
CITY OF DURHAM
APPLICATION INSTRUCTION MANUAL
for
STORM WATER SERVICE FEE CREDIT

City of Durham



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for

STORM WATER SERVICE FEE CREDIT

Prepared For:

**City of Durham Engineering Department, Storm Water Services
Division**

Prepared By:

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Greensboro, North Carolina
November 1995**

This manual provides the information, instructions, and application forms necessary to apply for a storm water service fee credit. This manual is organized into the following sections:

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Words which appear in ***bold italics*** are defined in Appendix A.

SECTION 1: INTRODUCTION

The City of Durham has elected to provide a credit toward reducing a ratepayer's storm water service fee. Credit WILL NOT be allowed for property that meets the definition of "residential unit." A "residential unit" is a detached single family house, a duplex, or a manufactured home or mobile home located on an individual lot or parcel of land rather than in a manufactured home park. Credit WILL be allowed for any property meeting the definition of "other residential and non-residential land." "Other residential and non-residential land" is any developed land not fitting the definition of a residential unit. It includes, but is not limited to, land upon which there are residential structures that contain more than two units, such as triplexes, townhouses, condominiums, apartments, boarding houses; churches, institutional buildings, whether public or private; commercial, office, and industrial buildings; parking lots and streets; and land containing improvements under construction or impervious surfaces that are not structures. Where development styles may not clearly fit the definitions of "residential unit," "other residential," or "non-residential," the City Public Works Director shall have the authority to determine whether the property is eligible for a credit under this policy.

Background Information

Storm water runoff is water that flows over yards, City streets, buildings, parking lots, and other surfaces when it rains. Storm water runoff flows into the nearest natural or manmade drainage features such as streams, catch basins, pipes, and ditches. The storm water runoff eventually empties, untreated, into our local rivers, ponds, and lakes.

When properties are developed, the amount of storm water runoff generated by those properties increases. The increase in runoff produced by developed properties creates a variety of negative impacts on both the City's **storm water drainage system** and on natural drainageways. This increase in runoff (and the resulting negative impacts) is directly proportional to the amount of **impervious area** found on the developed property.

The City of Durham defines an impervious area as a surface that, due to its composition or compacted nature, impedes or prevents the natural infiltration of water into soil. Impervious areas include, but are not limited to; buildings, solid decks, streets, driveways, sidewalks, patios, parking areas, and concrete. Driveways and parking lots are impervious even if they are not paved because they are compacted. Wooden slatted decks and the water area of swimming pools are not considered impervious surfaces.

Since the amount of storm water runoff generated by a given property is directly proportional to the amount of impervious area found on that property, the storm water service fee a property owner pays is *also* directly proportional to the amount of impervious area found on their property. Non-residential ratepayers in Durham currently pay \$2.70 per month for each Equivalent Residential Unit (ERU) found on their

property.

One ERU is equal to the average amount of impervious area found on a typical single-family residence in the City of Durham. It was determined that the average single-family residence in Durham contains approximately 2,400 square feet of impervious area (therefore, 1 ERU = 2,400 square feet). Non-residential ratepayers are charged based on the number of ERUs found on their property. For example, a shopping center containing 96,000 square feet of impervious area would be charged for 40 ERUs (96,000 divided by 2,400). Since the rate for 1 ERU is currently \$2.70, then this shopping center would pay \$130.00 per month (40 ERUs times \$2.70).

The following negative impacts associated with storm water runoff are identified as being of particular concern to the City of Durham:

- increases in **peak discharge**;
- increases in runoff pollution; and
- increases in storm water drainage system maintenance.

Since increases in impervious area result in both increases in storm water runoff and increases in drainage system maintenance, credit to a ratepayer's storm water service fee is designed to be proportional to the effective reduction in impervious area (which in turn would reduce peak flows and pollution runoff) and/or the effective reduction in burden (to the City) for maintaining the storm water drainage system. The crediting mechanism allows credit for reductions in each of the above three areas.

To keep the crediting process simple, the methodologies that address the above three impacts have been reduced to three sets of criteria and standards. Although the crediting methodologies for the three "impact categories" have been simplified for easier application, they still guarantee real impact reductions for each category due to the technical foundation and proven results of each methodology.

