



TOWNSHIP OF FERGUSON

Stormwater Management Program

Credit Manual -2021

DRAFT



Your guide to reducing your stormwater fee and protecting Ferguson's water resources.

Township of Ferguson
Public Works Department

November, 2020

Ferguson Township

Stormwater Protection Program

Credit Manual

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Why manage stormwater?

Stormwater is rain and melted snow that “runs off” the land. In natural, undeveloped areas, soil absorbs and filters most of the stormwater in a process called infiltration. The water that runs off the land in Ferguson impact the Spruce Creek Watershed and Halfmoon Creek, Spruce Creek, Beaver Branch and Slab Cabin Run.

During development, natural areas are replaced with roofs, driveways, sidewalks, and streets. These hard surfaces, called impervious surfaces, do not allow water to penetrate them. Stormwater runoff carries fertilizers, sediment, oil, grease, heavy metals, trash, and anything else deposited on impervious surfaces directly into the Township’s storm drain system and natural stream systems. This can cause:

- Erosion of streams and decreased water quality;
- Contamination of downstream water quality and drinking water supplies; and,
- Flooding, property damage, and damage to public storm drains.

Ferguson Township is taking action to clean up our community’s polluted stormwater runoff and to make investments in our aging stormwater infrastructure. Half of the Township’s pipes are corrugated metal pipe that has met or exceeded its projected life and is deteriorating. This will not only help to improve water quality and our environment for future generations, but also help protect residents and private property from damage due to flooding.

Did you know that Ferguson ...

- **Maintains over 33 miles of pipe and channels, 2,000 catch basins, and 56 miles of curbing to channel runoff safely from roadways?**

Half of pipe the system is deteriorating because corrugated metal performance life is met or exceeded and can’t meet today’s needs.

- **Plants and maintains trees across the Township?**
Trees help decrease runoff and cool the urban environment.
- **Is required by state and federal law to reduce stormwater pollution and improve the quality of our local streams?**



Stormwater Protection Program

Ferguson Township has been working diligently to develop solutions to our water quality and flood control challenges. After considering different options, the Township has implemented a stormwater utility fee. A stormwater utility fee is a charge based on the amount of impervious area on a property.

This approach has several advantages. First, it fairly distributes the cost of the Township’s stormwater services since the amount of impervious area is related to the amount of stormwater that must be managed and all property owners directly benefit from a well maintained and regulated drainage management system. This concept is similar to measuring usage and calculating fees for drinking water and sanitary sewer services. Second, the amount of the fee must be linked to demonstrated need for publicly provided stormwater management services addressing flood abatement, water quality protection, infrastructure operation and maintenance, and regulatory compliance. All revenue is deposited into a special fund that can only be used for stormwater management.

How is the fee calculated?

Since a stormwater utility is a fee for service, all properties are charged regardless of their tax status. In Ferguson, properties are charged in increments of 1,000 square feet (SF) of impervious area. These are called “billing units.” Fractions are rounded to the nearest whole number. For example, the property below results in three billing units. The number of billing units is then multiplied by the rate adopted by the Township Board of Supervisors.

Sample Property	Factor	Calculation
	Impervious Area	53,873 Square Feet
	Billing Unit	1,000 Square Feet
	Number of Billing Units on Property	$53,873 \div 1,000 = 53.8$
	Natural Rounding	54 Billing Units
	User Fee	54 Billing Units x Rate Set by Township Board of Supervisors

A property with less than 500 SF of impervious area results in a billing unit of zero and is therefore not assessed a fee.

Can I reduce my bill?

Yes! Another advantage of a stormwater utility fee approach is that it allows the Township to provide “credits” to property owners who have implemented practices that reduce the impact of stormwater on the publicly-managed system.

Ferguson property owners can reduce their fee in two ways:

[1] Reduce your impervious area.

Property owners can remove un-needed impervious area. If the removal of impervious area results in fewer billing units, there is a reduction in the total fee charged. The Township’s Engineering Division is happy to work with any property owner to assess whether a planned reduction will result in a lower fee.

[2] Take credit for a stormwater management structure on your property.

The Township will provide credit to property owners who operate and maintain qualifying stormwater management structures. These private structures help the Township by reducing the cost of managing the public system. Typical facilities include dry ponds, wet ponds and wetlands, bioretention, bioswales and filter strips, permeable pavers, and green roofs.



