

# CITY of LANCASTER STORMWATER CREDIT APPLICATION



OCTOBER 2004

## SECTION I: APPLICATION PROCEDURE

### Part A: Getting Started

**Step 1:** Obtain a credit application form from:

Denise Crews, P.E.  
 Department of Engineering  
 Municipal Annex Building  
 Suite 100  
 121 East Chestnut Street  
 Lancaster, Ohio 43130-3825  
 Phone: (740) 681-5070

**Step 2:** If you are not familiar with the City of Lancaster’s management standards, it is suggested that you obtain a copy of the latest edition of Rain Water and Land Development: Ohio’s Standards for Storm Water Management Land Development and Urban Stream Protection for support documentation from the Ohio Department of Natural Resources, Division of Soil and Water Conservation, 2045 Morse Road, Building B3, Columbus, Ohio 43229-6693 (614) 265-6610.

**Note:**

- The maximum credit to be received will not exceed 50% of the storm water bill.
- No partial credit will be given for any management practice.
- Length of review by City staff will be approximately 4 weeks.

### Part B: Assemble Data

Supporting data is needed to support each credit. The type of supporting data varies depending on the type of credit requested as shown in the table below.

SUBMISSION REQUIREMENT	CREDIT TYPE								
	Retention/ Detention	Protection Flood Hazard Area	Education	Public Channels	Maintenance Adopt A Road	Clean Up Programs	Brownfield Reuse	Industrial NPDES	Economic Development
Site Plans	X	X		X					
Site Survey		X							
Calculations	X	X							
Maintenance Management Plan	X			X					
Maintenance Schedule	X								
Easement	X	X		X			X		
Deed Restriction	X								
Engineer/Survey Stamp	X	X		X					
Education Plan			X						
Adopt A Road Application					X				
Clean Up Documentation						X			
Proof of Brownfield Funding							X		
NPDES Permit								X	
Pollution Prevention Plan								X	
Auditor Record									X

**Supporting Data Requirements:**

Site Plans and Surveys

- \_\_\_\_\_ Adjoining lakes, streams, or other major drainage ways
- \_\_\_\_\_ Existing and proposed contours
- \_\_\_\_\_ Impervious delineation and labels (buildings, driveways, etc.)
- \_\_\_\_\_ Drainage area map, including off-site areas draining through the site
- \_\_\_\_\_ Size and location of all storm water structures
- \_\_\_\_\_ Construction Drawings if not previously approved
- \_\_\_\_\_ Plat Maps
- \_\_\_\_\_ Engineer or Surveyor Stamp
- \_\_\_\_\_ County Auditor Maps
- \_\_\_\_\_ Other permits

Calculations

- \_\_\_\_\_ Hydrologic calculations for undeveloped and developed land uses
- \_\_\_\_\_ Hydraulic calculations stage-discharge relationships of controls
- \_\_\_\_\_ Floodplain encroachment calculations

Maintenance Management Plan and Schedule

- \_\_\_\_\_ Maintenance Management Plan
- \_\_\_\_\_ Maintenance schedule of all operations that affect the efficiency of the structural control including mowing, sediment removal, cleaning, planting, monitoring, watering, and channel restoration
- \_\_\_\_\_ Maintenance Agreement

Easement and Deed Restriction for inspection access and long term maintenance of BMP

- \_\_\_\_\_ Easement
- \_\_\_\_\_ Deed Restriction
- \_\_\_\_\_ Other \_\_\_\_\_ (Please describe)

Other Data

- \_\_\_\_\_ Education Plan
- \_\_\_\_\_ Adopt A Road Application
- \_\_\_\_\_ Clean Up Participation
- \_\_\_\_\_ NPDES Permit
- \_\_\_\_\_ Brownfield Certification
- \_\_\_\_\_ Pollution Prevention Plan
- \_\_\_\_\_ Auditor Record
- \_\_\_\_\_ Other \_\_\_\_\_ (Please describe)
- \_\_\_\_\_ Other \_\_\_\_\_ (Please describe)

## **Part C: Credit Estimation Calculation**

**Step 1:** Calculate the estimated impervious area of property

- Obtain a “user fee” from the billing statement.
- Divide user fee by \$7.64/ERU to determine ERU’s.
- Multiply ERU’s by 2,600 sq.ft. to determine the approximate amount of impervious area on site. **(NOTE: Because bills are based on a rounded ERU, the actual impervious area on the property may be different)**

**Step 2:** Determine area available for credit on site.

- Determine the percentage of property area benefited by the management practice and BMP.
- Multiply fraction of property benefited by total impervious area to obtain modified Impervious Area for amended charge.

## **Part D: Instructions for Completing the Credit Application Form**

### **Section A - Applicant**

- Name, address, e-mail and phone number of the person or persons responsible for stormwater charge.
- Account Number from stormwater billing statement.

### **Section B - Site Information**

- Location where credit is to be applied.
- Impervious area and ERU’s for entire property are based on applicant’s estimate (See Part C- Credit Estimation Calculation above).

### **Section C – Engineer/Surveyor of Record (if required by credit)**

- Name, address, e-mail and phone number of the Certifying Engineer.
- Certification includes engineers stamp.

### **Section D - Data Submittal Check List**

- List materials being submitted in unshaded areas.

### **Section E - Credit Summary**

- Applicant lists credits being applied for in unshaded boxes.

**Submit Data, Application and Fee to:**

Denise Crews, P.E.  
Department of Engineering  
Municipal Annex Building  
Suite 100  
121 East Chestnut Street  
Lancaster, Ohio 43130-3825  
Phone: (740) 681-5070

**Application Fee:** There is currently no application fee.

**Part E: Final Requirements to Obtain Credit**

Step 1. Construct the credit management facility in accordance with the approved plans, specifications, and design calculations, and obtain an inspection of the credit management facility by the Department of Engineering. Credit will become effective when the structure and/or credit requirements have been completed and operating properly as certified by the City of Lancaster.

Step 2: Provide an easement, deed restriction, or land purchase agreement that restricts the use of the property for anything but the intended management facility. Submit copy of recording instrument. (i.e. plat)

Step 3: Provide regular maintenance for the facility in accordance with the maintenance management plan

Step 4: Submit an annual management and maintenance report on each facility. At the discretion of the City of Lancaster Department of Engineering staff, inspections may be performed in order to confirm the operation and maintenance of the applied management practice or compliance with the approved management plan.