SECTION 2: CREDITING POLICIES

It is the City's intent to encourage both sound judgment and sound technical design practices which reduce the negative impact of impervious area on the drainage system through a simple but effective crediting system. Credits may be granted for any combination of peak flow reduction, pollution runoff reduction, and/or a reduction in the City's increasing drainage system maintenance responsibilities.

Certain crediting policies are in place to help maintain a reasonable balance between application simplicity and program effectiveness. These crediting policies are summarized below. Further questions/comments on these policy statements should be directed to the Durham Storm Water Services Division (**SWSD**).

Applicability

Credit WILL NOT be allowed for property that meets the definition of "residential unit." A "residential unit" is a detached single family house, a duplex, or a manufactured home or mobile home located on an individual lot or parcel of land rather than in a manufactured home park. Credit WILL be allowed for any property meeting the definition of "other residential and non-residential land." "Other residential and non-residential land" is any developed land not fitting the definition of a residential unit. It includes, but is not limited to, land upon which there are residential structures that contain more than two units, such as triplexes, townhouses, condominiums, apartments, boarding houses; churches, institutional buildings, whether public or private; commercial, office, and industrial buildings; parking lots and streets; and land containing improvements under construction or impervious surfaces that are not structures. Where development styles may not clearly fit the definitions of "residential unit," "other residential," or "non-residential," the City Public Works Director shall have the authority to determine whether the property is eligible for a credit under this policy. Credit will not be granted for any property that does not pay a storm water fee.

Existing Structure Credits

Credit will be allowed for previously constructed controls that meet City criteria and standards. The amount of credit granted will be determined by the methodologies outlined in the body of this document.

Storm Drainage Easements

No credit shall be granted until the property owner dedicates (at no cost to the City) a storm drainage easement, of such width as determined by the City, for all portions of the storm water system located on the owner's property.

Impervious Area Owned

Credit when granted will be based solely on the impervious area associated with the property for which the credit is granted, even if other impervious areas drain to or through the property.

Credits for Multiple Properties

Where a facility is designed to provide peak reduction benefits, pollution reduction benefits, or both to adjoining properties in multiple ownership, credit shall be available to those properties in proportion to the runoff from the respective parcels provided the property owners enter into a written agreement or form an owners' association with a document that provides for their respective responsibilities regarding construction and maintenance of the facility and further provides for each owner to have authority to act in the event another owner fails to perform his/her responsibilities. The document shall clarify actual ownership of the facility and provide such easements as may be required. The document shall also be recorded at the Durham County Register of Deeds after it has been approved by the Storm Water Services Division.

Voluntary Controls

For new construction, credit will be granted where the City requires controls to be constructed and/or maintained. Other voluntary controls or upgrades of existing systems through retrofitting will be granted credit on a case-by-case basis considering the impact of the controls on the City's drainage system, as determined by the SWSD.

Credit Schedule

A maximum of 75% of the storm water service fee may be granted in credit for the following categories:

Peak Discharge - Up to 35% for measures that contribute to a reduction of peak discharge.

Water Quality - Up to 25% for measures that contribute to an improvement in water quality.

To receive the peak discharge or water quality credit, the storm water controls must be properly maintained in a fully functional condition in accordance with maintenance criteria and **BMP** standards adopted by the City.

Maintenance - 15% for maintenance activities that remove the maintenance burden of the storm water drainage system on private property from the City's responsibility.

The maintenance credit is applicable for contiguous properties with five or more acres of impervious area, under single ownership. The storm water drainage system must be maintained in a fully functional condition in accordance with maintenance criteria adopted by the City. A single maintenance plan for the entire contiguous property must be filed with the

City and maintained by the property owner.

Types of Structural BMPs

Initially, credit for peak and pollution control will be granted only for ***extended detention basins, retention basins, and extended detention/retention basins*** that meet City design and maintenance standards. Credit may be granted for other control devices on a case-by-case basis providing sufficient technical justification is available to make such determinations. Standard specifications for peak and pollution control BMPs are provided in Appendix B.