A stormwater structure, such as the bioretention facility above, may qualify a property owner for a credit on the stormwater utility fee.

This manual provides a step-by-step process for determining whether your stormwater structure qualifies for credit.

Will the Township help partner if I want to improve my property?

To assist willing property owners, the Township has implemented a program designed to help property owners who have pipe or basins that perform a public function by carrying stormwater across their property or receive stormwater flow from the publicly owned and operated drainage system. The partnership program is a part of the capital improvement strategy for maintaining the stormwater system.

Some of these practices are eligible for credits if designed and maintained to meet certain standards.

Credit Policy

The Township will provide a stormwater utility fee credit for any stormwater management structure, whether built voluntarily or as a condition of development, if it meets the requirements in the Credit Eligibility Table:

Credit Eligibility Table for Post Construction Structures

Component	Requirement
<p>Technical Standards</p>	<ul style="list-style-type: none"> ● Condition of Development The structure is designed, installed, and accepted by the Township in accordance with the technical standards required by the Township at the time of construction). ● Voluntary The structure is designed, installed, and accepted by the Township in accordance with the technical standards required at the time of development and installation. Other standards may be approved at the discretion of the Township if they meet the treatment requirements of the Township's Municipal Separate Storm Sewer System (MS4) permit.
<p>Maintenance Agreement</p>	<ul style="list-style-type: none"> ● The structure must be subject to a properly executed maintenance agreement with the Township. ● For a voluntarily implemented structure, the maintenance agreement must be for at least a 20-year period from the date the structure becomes operational unless a different amount of time is agreed to in writing by the Township. When the agreement expires, it may be renewed or allowed to lapse, the latter of which will result in the credit being discontinued. ● As a condition for a new or renewed credit, the Township may require an existing maintenance agreement to be updated to meet current standards for maintenance and inspection.
<p>Function Verification</p>	<ul style="list-style-type: none"> ● The structure must be functioning as designed. ● This requirement is satisfied if the structure has previously been accepted by the Township, has passed its most recent inspection, and is compliant with any reporting requirements contained in the maintenance agreement. ● If the above conditions have not been met, this requirement is satisfied if a professional engineer or other professional recognized by the Township certifies that the structure is operating as designed. ● If the structure fails a Township inspection, the Township will revoke the credit if corrective actions are not taken within the time specified by the Township.

How much credit can I get?

The Township’s credit system accounts for the fact that different structures and design standards provide different levels of benefit. Some structures provide only quality or flood control, while others provide both. Some structures provide higher levels of pollutant reduction than others. The credit system is also designed to encourage redevelopment of existing impervious areas and to incentivize voluntary installation of structures by a property owner. The following credit amounts will be applied to an eligible stormwater management structure.

Credit Amount Table for Post Construction Structures

Required versus Voluntary		Design Standard	Credit
Condition of Development	Control of New Impervious Cover	Meets design criteria at the time of installation or exceeds minimum standards up to 20%.	10%
		Exceeds minimum standards by more than 20%.	15%
		Provides recharge of groundwater and designed to meet minimum standards.	20%
Quantity Control	Control of Existing Impervious Cover (e.g. Redevelopment)	Meets design criteria at time of development.	10%
Conditions of Development – Quality Control Best Management Practices		Provides water quality treatment and meets minimum design standards at time of development.	20%
Voluntary Installation of Best Management Practices		Additional credit if the structure is installed voluntarily and meets design standards at time of development.	10%

Credit Eligibility Table for Low Impact Development

Low impact development practices reduce the impacts of land use activities on the publicly operated drainage system or reduce pollutant loading to the natural systems. These include the disconnected impervious area, riparian buffers and flood plain protection, and nutrient management plan implementation.

