormwater Coordinator by phone immediately. (DO NOT LEAVE A MESSAGE, CALL DOWN THE LIST UNTIL YOU REACH SOMEONE)
 - a. Stormwater Coordinator office- 704-669-2064
 - b. Stormwater Coordinator cell phone- 704-472-2647
4. If unable to reach Stormwater Coordinator, call the Civil Engineer.
 - a. Civil Engineer office- 704-669-2062
 - b. Civil Engineer cell phone- 704-472-3543
5. If unable to reach Civil Engineer, call Engineering Services Director.
 - a. Engineering Services Director office- 704-669-2060
 - b. Engineering Services Director cell phone- 704-472-1526

Non-hazardous material response (yard waste, sediment, etc.):

1. Create a work order for Stormwater with all information obtained by the caller.
2. Send an email with information obtained to Stormwater/Engineering Coordinator and Civil Engineer.



II. City Employee Reporting Illicit Discharge / Illegal Dumping

1. Document the following information on the IDDE:
 - a. Address of where the pollution took place (description of location if address is unknown)
 - b. Description of location on the property (front, back, side, street, etc.)
 - c. What was observed? Be sure to document date and time.
 - d. Who caused the pollution (name if known or a description of person or vehicle)?
 - e. What is believed to be the pollutant (if unknown what did it look like, what type of container was it in)?
2. Take pictures if possible
3. Report findings as soon as practical to your immediate supervisor
4. Supervisor will relay information to Stormwater Personnel:
 - a. **For hazardous material reporting (petroleum products, chemicals, biohazards, etc.):**
 - i. Contact the Stormwater Coordinator by phone immediately. (DO NOT LEAVE A MESSAGE, CALL DOWN THE LIST UNTIL YOU REACH SOMEONE)
 1. Stormwater Coordinator office- 704-669-2064
 2. Stormwater Coordinator cell phone- 704-472-2647
 - ii. If unable to reach Stormwater Coordinator, call the Civil Engineer.
 1. Civil Engineer office- 704-669-2062
 2. Civil Engineer cell phone- 704-472-3543
 - iii. If unable to reach Civil Engineer, call Engineering Services Director.
 1. Engineering Services Director office- 704-669-2060
 2. Engineering Services Director cell phone- 704-472-1526
 - b. **For non-hazardous materials:**
 - i. Send an email with information obtained to the Stormwater/Engineering Coordinator and Civil Engineer.

III. Responding to Illicit Discharge / Illegal Dumping Incident

1. If report is received from an outside source, ensure information is obtained from list in Section I of this procedure from the reporting party.
2. The Stormwater/Engineering Coordinator shall respond to the location of the complaint as soon as possible, but no longer than 2 hours.



- a. If the Stormwater/Engineering Coordinator is unavailable, the Civil Engineer or Engineering Services Director or their appointee shall respond.

Once onsite, the Stormwater Employee shall:

1. If the site is unsafe, call 911 to have the appropriate emergency personnel respond.
2. If a spill or illegal dumping is currently happening, follow the Spill Response Procedure.
3. Take pictures of the scene including any evidence of illicit discharge/ illegal dumping.
4. Conduct any investigative processes needed to determine the culprit or substance (dye testing, sampling, etc.)
5. If an IDDE is identified, contact Code Enforcement at 704-484-6829 to start the process of having the appropriate party mitigate the IDDE through the use of the Illicit Discharges section of the City of Shelby Phase II Stormwater Ordinance.
6. Complete the City of Shelby Stormwater Investigation Report and include pictures taken.
7. Add the new IDDE to the Illicit Discharge GIS map.
8. Perform a post site inspection to check that the issue has been resolved after the amount of time has passed that Code Enforcement gave to resolve the issue.
9. Update the information on the Illicit Discharge GIS Map.
10. If drain is on public right-of-way or property owner permission is obtained, place a “No Dumping” drain marker on the storm drain.