Appeals

Appeals of credit decisions will be made to the Manager of the Storm Water Services Division. Should satisfaction not be achieved, an appeal may be lodged with the City Public Works Director.

Timing of Applications

For new construction, the peak and pollution control credits will be effective on the first billing cycle for the property following completion/implementation and/or final inspection of the control(s). Credit for existing peak and pollution controls will be granted retroactively to the date of initial billing if a complete application for credit, as determined by the City Public Works Director, is submitted within one year of the implementation of this credit policy. For existing peak and pollution controls for which the initial credit application is submitted more than one year after the implementation of this credit policy, credit will be granted retroactive to the submittal date of the complete application.

Maintenance credit will not be granted retroactively.

SECTION 3: CREDIT APPLICATION SUBMITTAL PROCEDURES

Procedural guidelines for credit applications have been separated below into the following four categories: New Developments; Existing Storm Water Controls; **Retrofit** of Existing Storm Water Controls; and On-Site Maintenance. Applicants must follow these guidelines to ensure the proper preparation of credit applications, and to ensure that an applicant receives the full credit to which they are entitled.

For all four types of credit applications, a sketch must be submitted to the City at the time of credit application. This sketch must show all drainage system easements which are to be dedicated to the City.

New Developments

Storm water service fee credit applications for new developments may be submitted as part of the new construction documents required by the City. To expedite the review process, and to ensure compliance of proposed storm water controls, submittal of credit applications for new developments should include the following steps:

1. An initial sketch plan should be presented at a pre-submittal meeting with the Durham Storm Water Services Division. The sketch plan should include:
 - conceptual site plan and structural control location diagram;
 - locations, dimensions, and characteristics of all existing and proposed storm water facilities; and
 - existing and proposed grading and drainage plan and location of all existing and proposed structures, parking areas, driveways, and other impervious areas tributary to the control location.
2. Following the pre-submittal meeting, prepare detailed storm water service fee credit calculations and all supporting documentation to be submitted with the application forms supplied in this manual.
3. Submit the completed credit application forms, a maintenance plan and schedule as required, and all supporting calculations/documentation required by the City to:

Manager
Storm Water Services Division
Department of Public Works
101 City Hall Plaza
Durham, NC 27701
4. Following review and approval of the credit application, and approval of the new development activities, construct all structures.

5. Contact Durham Storm Water Services Division for site review and approval of constructed improvements.

Existing Storm Water Controls

Credit applications for existing storm water controls must be submitted to the Durham Storm Water Services Division. Applicants interested in receiving credit for existing storm water controls should follow these procedural guidelines during preparation of their credit application:

1. Existing storm water controls must be properly maintained. Coordination with SWSD should be done prior to submission if there are any questions concerning the applicable maintenance standards.
2. Credit applications for existing controls shall be submitted for review on the forms supplied in this manual.
3. All applicable credit calculations and supporting documentation must be submitted with the forms supplied with this manual.
4. Pre-submittal coordination with Durham SWSD is advised to insure all policy requirements for existing controls have been considered and/or fulfilled.
5. Submit completed credit application forms, a maintenance plan and schedule as required, and all supporting calculations/documentation required by the City to:

Manager
Storm Water Services Division
Department of Public Works
101 City Hall Plaza
Durham, NC 27701

6. Following review and approval of credit application for existing storm water controls, contact Durham Storm Water Services for site review of existing controls.

Retrofit of Existing Storm Water Controls, or New Construction of Controls

The submittal process for City approved retrofitting of existing storm water control structures for storm water service fee credit is similar to that of new developments. Customers interested in retrofitting existing storm water control structures for storm water service fee credit, or additional credit, must follow these guidelines:

1. A pre-submittal meeting should be scheduled with Durham SWSD to determine the nature of the retrofit and to discuss any special conditions and/or extraordinary situations. A sketch plan for the retrofit should be prepared for the pre-submittal meeting.