Component	Requirement
Technical Standards	<ul style="list-style-type: none"> Condition of Development or Regulatory Mandate If a structure, it is designed, installed, and accepted by the Township in accordance with the technical standards required by the Township at the time of construction). If a practice, documentation demonstrates activity,

Component	Requirement
	<p>implementation, and continued compliance with the strategy (e.g., nutrient management plan).</p> <ul style="list-style-type: none"> ● Voluntary Structure or Best Practice The structure is designed, installed, and accepted by the Township in accordance with the technical standards required at the time of development and installation. Other standards may be approved at the discretion of the Township if they meet the treatment requirements of the Township’s Municipal Separate Storm Sewer System (MS4) permit. The practice meets current standards as implemented in the Commonwealth and recognized by professional organizations such as national standards for Golf Course Superintendents Association or USDA Conservation Stewardship Programs.
<p>Maintenance Agreement - Structures</p>	<ul style="list-style-type: none"> ● Structure must be functioning as designed. ● A structure must be subject to a properly executed maintenance agreement with the Township. ● As in the case of the Post Construction facilities, for a voluntarily implemented structure, the maintenance agreement must be for at least a 20-year period from the date the structure becomes operational unless a different amount of time is agreed to in writing by the Township. When the agreement expires, it may be renewed or allowed to lapse, the latter of which will result in the credit being discontinued. ● As a condition for a new or renewed credit, the Township may require an existing maintenance agreement to be updated to meet current standards for maintenance and inspection.
<p>Function or Practice Implementation Verification</p>	<ul style="list-style-type: none"> ● A structure must be functioning as designed. <ul style="list-style-type: none"> ○ This requirement is satisfied if the structure has previously been accepted by the Township, has passed its most recent inspection, and is compliant with any reporting requirements contained in the maintenance agreement. ○ If the above conditions have not been met, this requirement is satisfied if a professional engineer or other professional recognized by the Township certifies that the structure is operating as designed. ○ If the structure fails a Township inspection, the Township will revoke the credit if corrective actions are not taken within the time specified by the Township. ● Practice implementation must be verified by submittal of a status report to the Township that provides documentation of action taken. This is required after the first year the credit was granted and every three years thereafter.

Credit Amount Table for Low Impact Structures and Practices

Required versus Voluntary		Design Standard	Credit
Green Stormwater Infrastructure (Facility or Practice)	BMP Enhanced Pollutant Control and Riparian Buffers	Meets design criteria at the time of installation exceeds minimum standards by 15%.	15%
		BMP Operations and Maintenance Plan with inspection records provided by property owner. Additional credit provided.	5%
		Record riparian plan with Township for operations and maintenance and provide documentation on buffer length, width, and vegetation management.	30%
	Disconnected Impervious Area	Documentation that provides the ration of impervious area to total lot area and documents boundary of area.	5%
Voluntary Installation of Best Management Practices		Documentation based on criteria above for structure or practice that demonstrates the facility or practice was not mandated by regulatory agencies or the Township.	5%

Credit Eligibility and Amount Table for Agricultural Business Operations

Agricultural Business Operations provide a unique opportunity to consider credits for compliance with state or federal mandates for erosion and sediment control, manure management, and/or stream buffer plantings that contribute directly to the protection or improvement of water quality to receiving streams within the Township. These credits apply ONLY to properties that are working farms within the Township.

Agri-Business	Performance Standard	Credit
Agriculture Business Operations	Compliance with state and/or federal mandates for erosion and sediment controls. Compliance with state and/or federal manure management plans. Current plans are in place and approved, as appropriate, by the Centre County Conservation District (CCCD). Documentation provided to the Township of approved plans and resubmitted every three years. If the agricultural operation is no longer on-going, the credit will be revoked.	15%
	Stream buffer plantings or other BMPs to provide water quality treatment. Minimum 35' buffer on streams up to 150' buffer dedicated, managed and protected. Water quality BMPs, reviewed by CCCD and submitted to the Township for review at time of credit application.	20% to 40%

Credit Eligibility and Amount Table for Public Engagement and Education Activities

These credits are applied ONLY for fees charged on properties owned by schools (public and private, K-12), non-profits, businesses. The events should be routinely held or conducted, are valid for a three-year period, and must be renewed by September 30 in the third year of the award. These are community-based activities that support the Township's compliance with the water quality MS4 permit.