IV. Major Outfall Inspections/Dry Weather Flow Detection

Stormwater Division staff will proactively look for illicit discharges / illegal dumping through annual major outfall inspections. Major outfalls are defined in the City’s stormwater permit as, “municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).” These inspections are completed during dry weather when there has been less than 1/10” of rain in the last 48 hours to identify illicit dry weather flows.

Allowable non-stormwater discharges are (per the City’s stormwater permit):

- Water line and hydrant flushing
- Flushing and clearing of stormwater conveyances with potable water



- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration (defined at 40 CFR §35.2005(20))
- Uncontaminated pumped ground water
- Discharges from uncontaminated potable water sources
- Foundation and crawl space drains
- Air conditioning condensation (commercial/residential)
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual residential and charity car washing
- Flows from riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Street wash water
- Flows from firefighting activities
- Splash pad (spray ground) water from potable water source only

After 48 hours of less than 1/10" of rain Stormwater Division staff can proceed with the inspection procedure. Rainfall totals are documented daily at 801 W. Grover St. in the HACH program by City of Shelby Water Plant staff.

Equipment needed for outfall inspections / dry weather detection:

- Vehicle
- iPad with cellular internet connection and ESRI Collector App installed
- Bush ax
- Sample bottles
- Chlorine testing kit

Major Outfall/Dry Weather Flow Inspection Procedure

1. Major outfalls are filtered out by the GIS Department using the stormwater system data. Identified outfalls are placed in a standalone map for use by Stormwater staff to complete their inspections.



2. Once at a major outfall, staff start their inspection using the iPad with the Esri Collector App. (If needed, the bush ax may be used to clear vegetation for access)
3. Prompts are followed on the iPad as the following items are inspected and documented:
 - a. Discharge ID
 - b. Inspection date and time
 - c. Precipitation of more than 1/10" in the last 48 hours
 - d. What does the outfall discharge to?
 - e. Sediment in pipe
 - f. Debris in pipe
 - g. Flow description
 - h. Odor
 - i. Odor relative severity
 - j. Color
 - k. Color relative intensity
 - l. Turbidity
 - m. Turbidity relative intensity
 - n. Floatables
 - o. Floatables relative severity
 - p. Comments
 - q. Pipe diameter / box dimensions
 - r. Pipe Material
 - s. Follow-up needed based on findings?
 - t. Picture taken and attached to inspection record

If any suspicious flows are found, follow up action should take place such as:

- Additional dry weather monitoring
- Upstream tracing of flow
- Pipe camera inspections for illicit connections
- Dye testing of potential sources of contamination
- Smoke testing of the storm drain system
- In house sampling for items such as chlorine, fluoride, pH, etc.
- Third party lab testing of sample for additional items to determine contaminate

APPENDIX G
Spill Response Procedure



Spill Response Procedure

Prerequisites

- Employees should attend IDDE and general Stormwater pollution prevention training conducted by the City of Shelby Stormwater/Engineering Coordinator.

Stormwater Protection Equipment and Materials

- Spill Response Plan with contact information
- Spill kit and equipment for dry clean up (socks, absorbent pads, kitty litter, broom, container for dirty absorbent and dustpan)
- Storm drain inlet protection (drain covers, booms, wattles)
- Secondary containment (over pack containers or pallets)

Standard Operating Procedures

1. Spill Prevention - Materials and Waste Handling and Storage

- Liquid or hazardous materials should be handled, used, stored, re-package and transferred away from the stormwater system or surface water
- Deliveries of bulk liquids should be supervised to ensure any spill are promptly cleaned up.
- Cover and contain containers, materials and waste.
- Keep all containers closed unless adding or removing materials.

2. Spill Kit Maintenance

- Spill kits are located at the following locations: city vehicles (identified as having high pollution potential in daily operations), maintenance facilities, and fueling areas.
- Each department supervisor is responsible for spill kit(s) inventory and re-ordering supplies.
- Inspection of spill kit and re-supplying is done yearly by the department supervisor in each area a spill kit is located and checked by the Stormwater/Engineering Coordinator during facility inspections.