2. Following the pre-submittal meeting, prepare a set of detailed plans and specifications, along with calculations and credit forms, to be submitted to the Durham Storm Water Services Division for review and approval.
3. Submit the completed credit application forms, maintenance plan and schedule as required, and all supporting calculations/documentation required by the City to:

Manager
Storm Water Services Division
Department of Public Works
101 City Hall Plaza
Durham, NC 27701

4. Following review and approval of the credit application for retrofitting, and approval of all new construction activities, construct all design retrofits.
5. Contact SWSD for site review and approval of constructed improvements.

Onsite Maintenance

Owners of properties where the storm water drainage system is maintained to acceptable City standards by the property owner are entitled to apply for an onsite maintenance credit. Properties must have five or more acres of impervious area to be eligible for an onsite maintenance credit. Guidelines for applying for an onsite maintenance credit are as follows:

1. Applicants should prepare supporting documents to be presented at the pre-submittal meeting. Supporting documents should include, at a minimum, the following items:
 - a maintenance plan that conforms to standards adopted/set by the City; and
 - a site plan or drawing showing the property boundaries; the location, dimensions and type of all existing storm water facilities, controls, conveyances and structures; and impervious features (including roads and buildings) adjacent to the storm water system.
2. Applicants approved for an onsite maintenance credit are required to submit annual reports detailing both the condition of the storm water drainage system and the level of accomplishment of the maintenance plan.
3. Submit completed onsite maintenance credit application forms and all supporting documentation to:

Manager
Storm Water Services Division

Department of Public Works
101 City Hall Plaza
Durham, NC 27701

4. Upon completion of credit review and approval of onsite maintenance credit application, implement all scheduled activities detailed in the maintenance plan.

SECTION 4: STORM WATER SERVICE CHARGE AND CREDIT CALCULATIONS

As specified in Section 1, Storm Water Service Charges are based on impervious area. The base service charge for a property can be computed from equation 1.

$$\text{Base Service Charge} = C = (IA/2400)*(\$2.70) \quad (1)$$

where: IA = total parcel impervious area (in square feet)
2400 = number of square feet per ERU
(note: round IA/2400 to integer)
\$2.70= service charge per ERU

As specified in Section 2, credits may be provided in accordance with the following schedule:

Peak Credit=	Q	=Up to 35%, or 0 to 0.35
Pollution Credit=	P	=Up to 25%, or 0 to 0.25
Maintenance Credit=	M	=Zero or 15%, or 0 <u>or</u> 0.15

Notes: All credit factors are expressed as decimal numbers.
There is no partial credit for maintenance.

The adjusted service charge is that charge owed once all credits have been applied. The adjusted service charge is computed from equation 2.

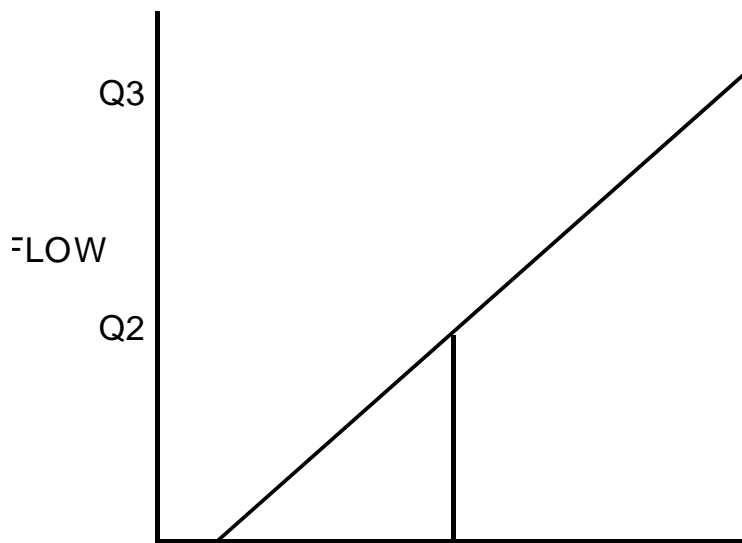
$$\text{Adjusted Service Charge} = A = C*(1-Q-P-M) \quad (2)$$

SECTION 5: PEAK, POLLUTION, AND MAINTENANCE CREDITS

Property owners who make the impervious areas on their property "look", in terms of hydrologic impact, as if they are less impervious are entitled to apply for credit on that portion of the storm water service charge available for credit. Applicants should follow the criteria and procedures detailed below when developing credit applications for **peak** runoff reduction BMPs, **pollution** reduction BMPs, and for the maintenance credit.