Activity	Performance Standard	Credit
Community Engagement in Water Quality Protection	Provide opportunity for the entire Township to participate in stream clean-up, rain barrel workshop, best practices for reducing negative impacts on receiving waters. Achieve pre-defined measure of success (miles cleaned, lbs. removed, number of participants, number of training sessions)	15%
Educational Activities	Coordinating with Township for educational content that is age-appropriate and no less than in a 4-week module for K-12 science, social studies, or other relevant course, with specific messages to target Township goals for education as defined within the MS4 permit.	20% to 40%

Common Questions

- **Does the credit apply to the entire property?** For structural facilities (Post Construction and Green Infrastructure) the credit only applies to the impervious area draining to the structure, not the entire property.
- **Can I take credit for impervious area from another property?** Yes, but only if the area is not subsequently treated by a structure on the contributing property. However, in no case can the credit taken by a property owner exceed 40% of the total stormwater utility fee for the property.
- **What about structures that are maintained by a homeowner's association?** These structures are subject to specific procedures and are addressed later in this manual (see page 9).
- **How do I know the design standard for my structure?** The Township will assign the design standard based on when the development was reviewed and approved, which aligns with the Township stormwater requirements at that time.
- **What if my structure exceeded the design standard in place at the time of development?** Most structures were designed to meet the overall requirements for the property at the time of development. The Township will grant an additional 5% credit as stated in the summary table on Page 5 for those that exceed more than 20% over the design standard requirement.
- **Why can't I get 100% credit on my stormwater bill?** The Township's stormwater program is designed to be comprehensive and includes public services such as rehabilitation and replacement of the storm drainage system, and regulatory compliance. All properties receive a benefit from the overall program and therefore contribute to the funding needed for stormwater management.
- **If I build a structure using Township cost-share funds, does that affect my credit?** Yes. Under the Partnership Program a credit will be reduced by the percent of public funds used to design and install (or retrofit) the structure. The reduction applies for the expected functional life-time of the structure (20 years unless otherwise provided by the Township).

Post Construction and Green Stormwater Structures serving homeowner associations.

A stormwater management structure may be operated and maintained by a homeowner association (HOA) on behalf of its members. **In these cases, the credit applicant is the association, not the individual property owners.** This is because some properties that belong to the association pay for maintenance of the structure but may not actually drain to the structure. Conversely, some properties that drain to the structure may not belong to the association.

HOAs have two options and should contact the Township's Engineer for more information prior to submitting a credit application.

Separate Billing and Consolidated Credit

The HOA and individual property owners will be billed separately for their impervious area. However, credit for the stormwater structure(s) is analyzed as if the HOA was a single property. When submitting an application, the association enters the total impervious area within the association boundary draining to the structure. The resulting credit is provided to the association. If the amount of the HOA's utility bill is less than the credit, the HOA will receive a check from the Township. It is then up to the association, on behalf of its members, to determine how to distribute the credit among property owners (direct payment, reduction in HOA fees, deposit into a structure maintenance fund, etc.).

How and when do I apply?

A Credit Application Form must be submitted to the Township by the operator of the structure, or his/her legal agent, and approved by the Township’s Engineering Division to receive credit no later than September 30 for the following fiscal year user fees. Separate forms may be needed when there are multiple structures that are eligible for different credit levels. Once an application is approved, it will be applied to the next full billing period. Credits are not retroactively applied to a previous billing period.

Credit Application Checklist

Documentation	Description
Credit Application Form	This form is located under Forms at the end of this manual.
Structure Certification Form	This form is required ONLY if the structure has not been approved by the Township and accepted into the Township’s inspection program. The form is completed under the authority of a professional engineer or other qualified professional. The form must include certification that the structure is functioning as originally designed.
The following must be submitted on request if not on-file with the Township:	
Drainage Area Map	Provide a to-scale map showing property lines, impervious areas, stormwater drainage area boundaries, and the total impervious cover draining to the structure(s).
Structure Design Plan/As-Built Drawing	Provide the design plan and as-built drawing for the structure(s).
Maintenance Agreement	Provide a copy of the agreement that allows the Township access to the site and establishes enforceable maintenance and reporting requirements. An updated maintenance agreement may be required as a condition of receiving credit.

Do I need to re-apply for credit?

At the discretion of the Township, credit will continue to renew on an annual basis provided that the operator complies with all requirements of the maintenance agreement. The Township reserves the right to change the criteria for receiving credit or require additional information for the operator of the structure to continue receiving credit.

The Township will periodically inspect properties to verify functionality of the structures or best practices. If the inspection results in a determination of non-compliance or performance with the terms of the credit, the property owner will be provided time to make corrections/improvements. If such deficiencies are not corrected, the credit will be revoked.

Credit Application Form Structures and Buffers

FILL OUT THIS FORM FOR EACH STORMWATER MANAGEMENT STRUCTURE IF THERE ARE MULTIPLE STRUCTURES ON A PROPERTY

Applicant Name:

Date:

Property Information:

Owner

Street

Township, State, ZIP Code

Property Type

Choose an item.