3. Spill Clean Up and Storm Drain Protection

- Clean up minor spills immediately.
- Block any down gradient storm drains with berms, covers, absorbent socks or “pigs”.
- Never hose down spills or leaks.
- Always use “Dry Clean-up Methods” for clean-up of fuel spills (gas, diesel, motor oil or kerosene).
- Spread absorbents (“kitty litter” or loose absorbents, sheets, pillows, pigs, or socks) on the spill.
- Sweep up or pick up the absorbed materials.
- Dispose of wastes properly.
- If fluids are leaking or have spilled on an impermeable surface, such as a roadway, locate nearest down gradient storm drain and dike or berm the drain to prevent fluids from entering it.
- Put down absorbent on the spill area.
- After cleaning up, be sure to sweep up the contaminated absorbent and remove the berm or dike at storm drain.
- If fluids are leaking or have spilled on a permeable surface, such as gravel, soil or grass, mark the area and report the spill immediately to the Stormwater Coordinator at 704-669-2064 (office) or 704-472-2647 (cell).

4. Reporting Spills

- Any spill or discharge of any pollutant (ex: oil, paints, fuels, hazardous liquids, sediment, or super-chlorinated water) that reaches storm drains or enters “Waters of the State* must be reported to Stormwater Coordinator at 704-669-2064 (office) or 704-472-2647 (cell).
- If a spill or leak is of a hazardous substance that exceeds 16 ounces or is of an unknown substance of any amount, call 911 and notify the Stormwater Coordinator at 704-669-2064 (office) or 704-472-2647 (cell).
- If the spill is more than 25 gallons of a petroleum product from a regulated storage tank or delivery truck or any amount that causes a sheen on nearby surface water, it must be reported to the Stormwater Coordinator at 704-669-2064 (office) or 704-472-2647 (cell).



Contractors

- Contracts should include stormwater pollution prevention language.
- Ensure that contractors implement proper Best Management Practices (BMPs) to prevent stormwater pollution and know whom to contact in case of spill.

Employee Training

- All applicable employees should be trained in general stormwater pollution prevention; including how to recognize and report illegal connections or discharges.

Waters of the State means “any and all surface and subsurface waters which are contained in or flow in or through this state, but does not include waters in sewage systems, waters in treatment works of disposal systems, waters in potable water distribution systems and all water withdrawn for use until use and treatment have been completed. Examples of State waters include, but are not limited to, perennial streams, intermittent or ephemeral gulches and arroyos, ponds, lakes, reservoirs, irrigation canals or ditches, wetlands, stormwater conveyances (when they discharge to a surface water) and groundwater.



Spill Cleanup Contractors (include but are not limited to)

A&D Environmental Services
High Point, NC
1-800-434-7750

Carolina Environmental Response Team
Charlotte, NC
877-505-6799

Chase Environmental
Erwin, NC
1-877-752-4273

Clean Harbors Environmental
Archdale, NC
800-645-8265

Contaminant Control Inc. (CCI)
Salisbury, NC
888-624-6555

HAZ-MAT Environmental Services
Charlotte, NC
704-332-5600

Heritage Environmental Services
Charlotte, NC
1-800-487-7455

HEPACO, LLC.
Charlotte, NC
800-888-7689



NRC
Charlotte, NC
1-800-899-4672

Shamrock Environmental Corporation
Greensboro, NC
800-881-1098

Zebra Environmental
High Point, NC
336-841-5276

Possible Disposal Sites (include but are not limited to)

Cleveland County Landfill
704-447-8200
299 Fielding Rd.
Cherryville, NC 28021

Soil Solutions of the Carolinas (petroleum contamination)
877-505-6799
947 Crowder Rd.
Shelby, NC 28150

Environmental Soils Inc. (petroleum contamination)
980-259-2180
910 Crowder Rd.
Shelby, NC 28150

APPENDIX H
Operations and Maintenance of Municipal Vehicles and Equipment Procedure



Operations and Maintenance of Municipal Vehicles and Equipment

Introduction

Regular maintenance of both municipal vehicles and heavy equipment not only prolongs the life of municipal assets but also helps reduce the potential for leaking of fluids associated with normal wear and tear. Potential pollutants include fuels, oil, antifreeze, brake fluid, solvents, and battery acid. The goal of this written Standard Operating Procedure (SOP) is to provide guidance to municipal employees to help reduce the discharge of pollutants from the MS4 as a result of leaks from vehicles and equipment.