## SECTION II: CREDITS REQUIREMENTS

### 1. Detention / Retention

The detention/retention credit option is the most widely used method of credits by a majority of Stormwater programs throughout the United States. Moreover, this method is used and accepted by most engineers as the best example of a Peak flows facility. This credit also applies to wetpond and extended credits.

The principal is to delay (or in the case of retention completely remove all flows) the highest flow from impacting the drainage system. This is accomplished through the construction of small impoundments or dry ponds that fill up during rainstorms. This is the most common form of stormwater management practice.

**Design Features:** Detention times vary with most being relatively short. Flow lengths are short and direct to outlet works, and depths vary depending on site conditions. **Note:** depending on the size of the structure and the downstream conditions these facilities could fall under state dam design criteria.

#### 1. General Policies:

- A. This program is available to all non-single family properties or part thereof.
- B. Credits will be issued on a property-by-property basis for only the portion of the property tributary to the retention/detention facility.
- C. When a facility is jointly used by several non-single family properties under a joint use agreement, including deed restriction, the credit shall be prorated among the properties as a percentage of the tributary area.

#### 2. Credits Available:

Retention/Detention credits may be granted for approved facilities that reduce the quantity of stormwater and/or improve the water quality of stormwater as follows:

- A. A 10% credit may be given for a retention/detention facility required by City standards that is functioning as designed.
- B. An additional credit of up to 10% may be given for facilities that provide additional detention/retention that benefits upstream or downstream properties without a joint use agreement or provide additional detention/retention for water quality purposes. This additional credit will be calculated as one tenth of a percent for each one percent increase in detention/retention over the volume required by City Standards.
- C. An additional credit of up to 10% for demonstration projects of Best Management Practices determined and approved by the City Engineer designed to meet specific site situations.

#### 3. Basic Procedures:

- A. In order to receive detention/retention credits, the non-single family property owner will need to submit an application, including application fee,

right of entry easement, if applicable, and any required engineering plans and calculations stamped by a registered professional engineer. If approved, the credit shall be placed on the appropriate stormwater bill.

- B. The City Engineer or his designee shall inspect the detention/retention facility prior to approving the credit and periodically after the credit is issued to insure compliance with the approved plans.
- C. If inspections find that the facility has been altered or is not maintained to provide the approved detention/retention, the City may:
  - iii. Require corrective action;
  - iv. Reduce the credit to a level comparable with the detention/retention provided;
  - v. Revoke the credit and require repayment in accordance with LCO 918.09.

## **2. Preservation Of 100-Year Special Flood Hazard Area**

### **1. General Policies:**

- A. This program is available to all non-single family properties or part thereof.
- B. Credits will be issued on a property-by-property basis.
- C. In no case will the total credit amount be more than the cap identified in LCO Section 918.13(l).

### **2. Credits Available:**

Preservation credits may be granted to properties located all or in part in the Special Flood Hazard area regulated under LCO Chapter 1331. Preservation credits may be granted to preserve the flood hazard area resulting in the reduction of flood damage, improvements in water quality and reduction of water quantity as follows:

- A. A 20% credit may be given for preserving 100% of the special flood hazard area (excluding the floodway) as pervious areas and without altering the existing ground elevations.
- B. A credit of up to 10% may be given for preserving portions of the special flood hazard area (excluding the floodway) as buffer and without altering the existing ground elevations. This additional credit will be calculated as one tenth of a percent for each one percent of special flood area (excluding the floodway) preserved as buffer and without altering the existing ground elevations.
- C. A credit of up to 20% for projects to replace special flood hazard area (excluding the floodway) by construction of flood storage basins or other Best Management Practices determined and approved by the City Engineer designed to meet specific site situations.

### 3. Basic Procedures:

- A. In order to receive preservation credits, the non-single family property owner will need to submit an application, including application fee, right of entry easement, if applicable, and any required engineering plans and calculations stamped by a registered professional engineer. If approved, the credit shall be placed on the appropriate stormwater bill.
- B. The City Engineer or his designee shall inspect the property prior to approving the credit and periodically after the credit is issued to insure compliance with the approved preservation.
- C. If inspections find that the preservation area has been altered, the City may:
  - i. Require corrective action;
  - ii. Reduce the credit to a level comparable with the preservation provided;
  - iii. Revoke the credit and require repayment in accordance with LCO 918.09.

### 3. Education

Education credits are provided to public and private schools (K through 12) for the purpose of providing water (stormwater, flooding, water quality, and watershed management) type education programs to students. To obtain this credit, public and private schools would teach a water curriculum in each grade level. Programs such as *“Project Wet”* developed by the *Ohio Water Education Program* are an example of a kindergarten through twelfth grade comprehensive water-related curriculum that would provide a basis for credit in the City of Lancaster school system.

#### 1. General Policies:

- A. This program is available to all schools as defined in the zoning code, public or private, that offer a compulsory education curriculum for grades K through 12 or part thereof.
- B. Credits will be issued on a building complex by building complex basis.
- C. Where a site is jointly used by a school and another use (e.g. church) the stormwater fee will be prorated based on usage and the credit will be issued to the school portion of the fee.
- D. In no case will the total credit amount be more than the cap identified in LCO Section 918.13(l).

#### 2. Credits Available:

Stormwater education credits of 50% of the stormwater bill may be granted for approved programs providing public awareness and education on stormwater issues as follows:

- A. Stormwater Educational Curriculum (e.g. Project WET and Project Aquatic WILD) integrated into standard curriculum for 15% of the students in the school;
- B. Stormwater Educational Activities (e.g. essay contest, poster contest) with participation of 15% of the students;
- C. Public Service Activities (e.g. Adopt a Road, Adopt a Stream, Hocking River cleanup, or inlet stenciling) involving 5% of the students or utilizing student recruited adults. Where adults are recruited, they shall be credited with 3 equivalent students per each adult participant;
- D. In Kind Services (e.g. web site development, brochure development, public service announcements, videos or other program related work) as approved by the Service Safety Director;
- E. A combination of the above items for an equivalent student participation of 15% or as approved by the Service Safety Director.