Peak Credit Methodology

The figure below illustrates the peak credit calculation concept.



- I_1 is the percent impervious prior to development.
- Q_1 is the pre-development peak runoff value.
- I_3 is the post development percent impervious value.
- Q_3 is the post-development peak runoff value without any controls in place.
- I_2 is the "effective imperviousness" which results from controls reducing peak runoff from Q_3 to some lesser value Q_2 .
- Q_2 is the post-development peak runoff value with controls in place.

Peak Credit Calculation Equation

This computation procedure is based on the fact that the peak credit factor can be approximated as varying linearly with the percent impervious. Equation 3 shows the method.

$$\text{Peak Credit Factor} = (Q_3 - Q_2) / (Q_3 - Q_1) \quad (3)$$

The following shows the steps needed to compute the Peak Credit Factor and Peak Credit:

Peak Credit Factor and Peak Credit Calculation Steps

- STEP 1: Calculate the 10-year storm runoff peak for undeveloped conditions (Q_1). Use a minimum storm duration of $20 \times T_p$ or 6 hours, whichever is longer. T_p is the time for the flow to peak.
- STEP 2: Calculate the 10-year storm total runoff for fully developed conditions without any controls in place (Q_3) and measure the total impervious area (I_3). Use a minimum storm duration of $20 \times T_p$ or 6 hours, whichever is longer.
- STEP 3: Insert designed controls for the fully developed condition and route the storm through the controls. Calculate the controlled runoff peak (Q_2).
- STEP 4: Calculate the Peak Credit Factor using equation 3 above. If the peak credit factor is greater than 1.0, use a peak credit factor of 1.0.
- STEP 5: Multiply the Peak Credit Factor times 0.35 to obtain the Peak Credit. (0.35 is the maximum credit allowed for Peak).

The Peak Credit Factor and Peak Credit Calculation Steps outlined above are discussed in further detail in Appendix C.

Annual Report

Upon approval for peak credit, property owners will be required to prepare and submit an annual maintenance report for the storm water management facility. The annual report will describe the maintenance and inspection activities of the subject year, include copies of inspection and repair logs, and note any needed modifications to the maintenance plan for the following year.

If the annual report or a City inspection shows that the property owner has failed to comply with all provisions of the maintenance plan, then all peak credit received during the period covered by the annual report shall be ~~immediately~~ repaid to the City.

Pollution Credit Methodology

Pollution credit is based on the efficiencies of the types of controls used to reduce the pollutant load in the storm water. Appendix C contains six design standards and the available credit for each. A designer must provide the City evidence that the controls meet the design standards set. Once the BMP design criteria is met, the Pollution Credit is based on the design's available credit **and** the percentage of the total impervious area routed through the BMP.

$$\text{Pollution Credit} = \text{Design's Available Credit} * \text{Percent of Total Site Impervious Area Routed} \quad (4)$$

Pollution Credit Calculation Steps

- STEP 1: Determine the design standard which best fits the BMP used.
- STEP 2: Calculate the appropriate volume of the BMP.
- STEP 3: Determine the Percent of Total Site Impervious Area Routed through the BMP.
- STEP 4: Using equation 4, multiply the Percent Impervious Area Routed times the Design's available credit to get the Pollution Credit. The maximum pollution credit is 0.25.

The *Pollution Credit Calculation Steps* above are discussed in further detail in Appendix C.

Annual Report

Upon approval for pollution credit, property owners will be required to prepare and submit an annual maintenance report for the storm water management facility. The annual report will describe the maintenance and inspection activities of the subject year, include copies of inspection and repair logs, and note any needed modifications to the maintenance plan for the following year.

If the annual report or a City inspection shows that the property owner has failed to comply with all provisions of the maintenance plan, then all pollution credit received during the period covered by the annual report shall be immediately repaid to the City.