Mailing Address: (if different from property address)

Street

Township, State, ZIP Code

Email Address:

Phone Number:

Homeowner Association Information:

Is the structure operated by a homeowner association?

Yes No

Facility/Buffer Information:

Leave blank if information is unknown.

Facility, Buffer or Practice Type

Year of Installation

If buffer, width & length in feet:

W _____ L _____

If buffer, name stream protected:

Was this facility/buffer constructed as a condition of development? Yes No

If structure was a condition of development, was the facility designed to control new impervious cover, existing impervious cover, or a combination of both?

New Impervious Cover

Existing Impervious Cover

Both New and Existing Impervious Cover

Impervious Area Treated:

New Impervious Area Treated SF

Existing Impervious Area Treated SF

Total Impervious Area Treated SF

Additional Information:

Please include additional information if necessary either in the box below or as a separate attachment:

The following supporting documentation may be required if it is not already on-file with the Township. Township staff will contact the applicant if the information is needed.

- **Drainage Area Map** – A to-scale map showing property lines, impervious areas, stormwater drainage area boundaries, and the total impervious cover draining to the structure(s).
- **Structure Design Plan/As-Built Drawing** – A design plan and as-built drawing for the structure(s).
- **Maintenance Agreement** – A copy of the agreement that allows the Township access to the site and establishes enforceable maintenance and reporting requirements. An updated maintenance agreement may be required as a condition of receiving credit.

Certification and Inspection Agreement

- I am the legal operator or I am duly authorized to act on behalf of the legal operator, I have reviewed the information contained in this application and the supporting documentation, and to the best of my knowledge believe that it is true and accurate.
- I commit to maintaining the stormwater management structure in good working condition.
- I authorize the Township or its representative to enter the site for the sole purpose of visually inspecting the stormwater management structure.
- I understand that if an inspection by the Township indicates that the structure is not properly maintained, that the structure will no longer be eligible for credit if deficiencies are not corrected within the timeframe provided by Township staff.

Name/Title:

Signature _____ Date _____

Return this form and supporting documentation to:

Ferguson Township

Credit Application Form Non-Structural/Buffers

FILL OUT THIS FORM FOR EACH STORMWATER PRACTICE (NUTRIENT MANAGEMENT PLAN, DISCONNECTED IMPERVIOUS AREA, INFILTRATION PRACTICE/GROUNDWATER RECHARGE) IF THERE ARE MULTIPLE ACTIVITIES/PRACTICES ON A PROPERTY.

Applicant Name: **Date:**

Property Information:

Owner

Street

Township, State, ZIP Code

Property Type Choose an item.

Mailing Address: (if different from property address)

Street

Township, State, ZIP Code

Email Address:

Phone Number:

Information:

Please include detailed information if necessary either in the box below or as a separate attachment to describe the activity or practice. Identify the credit applied for on this property.

Structure Certification Form

FILL OUT THIS FORM ONLY IF THE STRUCTURE HAS NOT ALREADY BEEN ACCEPTED INTO THE TOWNSHIP'S INSPECTION SYSTEM

Applicant Name:

Date:

Property Information:

Owner

Street

Township, State, ZIP Code

Property Type

Choose an item.

Structure Type:

Year Built:

Design Standard:

Impervious Area Treated (SF):

General Condition:	Yes	No	N/A
Is the primary outfall pipe/ ditch clear and functioning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the inflow pipes/ ditches clear and functioning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the water quality pool at the correct height (if present)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are water quality pool control weirs, pipes, etc. working properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are emergency overflow devices clear and functional (if present)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the structure clear of sediment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the structure clear of trash?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are embankments free of erosion, woody vegetation (unless called for in the design), animal burrows, or signs of deterioration?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is vegetation being managed in a manner appropriate to the facility?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Certification

This certification must be made by or under the guidance of a licensed professional engineer, landscape architect, or other professional recognized by the Township to make this certification.

- Based on a visual inspection of the above facility conducted on I certify that the structure is currently functioning as designed.
- I certify that the total impervious area served by the structure is true and accurate.

Attach documentation of the structure inspection, including photographs.

Name:

Qualification:

Address of Inspector:

Email:

Phone:

Signature _____ **Date** _____

Return this form and supporting documentation to:

Ferguson Township