### **3. Basic Procedures:**

- A. In order to receive educational credits, the school will need to submit an application including an education plan. The application will be due by October 1, of each year. The plan shall be reviewed and approved by the Service Safety Director. Once approved, the credit shall be placed on the appropriate stormwater bill.
- B. Upon completion of the educational plan or no later than October 1 of each year, the school shall submit an annual report indicating compliance with the approved plan. The annual report shall be broken down by the types of activities and indicate the number of participants. If the school did not substantially comply with the plan, the report will include an explanation of the failure and any needed corrective action. Other reporting requirements may be required as part of the plan approval and shall be included in the annual report.
- C. The annual report will be reviewed by the City Engineer. If upon review, the school did not substantially comply with the approved plan, the City may:
  - i. Require additional activities as a corrective action;
  - ii. Reduce the education credit to a level comparable with the compliance;
  - iii. Revoke the education credit and require repayment in accordance with LCO 918.09;
  - iv. Refuse approval of any new education plan.

### **4. Maintenance Credits**

The maintenance credit is offered to properties that perform a maintenance activity or activities that would otherwise be required to be performed by City staff. This should include “natural” stormwater system structures that are properly maintained and are operating for the purposes of water quality and water quantity benefits, and to reduce the burden on the City maintained stormwater system.

The types of maintenance credits and percentage of the credit will be at the discretion of City staff. However, the credit percentage should not exceed 30%.

**1. General Policies:**

- A. This program is available to all non-single family properties or part thereof.
- B. Credits will be issued on a property-by-property basis.
- C. In no case will the total credit amount be more than the cap identified in LCO Section 918.13(l).

**2. Credits Available:**

Maintenance credits may be granted to properties that maintain public stormwater open channels or to property owners who participate in an approved Adopt-A-Road or other sanctioned City clean up program. Maintenance credits may be granted to reduce operation and maintenance costs to the City as follows:

- A. A credit of up to 30% may be given for maintaining public stormwater open channels. The credit will be calculated as one half percent per lineal foot of channel maintained.
- B. A credit of up to 10% may be given for participation in an approved Adopt-A-Road program. The credit will be based on a signed contract to provide litter collection on a one-mile section of roadway on a schedule to be approved by the Service Safety Director. The minimum term of the contract shall be three clean ups per year for a three year period.
- C. A credit of up to 10% may be given for participation in a sanctioned City clean up program. The credit will be calculated as 1% for each 5 participants in the cleanup program. The credit shall be granted for a period of no more one year from the sanctioned program.

**3. Basic Procedures:**

- A. In order to receive Maintenance credits, the non-single family property owner will need to submit an application, including application fee, right of entry easement, if applicable, maintenance plan and any required engineering plans and calculations stamped by a registered professional engineer. If approved, the credit shall be placed on the appropriate stormwater bill.
- B. The City Engineer or his designee shall inspect the property to determine if the proposed maintenance will reduce operation and maintenance costs to the City. If the proposal is approved for maintenance credit, the City Engineer shall periodically inspect the property to insure compliance with the approved maintenance plan.
- C. In order to receive credit for participation in an approved Adopt-A-Road Program, the non-single family property owner will need to submit an application including application fee, and a request for roadway designation. Only roadways designated by the Superintendent of Streets shall be

approved for adoption and cleanup work must be completed in accordance with a schedule approved by the Service Safety Director.

- D. In order to receive credit for participation in a sanctioned cleanup program, the non-single family property owner will need to submit an application including application fee and tentative list of participants. Participants must register at the event and identify themselves as credit program participants. A single participant may be credited only to one stormwater account.
- E. If periodic inspections find that the property owner is not following the approved maintenance plan, the City may:
  - i. Require corrective action;
  - ii. Reduce the credit to a level comparable with the clean up provided;
  - iii. Revoke the credit and require repayment in accordance with LCO 918.09.
- F. If a participant in an Adopt A Road program fails to comply with the conditions of the contract, the City may:
  - i. Require corrective action on a schedule determined by the Service Safety Director;
  - ii. Reduce the credit to a level comparable with the contract completion;
  - iii. Revoke the credit and require repayment in accordance with LCO 918.09.

## **5. Brownfield Reuse**

The Brownfield Reuse Credit is given on a limited time frame of 5 years to a property from the time of purchase, upon certification of reuse from the EPA.

### **1. General Policies:**

- A. This program is available to all non-single family properties or part thereof.
- B. Credits will be issued on a property-by-property basis.
- C. In no case will the total credit amount be more than the cap identified in LCO 918.13(l)

### **2. Credits Available:**

Brownfield Reuse credits may be granted to properties receiving Brownfield Cleanup funds under ORC 122. Brownfield Reuse credits may be granted to improve water quality from stormwater discharges as follows:

- A. A 10% credit may be given for a period of five years following activation of the project.

### **3. Basic Procedures:**

- A. In order to receive Brownfield Reuse credits, the non-single family property owner will need to submit an application, including application fee, right of entry easement, if applicable, proof of funding under ORC 122 and any required engineering plans and calculations stamped by a registered professional engineer. If approved, the credit shall be placed on the appropriate stormwater bill.
- B. The City Engineer or his designee shall inspect the property prior to approving the credit and periodically after the credit is issued to insure compliance with the approved cleanup plan.
- C. If inspections find that the cleanup is no longer proceeding, the City may:
  - i. Require corrective action;
  - ii. Reduce the credit to a level comparable with the clean up work provided;
  - iii. Revoke the credit and require repayment in accordance with LCO 918.09.

### **6. Individual Industrial National Pollutant Discharge Elimination System (NPDES):**

An individual Industrial NPDES credit is provided for properties that are classified as industrial and covered by an individual Industrial NPDES Stormwater Discharge Permit or properties classified as a Phase 1 or Phase 2 community and operating under an individual or general Municipal Separated Storm Sewer Systems Permit. However, this does not include properties that fall under the state wide general Construction Activity permit.

#### **1. General Policies:**

- A. This program is available to all non-single family properties or part thereof.
- B. Credits will be issued on a property-by-property basis.
- C. In no case will the total credit amount be more than the cap identified in LCO 918.13(I).

#### **2. Credits Available:**

NPDES credits may be granted to properties receiving and operating under an individual industrial National Pollution Discharge Elimination System Permit for stormwater or an individual or general Municipal Separated Storm Sewer System Permit issued by the United States Environmental Protection Agency or delegated state authority. NPDES credits may be granted to recognize improved stormwater management and water quality from stormwater discharges as follows:

- A. A 30% credit may be given for a valid NPDES permit covering stormwater discharges.