Maintenance Credit Methodology

The City of Durham will provide a storm water service fee credit to those properties that reduce the storm water drainage system ***routine*** and ***remedial maintenance*** (see definitions, Appendix A) responsibilities of the City. Property owners who remove the routine and remedial maintenance burden of the drainage system on their property from the City's responsibility are entitled to receive a storm water service fee credit of **fifteen percent** (15%) of their total monthly fee. Partial onsite maintenance credit is not available. To be eligible for an onsite maintenance credit the following procedures and/or criteria must be satisfied:

- the minimum period of participation in the maintenance credit process is one year.
- if participation in the maintenance credit process is terminated, the storm water drainage system must be in good working order as determined by the City. Any repairs determined necessary by the City must be completed by the property owner at the property owner's expense prior to returning responsibility for the drainage system to the City. If the property owner fails to comply with this requirement, the City may undertake the repairs and include the full cost of the repairs on the property owner's next storm water service charge invoice.

Property Size

Only those properties having a total impervious area equal to, or greater than, five acres are eligible to apply for an onsite maintenance credit. A survey site plan detailing impervious area and property line location and lay-out must be included with the application package.

Maintenance Plan

The applicant must prepare a detailed storm water drainage system maintenance plan for all drainage features on the subject property. The plan must detail the applicant's ability to maintain and/or address the following three areas:

- the "**in-ground**" drainage system (pipes, culverts, catch basins, etc.);
- the "**open**" drainage system (channels, ditches, swales, etc.); and
- **litter** control.

The above three areas will be maintained to standards established by the City. Applicants are encouraged to coordinate with SWSD prior to preparation of an onsite maintenance credit application to ensure compliance with City standards in all areas. At a minimum, applicants should follow the following maintenance standards for the above three areas:

- All components of the **in-ground** drainage system must be inspected at least quarterly, and repaired as needed. Those components that are found to be clogged or in some way obstructing the flow of storm water are to be cleared as necessary. Proper disposal of debris is required.
- Inspect and clean grates, inlets, and outlets after each significant storm event.

- All components of the **open** drainage system must be inspected at least quarterly and repaired as necessary. Components of the open drainage system must be maintained to minimize erosion.
- Property owners must keep their properties free of **litter**.
- The drainage system must be inspected after each significant storm event, and at least quarterly for water quality problems. If any water quality problems are observed, the City must be notified immediately. Examples of water quality problems include: oil sheen, foam, color, odor, and turbidity. For more details about how to inspect a drainage system for water quality, see Appendix E.
- All storm water controls and conveyances on the property must be maintained to provide structural soundness, to prevent erosion, to eliminate blockages, to eliminate litter, and to eliminate sedimentation.

Site Inventory

Applicants are required to prepare an inventory of their site to be included in, and submitted with, the application package. Upon approval of the onsite maintenance credit, property owners will be required to keep the inventory for the subject site in a current state. At a minimum, the site inventory should include a site plan or drawing showing the property boundaries; the location, dimensions, and type of all existing storm water facilities, controls, conveyances, and structures; and impervious features (including roads and buildings) adjacent to the storm water system.

Annual Report

Upon approval for an on-site maintenance credit, property owners will be required to prepare, and submit to SWSD, an annual maintenance report for the subject property. The annual report will detail the maintenance activities of the subject year, the current condition of the property's storm drainage system, accomplishments of the maintenance plan, a description of any repairs made, copies of all inspection logs, and any modifications to the maintenance plan necessary for the following year. Repairs to the storm water drainage system must be pre-approved by the City.

If the annual report or a City inspection shows that the property owner has failed to comply with all provisions of the maintenance plan, then all maintenance credit received during the period covered by the annual report shall be immediately repaid to the City.

SECTION 6: FORMS AND CHECKLISTS

The following pages contain forms and checklists to assist applicants in applying for the storm water service fee credit. The following items have been included under this section:

- Credit Application Form - summary information about the project.
- City SWSD Application Review Form.
- Credit Application Checklist - used by the reviewer to check the application packet.

The application packet should consist of the application form on top followed by pertinent drawings, easement dedication maps and documents, documentation, and calculations sufficient to fully evaluate both the site and the proposed controls.

Maintenance provisions, schedule, and responsible parties must be specified for each control proposed.