The City of Shelby undertakes various procedures in regard to its municipal vehicles and equipment. The City operates a garage at 820 W. Grover Street to service and repair all City owned vehicles. The garage performs services such as oil changes, tire rotation/replacement, vehicle repairs, etc. The City also operates a fueling site located at 435 W. Grover Street.

Procedures

The City of Shelby will implement the following procedures for municipally owned and operated vehicles and equipment to reduce the discharge of pollutants from the MS4:

Vehicle and Equipment Maintenance

Vehicle Storage

- Monitor vehicles and equipment for leaks and use drip pans as needed until repairs can be performed.
- When drip pans are used, avoid overtopping.
- Drain fluids from leaking or wrecked vehicles and parts as soon as possible. Dispose of fluids properly.
- Store and park vehicles on impervious surfaces and/or under cover or indoors whenever possible.

Vehicle Maintenance

- Conduct routine inspections of heavy equipment and vehicles to proactively identify maintenance needs or potential leaks.
- Perform routine preventive maintenance to ensure heavy equipment and vehicles are operating optimally.
- Recycle or dispose of waste properly and promptly.
- Sweep and pick up trash and debris as needed.
- Do not dump any liquids or other materials outside, especially near or in storm drains or ditches.

Fueling

- Fueling areas owned or operated by the municipality shall have a stationary spill kit.
- Fueling areas should be evaluated to ensure that pollutants (e.g., gasoline or oil) do not enter the MS4.
- Secondary containment structures for above ground tanks shall have drain plugs in place to prevent fuel from leaving the containment area. Once the secondary containment area is verified to only have rainwater in it, then can the rainwater be released, and the plug reinstalled.
- Any spills during refueling shall be immediately cleaned up and absorbents properly disposed of.

Material Management

- Store materials and waste in labeled containers under cover and in secondary containment. Secondary containment is only needed for liquids in stored in containers of 55-gallon drums or greater.
- Hazardous waste must be labeled and stored according to hazardous waste regulations.
- Store new and used batteries securely to avoid breakage. Store indoors or in secondary containment to contain potential acid leaks. Recycle used batteries.
- Conduct periodic inspections of storage areas to detect possible leaks.
- Do not wash or hose down storage areas unless there is prior approval to collect and discharge the water into the sanitary sewer. Use dry cleanup methods whenever possible.
- Keep lids on containers. Store them indoors or under cover to reduce exposure to rain.
- In the event of a spill, the City of Shelby Spill Response Procedure should be followed.

Parts Cleaning

- Use designated areas for engine, parts, or radiator cleaning. Do not wash or rinse parts outdoors. If parts cleaning equipment is not available, then capture parts cleaning fluids in a drip pan to properly dispose of.
- Recycle cleaning solution. Never discharge waste to the sanitary sewer or storm sewer.
- If parts are pressure washed, washing should be done in the Public Works wash bay.



Vehicle and Equipment Washing

Vehicle washing can result in the discharge of nutrients, sediment, petroleum products, and other contaminants to a surface water body or to a stormwater system. The MS4 Permit does not authorize the discharge of municipal vehicle washing byproducts into the MS4.