### **3. Basic Procedures:**

- A. In order to receive NPDES credits, the non-single family property owner will need to submit an application, including application fee, right of entry easement, if applicable, and proof of a valid NPDES permit and Stormwater Pollution Prevention Plan, if applicable. If approved, the credit shall be placed on the appropriate stormwater bill.
- B. The City Engineer or his designee shall investigate the status of the NPDES permit to determine if it is valid and appropriate.
- C. If the NPDES permit is revoked or enforcement action is taken by the issuing authority, the City may :
  - i. Require corrective action;
  - ii. Revoke the credit and require repayment in accordance with LCO 918.09.

## **7. Economic Development Credit**

An economic development credit is provided for properties that are classified as commercial land uses by the Fairfield County Auditor in land use codes 200-299, 300-400, 404-1000.

### **1. General Policies:**

- A. This program is available to all non-single family properties or part thereof.
- B. Credits will be issued on a property-by-property basis.
- C. In no case will the total credit amount be more than the cap identified in LCO 918.13(l).

### **2. Credits Available:**

Economic development credit may be granted to properties classified as commercial by the County Auditor under land use codes 200-299, 300-400, 404-1000. The credit may be granted as follows:

- A. A 10% credit may be given for a valid land use code as identified by the Fairfield County Auditor.

### **3. Basic Procedures:**

- A. In order to receive economic development credit, the non-single family property owner will need to submit an application, including application fee, and copy of the County Auditor record. If approved, the credit shall be placed on the appropriate stormwater bill.
- B. The City Engineer or his designee shall investigate the status of the land use to determine if it is valid and appropriate.
- C. If the land use changes, the City may:
  - i. Revoke the credit and require repayment in accordance with LCO 918.09.

## **8. Phase In Credit**

An phase in credit is available in 2004, 2005 and 2006 for larger stormwater customers with an charge of 50 ERU or greater before credits.

### **1. General Policies:**

- A. This program is available to all non-single family properties or part thereof with an ERU of 50 or greater before credits.
- B. Credits will be issued on a property-by-property basis.
- C. In no case will the total credit amount be more than the cap identified in LCO 918.13(1).

### **2. Credits Available:**

Phase in credits may be granted to properties with an ERU of 50 or greater. The credit may be granted as follows:

- A. A 15% credit may be given for 2004, 10% for 2005 and 5% for 2006.

### **3. Basic Procedures:**

- D. In order to receive the phase in credit, the non-single family property owner will need to submit an application, including application fee. If approved, the credit shall be placed on the appropriate stormwater bill.
- E. The City Engineer or his designee shall investigate the impervious area to determine that the property does meet the requirement.
- F. If the impervious area changes, the City may:
  - a. Revoke the credit and require repayment in accordance with LCO 918.09.

## **9. Credits Rules and Requirements**

- 1. Adjustments for the above credits will be made only to non-single family properties with an ERU greater than five (5) units except for the phase in credit which applies only to non-single family properties with an ERU of 50 or greater.
- 2. Credit applications will not be accepted from any property that has a delinquent utility account.
- 3. Credits apply only to the non-single family property in which the activity applies. Credits may not be transferred to other properties.
- 4. In no case shall the total amount of all credits issued under this Section exceed 50% of the stormwater bill for the property.

### **SECTION III: CREDIT CALCULATIONS EXAMPLES**

1. Management practices submitted for credit consideration shall meet current City of Lancaster drainage requirements where appropriate. Generally these requirements are:
  - Flow must be restricted if existing storm sewer cannot be shown as adequate to handle increased discharge.
  - All excess stormwater runoff must be retained within the boundaries of the development or stormwater easement and stored in a detention facility capable of containing the excess runoff above the undeveloped 2-year storm resulting from a 100-year storm with duration up to 24 hours.
  - Engineer must determine the storm duration that produces the largest detention requirement and design for that volume.
2. The maximum credit to be received will not exceed 50% of the stormwater bill.
3. Only those non-single family properties that contain 5 or more ERU's may apply and/or qualify for credits.
4. No partial credit will be given for any management practice.
5. This does not include properties that fall under the state-wide Construction Activity general permit.
6. Length of review by City staff will be processed as quickly as possible.

#### **Summary of Credit Calculation Process**

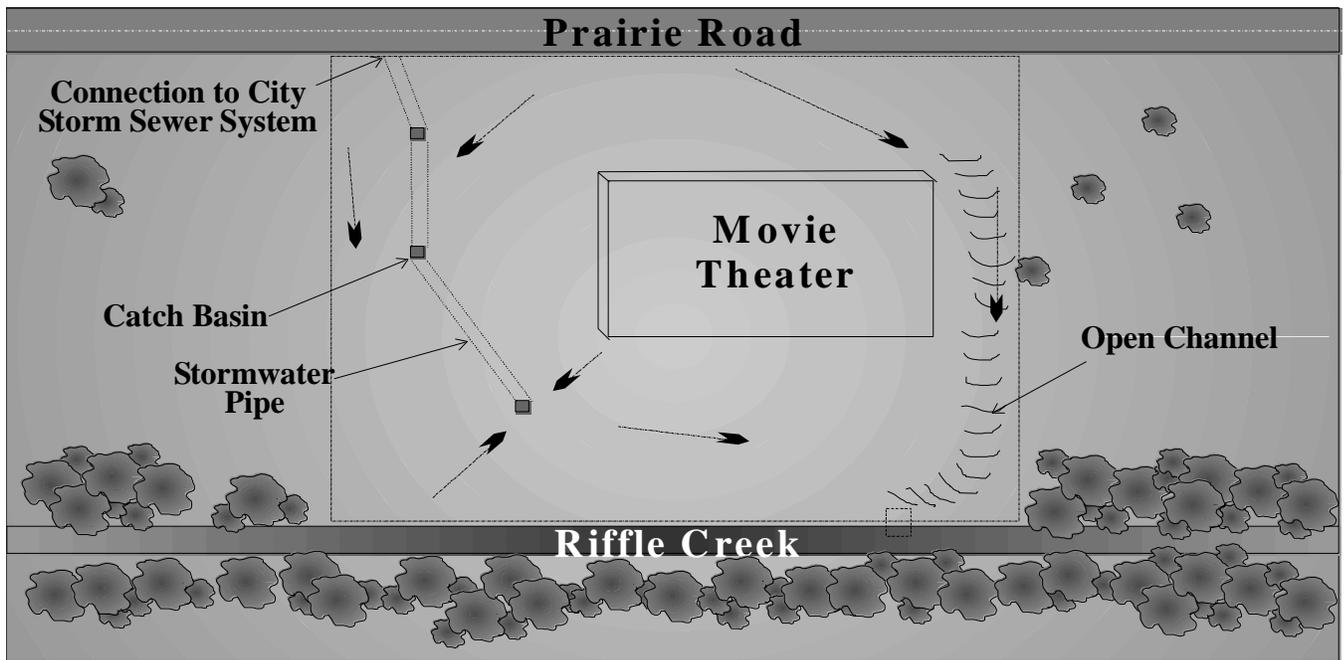
- Step 1. Calculate the estimated impervious area of property prior to credit award.
- Step 2. Determine amount of impervious area subject to credit.
- Step 3. Determine estimated credit and modified stormwater service fee.