**CITY OF DURHAM
STORM WATER SERVICES DIVISION
PEAK AND POLLUTION CREDIT APPLICATION FORM**

Applicant Information (Financially Responsible Entity):

Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Contact Person: _____

Telephone: () _____

Applicant's Engineer:

Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: () _____

Registration Number (PE) : _____

Development Information:

Name of Development: _____

Location: _____

Receiving Water's Name: _____

Property
Size: _____

—

Brief Description of Eligible Storm Water Management Facilities: _____

Tax Map Number(s): _____

Service Charge Data:

Property Impervious Area : _____

Existing Service Charge: _____

Peak Credit: _____ Pollution Credit: _____ Total Credit: _____

Account Number(s): _____

Certification*:

The above information is true and correct to the best of my knowledge and belief. I agree to provide corrected information should there be any change in the information provided herein.

Type or print name

Title or Authority

Signature

Date

*** This form must be signed by the financially responsible person if an individual, or if not an individual, by an officer, director, partner, or registered agent with authority to execute instruments for the financially responsible person.**

Engineer's Certification:

Existing conditions are in conformance to the conditions reflected in the calculations.

Signature and Seal of P.E.

**CITY OF DURHAM
STORM WATER SERVICES DIVISION
MAINTENANCE CREDIT APPLICATION FORM**

Applicant Information (Financially Responsible Entity):

Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Contact Person: _____

Telephone: () _____

Development Information:

Name of Development: _____

Location: _____

Receiving Water's Name: _____

Property Size: _____

Tax Map Number(s): _____

Service Charge Data:

Property Impervious Area : _____

Account Number(s): _____

Certification*:

The above information is true and correct to the best of my knowledge and belief. I agree to provide corrected information should there be any change in the information provided herein.

Type or print name

Title or Authority

Signature

Date

*** This form must be signed by the financially responsible person if an individual, or if not an individual, by an officer, director, partner, or registered agent with authority to execute instruments for the financially responsible person.**

FOR STORM WATER SERVICES DIVISION USE
DO NOT MARK IN THIS SPACE

Reviewer: _____ Phone: _____

Review Number: _____ Dates Received: _____ Returned: _____

Review Number: _____ Dates Received: _____ Returned: _____

Review Number: _____ Dates Received: _____ Returned: _____

Review Number: _____ Dates Received: _____ Returned: _____

Date Approved: _____

As-built Verification Inspector: _____ Date: _____

Project Information:

Current Storm Water Service Fee: _____

Approved Peak Credit: _____

Approved Pollution Credit: _____

Approved Maintenance Credit: _____

Total Credit: _____ Revised Storm Water Fee: _____

Required Maintenance/Special Construction: _____

CREDIT APPLICATION CHECKLIST

General Information/Requirements

- ___ Site Plan and Property boundaries.
- ___ Scale.
- ___ Vicinity Map.
- ___ North arrow.
- ___ Adjoining wetlands, lakes, streams, or other major drainage ways.
- ___ Existing and proposed contours.
- ___ **SCS** soil types.
- ___ Impervious delineations and labels (buildings, driveways, etc.).
- ___ Drainage area map, including off-site areas draining through the site.
- ___ Delineation of floodway fringe and encroachment areas, where applicable.
- ___ Size and location of all storm water structures.
- ___ As-built details of existing structures.
- ___ Construction drawing and details of proposed controls, where applicable.
- ___ Final plat(s) dedicating storm drainage easements.

Peak and Pollution Calculations

- ___ Seal and signature of Registered Professional Engineer.
- ___ Hydrologic calculations for undeveloped and developed land uses for the 2-year and 10-year storm events.
- ___ Hydraulic calculations showing stage-discharge relationships of structural controls.
- ___ Pollutant loading computations for undeveloped and developed land use.
- ___ Pollution reduction calculations.
- ___ Structural control routings
- ___ Credit computations.
- ___ Maintenance schedule of all operations that affect the efficiency of the structural controls including mowing, sediment removal, etc.

Onsite Maintenance

- ___ Survey Site Plan
- ___ Maintenance Plan
- ___ Site Inventory