Vehicle Washing Procedures

- Vehicle washing shall preferably be done at a City wash bay location that drains to sanitary sewer or at a commercial carwash.
 - Utilities Operation Center Wash Bay
 - Public Works Wash Bay
 - Hanna Park Maintenance Shop
 - Fire Station 3 Bays
 - Wastewater Treatment Plant Septage Receiving Pad
- In the event use of a wash bay or commercial carwash is not practical, washing shall be done in a grassy area that promotes infiltration of the wash water.
- As a last resort upon approval by the Stormwater Coordinator, washing may be allowable in an area that drains to the stormwater system if the system does not discharge directly to surface water. Adequate separation from the discharge to surface waters must be in place to promote infiltration of the wash water.
- The use of a biodegradable, phosphate-free detergent is preferred.
- Heavily soiled vehicles or vehicles dirtied from salting or snow removal efforts should follow the SOPs in the “Heavy Equipment Washing Procedures” below.

Heavy Equipment Washing Procedures

- Mud and heavy debris removal should occur on impervious surfaces or within a wash bay.
- Maintain these areas with frequent mechanical removal and proper disposal of waste.

Employee Training

- Employees who perform work on/with municipal vehicles or equipment are trained annually on these procedures and the proper operation of related equipment.
- Employees are also trained on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill response procedures.

APPENDIX I
Solid Waste and Yard Waste Collection Procedure



Solid Waste and Yard Debris Collection Procedure

I. Solid Waste

- a. The City is divided into 4 quadrants, each assigned a weekly collection day (Monday-Thursday).
- b. Staff are assigned to a designated daily route by the Public Works Director.
- c. Residents roll out their City assigned trash can to the curb on their collection day.
 - i. Special collection is provided for residents that are unable to roll out their can to the street.
- d. Staff drive their assigned routes emptying residents trash cans.
 - i. Any hazardous materials placed in trash cans for disposal will not be accepted.
 - ii. As cans are being emptied, drivers visually inspect cans for damage or missing lids that may cause trash to come in contact with stormwater. Damages are reported using customer service and the work order system. Based on these reports staff will repair or replace the trash cans.
- e. Each truck makes 2 trips a day to the Cleveland County Landfill to dispose of the solid waste.
- f. Trucks are washed inside the Public Works wash bay daily at the end of each route. This wash area drains to the sanitary sewer system through an oil/water separator.
- g. Drivers are required to inspect the trucks daily for leaks or any other issues that could cause trash to come in contact with stormwater.

II. Bulky Item Collection

- a. Bi-annually residents are allowed to place nonhazardous bulky items at the curb for disposal. The City advertises one week during the spring and fall for this special collection.

III. Limb Collection

- a. The City is divided into 4 quadrants, each assigned a weekly collection day (Monday-Thursday).
- b. Staff are assigned to a designated daily route by the Public Works Director.



- c. Residents place limbs at the curb for pickup and disposal.
- d. Limb collection crews drive their assigned routes loading limbs manually into a Swa-car or using a grapple truck.
- e. Limbs are taken to the City's Waste Water Treatment Plant for incineration. Periodically ashes are cleaned out of the incinerator and taken to be stored in the dry storage building located at 820 W. Grover St. and/or disposed of at the Cleveland County Landfill. Operation of this incinerator complies with NCDEQ Facility Permit 2304-TP-2020 and NCDEQ Air Quality Permit 10677G00.
- f. Trucks are washed weekly inside the Public Works wash bay. This wash area drains to the sanitary sewer system through an oil/water separator
- g. Drivers are required to inspect the trucks daily for leaks or any other issues that could cause contamination issues with stormwater.

IV. Leaf Collection

- a. The City is divided into 4 quadrants, each assigned a weekly collection day (Monday-Thursday).
- b. Staff are assigned to a designated daily route by the Public Works Director.
- c. Residents place leaves and grass clippings at the curb for pickup and disposal.
- d. Crews drive assigned routes and operate an automated self-contained vacuum unit to vacuum up the leaves and grass clippings.
- e. The operators dispose of the material at Fishers Environmental where it is used for composting.
- f. Trucks are washed weekly inside the Public Works wash bay. This wash area drains to the sanitary sewer system through an oil/water separator.
- g. Drivers are required to inspect the trucks daily for leaks or any other issues that could cause contamination issues with stormwater.