#### Abbreviations:

- ERU – Equivalent Residential Unit,
- sf – square feet,
- \* – Multiplied by

#### **Example 1:**

A movie theatre has been constructed on a 10-acre site in the City of Lancaster. The site meets current City of Lancaster drainage requirements. It includes a parking lot, building and city owned open channels that are regularly maintained by the property owner. The impervious area associated with the parking lot and building is 3 acres in size. One half of the impervious area drains to the city owned open channels. The drainage from the remaining portion of the impervious area drains directly into the City maintained storm sewer. The City has determined that maintenance of 50 feet of Riffle Creek provides a cost savings to the City and is eligible for the maintenance credit.



**Given:**

- 10-acre site with 50 feet of channel maintenance approved.
- Open Channel (maintenance credits) are calculated as one half percent per foot of channel.
- Maximum credit is 30%

**Step 1:** Calculate estimated impervious area of property

User fee: \$382.00

**A. ERU = User Fee / Credit**

$$\text{ERU: } \$382.00 / (\$7.64/\text{ERU}) = 50$$

Impervious Area (IA):

IA = ERU \* 2,600 sq. ft. = 50 \* 2,600 sq. ft. = 130,000 sq. ft. (Note due to the ERU rounding the Impervious area is actually slightly less than the actual 130,680 sq. ft.)

**Step 2:** Determine the credit for the site.

- % Credit = 0.5% \* Approved channel length
- % Credit = 0.5% \* 50 feet of channel
- % Credit = 25 %.

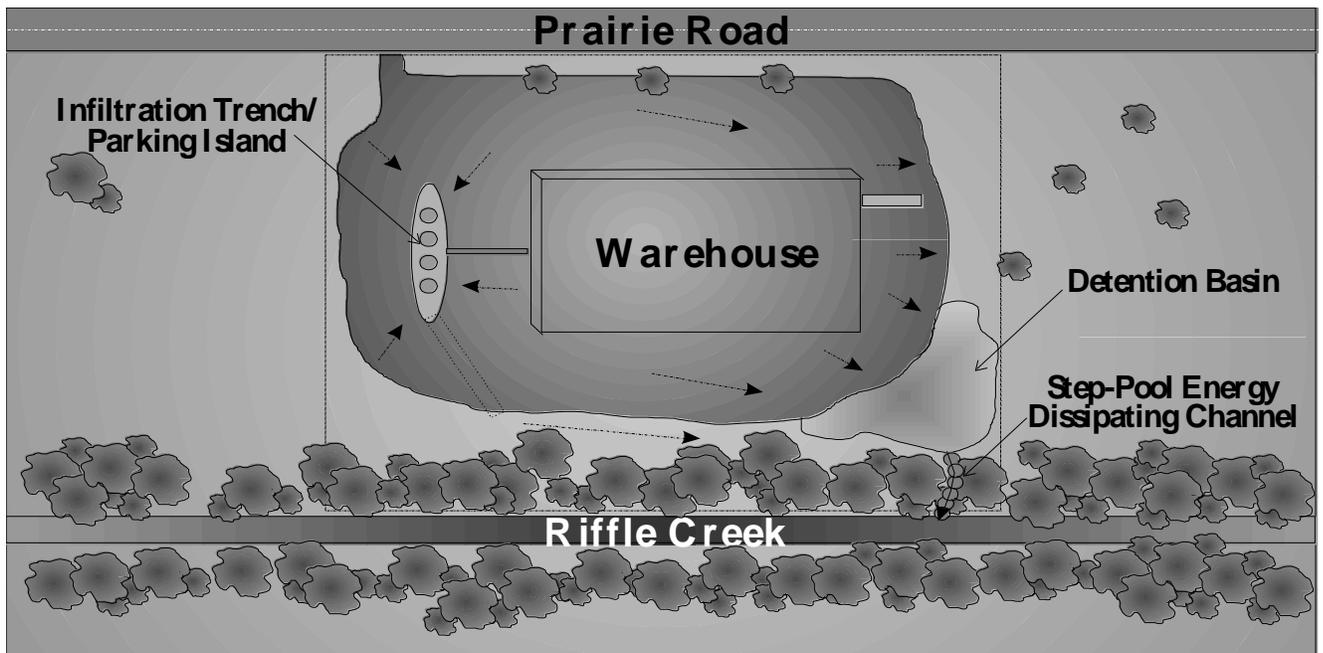
**Step 3:** Determine estimated credit and modified stormwater service fee

$$\text{Reduction (\$)} = \text{ERU's} * \% \text{ Credit} * \$7.64/\text{ERU}$$
$$\text{Reduction (\$)} = 50 * 25\% * \$7.64/\text{ERU} = \$95.50$$

$$\text{Estimated Stormwater Utility Bill} = \text{User Fee (\$)} - \text{Reduction (\$)}$$
$$\text{Estimated Stormwater Utility Bill} = \$382.00 - \$95.50 = \$286.50$$

**Example 2:**

A developer has submitted preliminary plans to construct a warehouse on a 10-acre brownfield site. He has submitted an application for two credits including a Brownfield credit and a detention/retention credit for his basin.



**Given:**

- 10 acre site with 3 acres of impervious area (130,680 sq. ft. of impervious area)
- The detention/retention basin receives 100% of drainage from the impervious area
- Development site has brownfield designation
- 10% credit available for brownfield site for a duration of five years
- 10% credit available for the detention pond

**Step 1:** Calculate impervious area of property

$$3 \text{ acres} \times 43,560 \text{ (sq. ft. in acres)} = 130,680 \text{ sq. ft. of impervious area}$$

**Step 2:** Calculate the number of ERU's for the example property

$$130,680 \text{ sq. ft. of impervious area divided by } 2,600 \text{ (ERU)} = 50.26 \text{ ERU's rounded to } 50 \text{ ERU's}$$

Step 3: Calculate User Fee based on impervious area of property

$$50 \text{ ERU's} \times \$7.64 = \$382.00 \text{ per month}$$

Step 4: Determine area available for credit on site

Detention/Retention Basin

$$\text{MIA} = 130,680 \text{ sq. ft.} \times 100\% \times 0.10 = 13,068 \text{ sq. ft.}$$

Brownfield

$$\text{MIA} = 130,680 \text{ sq. ft.} \times 100\% \times 0.10 = 13,068 \text{ sq. ft.}$$

Step 5: Calculate Credits Percentage

Detention/Retention Basin

$$13,068 \text{ sq. ft.} / 2,600 = 5.03 \text{ ERU Credit rounded to a 5 ERU reduction}$$

Brownfield

$$13,068 \text{ sq. ft.} / 2,600 = 5.03 \text{ ERU Credit rounded to a 5 ERU reduction}$$

$$\text{Total Credit Reduction} - 5 \text{ ERU} + 5 \text{ ERU} = 10 \text{ ERU}$$

$$\text{Total \% Credit} = 10 \text{ ERU} / 50 \text{ ERU} = 20\% \text{ for first five years}$$

$$\text{Total \% Credit} - 5 \text{ ERU} / 50 \text{ ERU} = 10\% \text{ after five years}$$

Step 6: Determine estimated credit and modified stormwater service fee

$$\text{Reduction (\$)} = \text{ERU} \times \% \text{ Credit} \times \$7.64/\text{ERU}$$

$$\text{Reduction (\$)} = 50 \times 20\% \times \$7.64/\text{ERU} = \$76.40$$

$$\text{Estimated Stormwater Utility Bill} = \text{User Fee (\$)} - \text{Reduction (\$)}$$

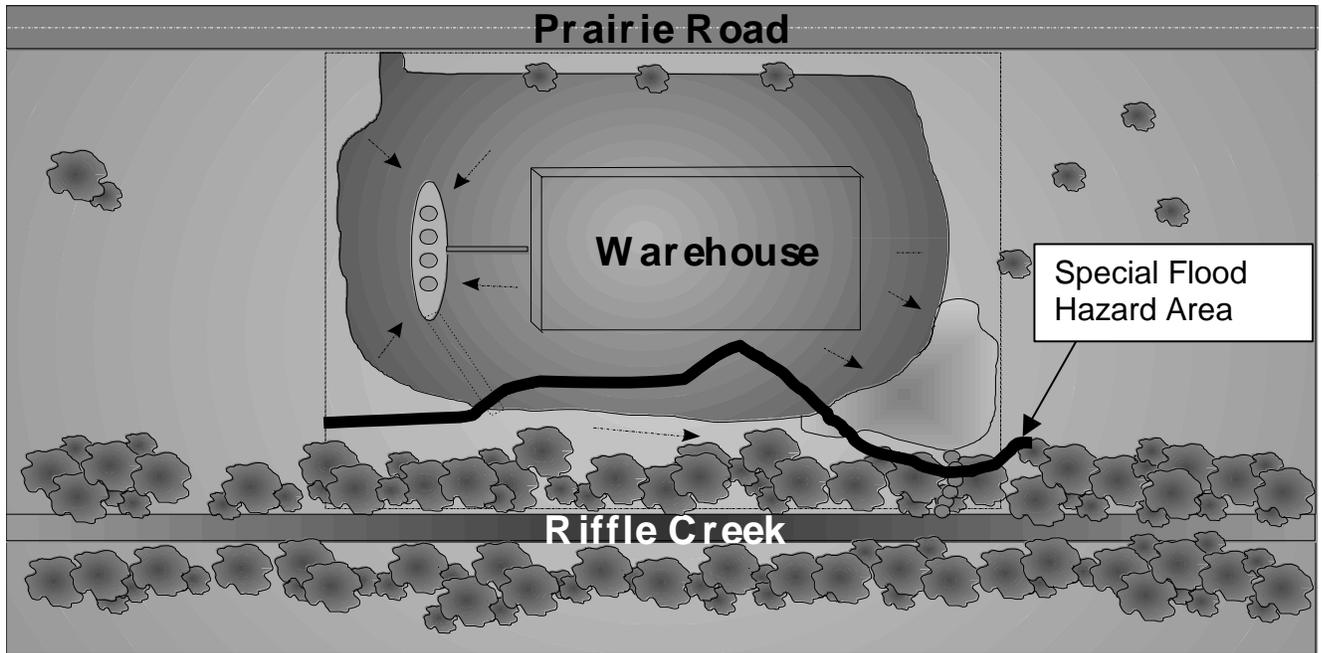
$$\text{Estimated Stormwater Utility Bill} = \$382.00 - \$76.40 = \$305.60$$

***Total Credit Available and Timing***

Time Period (yr.)	Brownfield Credit (\$)	Detention Basin Credit (\$)	Total Service Charge Reduction (\$)	Estimated Stormwater Utility Bill (\$)
1	38.20	38.20	76.40	305.60
2	38.20	38.20	76.40	305.60
3	38.20	38.20	76.40	305.60
4	38.20	38.20	76.40	305.60
5	38.20	38.20	76.40	305.60
> 5	0	38.20	38.20	343.80

**Example 3:**

A property owner has a warehouse on a 10-acre site. The site contains a flood hazard area for which he obtained a permit to develop 14% of the area. The remaining 86% is maintained at the undeveloped elevations. He has submitted an application for a preservation of the 100-year special flood hazard area credit.



**Given:**

- 10 acre site with 3 acres of impervious area (130,680 sq. ft. of impervious area)
- 86% of the Special flood hazard area is preserved
- Preservation of 100-year special flood hazard area calculated at 0.1% per percent preserved.

**Step 1:** Calculate estimated impervious area of property

User fee: \$382.00

**B. ERU = User Fee / Credit**

ERU:  $\$382.00 / (\$7.64/\text{ERU}) = 50$

Impervious Area (IA):

$IA = \text{ERU} * 2,600 \text{ sq. ft.} = 50 * 2,600 \text{ sq. ft.} = 130,000 \text{ sq. ft.}$  (Note due to the ERU rounding the impervious area is actually slightly less than the actual 130,680 sq. ft.)

**Step 2:** Determine the credit for the site.

$\% \text{ Credit} = 0.1\% * \% \text{ preserved} / \%$

$\% \text{ Credit} = 0.1\% * 86\% \text{ preserved} / \%$

% Credit = 8.6% rounded to 9%

**Step 3:** Determine estimated credit and modified stormwater service fee

Reduction (\$) = ERU \* % Credit \* \$7.64/ERU

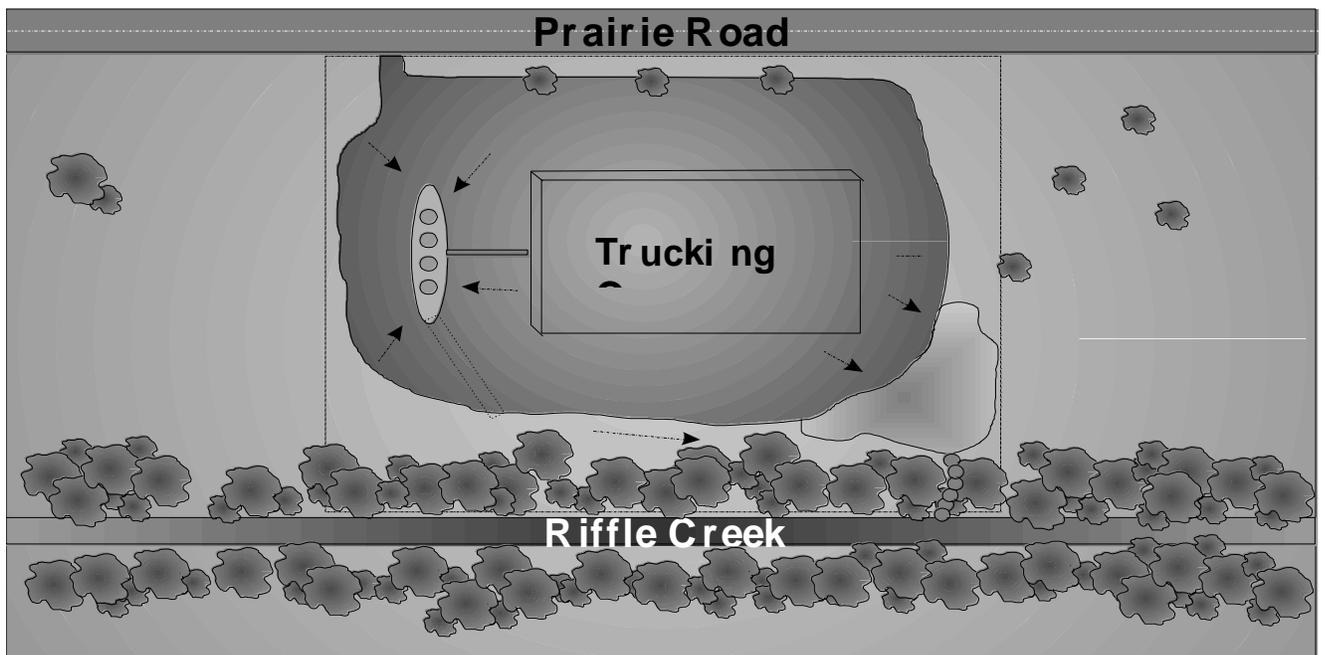
Reduction (\$) = 50 \* 9% \* \$7.64/ERU = \$34.38

Estimated Stormwater Utility Bill = User Fee (\$) - Reduction (\$)

Estimated Stormwater Utility Bill = \$382.00 – \$34.38 = \$347.62

**Example 4:**

A property owner has a trucking company on a 10-acre site. When the site was constructed in 1998 the owner was required by Ohio EPA to obtain an individual NPDES permit for stormwater discharges. He has submitted an application for an individual NPDES permit credit.



**Given:**

- 10 acre site with 3 acres of impervious area (130,680 sq. ft. of impervious area)
- NPDES Permit was issued by Ohio EPA in 1999
- NPDES permit credit is 30%

**Step 1:** Calculate estimated impervious area of property

User fee: \$382.00

**C. ERU = User Fee / Credit**

ERU: \$382.00/ (\$7.64/ERU) = 50

Impervious Area (IA):

$IA = ERU * 2,600 \text{ sq. ft.} = 50 * 2,600 \text{ sq. ft.} = 130,000 \text{ sq. ft.}$  (Note due to the ERU rounding the impervious area is actually slightly less than the actual 130,680 sq. ft.)

Step 2: Determine the credit for the site.

% Credit = 30%

Step 3: Determine estimated credit and modified stormwater service fee

Reduction (\$) =  $ERU * \% \text{ Credit} * \$7.64/ERU$   
Reduction (\$) =  $50 * 30\% * \$7.64/ERU = \$114.60$

Estimated Stormwater Utility Bill = User Fee (\$) - Reduction (\$)  
Estimated Stormwater Utility Bill =  $\$382.00 - \$114.60 = \$267.40$

**Example 5:**

An existing bank property has an impervious area of 30,000 sq. ft. and a county land use code of 444. The manager has submitted an application for an economic development credit.

**Given:**

- 30,000 sq. ft. of impervious area
- County Land Use Code 444 Full Service Bank
- Economic Development credit is 10%

Step 1: Calculate estimated impervious area of property

User fee: \$91.68

**D. ERU = User Fee / Credit**

ERU:  $\$91.68 / (\$7.64/ERU) = 12$

Impervious Area (IA):

$IA = ERU * 2,600 \text{ sq. ft.} = 12 * 2,600 \text{ sq. ft.} = 31,200 \text{ sq. ft.}$  (Note due to the ERU rounding the Impervious area is actually slightly higher than the actual 30,000 sq. ft.)

Step 2: Determine the credit for the site.

% Credit = 10%

Step 3: Determine estimated credit and modified stormwater service fee

Reduction (\$) =  $ERU * \% \text{ Credit} * \$7.64/ERU$   
Reduction (\$) =  $12 * 10\% * \$7.64/ERU = \$9.17$

Estimated Stormwater Utility Bill = User Fee (\$) - Reduction (\$)

Estimated Stormwater Utility Bill = \$91.68 – \$9.17 = \$82.11

**Example 6:**

The trucking company from Example 4 has revised his application to include the economic development and phase in credits.

Given:

- 10 acre site with 3 acres of impervious area (130,680 sq. ft. of impervious area)
- NPDES Permit was issued by Ohio EPA in 1999
- NPDES permit credit is 30%
- Land Use Code is 480 Commercial Warehouses
- Economic development credit is 10%
- Phase in credit is 15% for 2004, 10% for 2005 and 5% for 2006

Step 1: Calculate estimated impervious area of property

User fee: \$382.00

**E. ERU = User Fee / Credit**

ERU:  $\$382.00 / (\$7.64/\text{ERU}) = 50$

Impervious Area (IA):

IA = ERU \* 2,600 sq. ft. = 50 \* 2,600 sq. ft. = 130,000 sq. ft. (Note due to the ERU rounding the impervious area is actually slightly less than the actual 130,680 sq. ft.)

Step 2: Determine the credit for the site.

NPDES Credit

130,680 sq. ft. / 2,600 \* 30% = 15.08 ERU Credit rounded to a 5 ERU reduction

Economic Development Credit

130,680 sq. ft. / 2,600 \* 10% = 5.03 ERU Credit rounded to a 5 ERU reduction

Phase In Credit

130,680 sq.ft./2600 \* 15% = 7.54 ERU Credit rounded to an 8 ERU reduction 2004

130,680 sq. ft./2600 \* 10% = 5.03 ERU Credit rounded to a 5 ERU reduction in 2005

130,680 sq. ft./2600 \* 5% = 2.51 ERU Credit rounded to a 3 ERU reduction in 2006

Step 3: Determine estimated credit and modified stormwater service fee

***Total Credit Available and Timing***

Time Period (yr.)	NPDES Credit (\$)	Economic Development Credit (\$)	Phase In Credit (\$)	Total Service Charge Reduction (\$)	Estimated Stormwater Utility Bill (\$)
2004	114.60	38.20	57.30	191.00 (50% cap)	191.00
2005	114.60	38.20	38.20	191.00	191.00
2006	114.60	38.20	19.10	171.90	210.10
2007	114.60	38.20	0	152.80	229.20
2008	114.60	38.20	0	152.80	229.20
2009	114.60	38.20	0	152.80	229.20

#### **SECTION IV. ANNUAL REPORTING REQUIREMENTS:**

Annual reporting is required by all credit recipients to maintain the service fee reduction. A letter or report that describes the status, operation and maintenance of each management practice is to be submitted to the City of Lancaster, Department of Engineering no later than two weeks (14 days) following the anniversary date of the original credit award. Failure to submit the annual report will result in cancellation of the credit. In addition, the City reserves the right to periodically inspect the credited management practice to assure city requirements are being followed. The annual report will generally require the following information:

- Utility Billing Account Number
- Applicant statement certifying that the conditions under which the credit was originally issued have substantially remained the same;
- Applicant statement certifying that if structural management practices are receiving credit, they are being inspected and maintained within appropriate standards for the management practice;
- Summary of regular inspection results; and
- Summary of maintenance activities.

#### **Submit reports to: Department of Engineering**

Denise Crews, P.E.  
Department of Engineering  
Municipal Annex Building, Suite 100  
121 East Chestnut Street  
Lancaster, Ohio 43130-3825  
Phone: (740) 681-5070

**SECTION V: CREDIT APPLICATION FORMS**

**LANCASTER STORMWATER CREDIT APPLICATION FORM**

**SECTION A - APPLICANT**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_ Fax: ( \_\_\_\_\_ ) \_\_\_\_\_

Email: \_\_\_\_\_

Account Number: \_ \_ \_ \_ \_

**SECTION B - SITE INFORMATION**

Name: \_\_\_\_\_

Stormwater Billing Account No: \_\_\_\_\_

Location: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Impervious Area: \_\_\_\_\_ ERU's \_\_\_\_\_

**SECTION C - ENGINEER OF RECORD**

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_ Fax: ( \_\_\_\_\_ ) \_\_\_\_\_

Email: \_\_\_\_\_

**CERTIFICATION:**

\_\_\_\_\_  
Name Title

\_\_\_\_\_  
Signature Date

A. ENGINEER SEAL

**SECTION D-DATA REQUIRED FOR SUBMISSION**

<b>Type of Data</b>	<b><u>Submitted</u></b>	<b><u>Accepted</u></b>
<b>Site Plans and Survey</b>		
<b>Design Calculations</b>		
<b>Construction Drawings (as built , proposed construction)</b>		
<b>Maintenance Agreement and Manual</b>		
<b>Easement, Deed Restriction for long term maintenance</b>		
<b>NPDES Permit, other information</b>		
<b>Brownfield Certification, other information</b>		

**SECTION E-CITY OF LANCASTER STORMWATER CREDIT SUMMARY**

<b>Credit Option</b>	<b>Available Credit</b>	<b>Credit Requested</b>
<b>Detention / Retention</b>	<b>10% - 30%</b>	
<b>Preservation</b>	<b>10% - 30%</b>	
<b>Education</b>	<b>up to 50%</b>	
<b>Maintenance</b>	<b>10% - 30%</b>	
<b>Brownfield Reuse</b>	<b>10%</b>	
<b>Industrial NPDES</b>	<b>10% - 30%</b>	
<b>Adopt a Road</b>	<b>10% - 30%</b>	
<b>Economic Development</b>	<b>10%</b>	
<b>Phase In</b>	<b>5%-15%</b>	
<b>TOTAL*</b>	<b>50%</b>	

- **The maximum credit to be received will not exceed 50% of the stormwater bill.**

\_\_\_\_\_

Name

\_\_\_\_\_

Title

\_\_\_\_\_

Signature

\_\_\_\_\_

Date

## **Maintenance Agreement**

**LANCASTER STORMWATER CREDIT  
MANAGEMENT PRACTICE MAINTENANCE AGREEMENT**

**APPLICANT:**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: (\_\_\_\_) \_\_\_\_\_ Fax: (\_\_\_\_) \_\_\_\_\_

Email: \_\_\_\_\_

**PROJECT INFORMATION:**

Name of project: \_\_\_\_\_

Location: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Type of management practice: \_\_\_\_\_

**CERTIFICATION:**

I hereby request consideration for a Maintenance Credit. I certify that I have authority to make such a request and authorization for this property. I further certify that the above information is true and correct to the best of my knowledge and belief. I agree to maintain the above stated Management Practice to the prescribed criteria according to the City of Lancaster. I hereby release the City of Lancaster from any maintenance responsibility whatsoever on the above identified management practice located on my property. I agree to provide corrected information should there be any change in the information provided herein.

\_\_\_\_\_

Name

\_\_\_\_\_

Title

\_\_\_\_\_

Signature

\_\_\_\_\_

Date