



Stormwater Credits Manual

**Department of
Water Resources
Gwinnett County, GA**

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Stormwater Credits Manual
Department of Water Resources
Gwinnett County, Georgia

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*Historical Appendix B & C were combined into Appendix A during credit manual revisions in 2008.

Overview

As development occurs, the amount of stormwater runoff increases since there is less vegetated area to soak up rainfall. This leads to an increased risk of flooding and erosion due to the higher volume and velocity of stormwater runoff. The additional sediment from construction activities and pollutants (such as oil from driveways & roadways and fertilizers from lawns) can impair water quality, destroying fish habitats and disrupting the natural ecology of streams and rivers.

Gwinnett County has implemented a stormwater utility in order to provide support for major stormwater activities such as:

- replacing stormwater pipes,
- reducing flooding,
- fulfilling regulatory requirements, and
- reducing pollution carried by stormwater runoff to local waterways.

Proceeds from the stormwater fee fund the stormwater utility. These fees are based on the amount of impervious area (hard surfaces, buildings, parking lots, concrete patios and swimming pool decks, etc.) on each property. The impervious area is calculated from aerial photography obtained in February of the year prior to the billing.

Gwinnett County has additional information concerning the utility and its mission on the website at www.gwinnettstormwater.com. Please refer to the link to the Stormwater Utility.

The Gwinnett County Department of Water Resources (DWR) has implemented a Stormwater Credits Program to provide incentives to homeowners, business owners, developers, designers, builders, municipal officials and other property owners within the community.

Purpose of Credits

- **Provide incentives to property owners to reduce their service fee**
- **Reduce costs to Gwinnett County**

In exchange for performing certain activities that improve water quality and afford other stormwater cost savings for the Gwinnett County DWR, local property owners in unincorporated Gwinnett County and the City of Lilburn can reduce their stormwater fees. The ultimate success of the program will be to encourage better site design and citizen action that:

- Diminishes environmental impact;
- Reduces or eliminates localized and downstream flooding;
- Provides better stormwater management education;
- Reduces the need for engineered stormwater quality or quantity improvements;
- Encourages making improvements to water quality; and/or
- Affords other stormwater cost savings for the Gwinnett County DWR.

By taking advantage of the credit system, homeowners, developers, builders, and other property owners can reduce the stormwater management quantity and/or quality requirements for the Gwinnett County DWR.

The credit system can reduce the long term operation and maintenance costs to Gwinnett County and its residents and directly translate into cost savings for



Credit practices help protect the environment by reducing the amount of water and pollution reaching our streams.

the property owner who opts to participate. The credit is determined through an application procedure that is available to all property owners.

Stormwater Credits must be tied directly to or have a direct impact on those elements managed and supported by the Gwinnett County DWR Stormwater Utility. These include:

- Private and public stormwater conveyance systems such as streams, channels, pipe systems and similar facilities.
- Private and public stormwater Best Management Practices (BMPs). BMPs are effective, practical, structural or non-structural methods which prevent or reduce the movement of sediment (particulate matter transported by water), nutrients which promote abnormally high organic growth, pesticides, and other pollutants from the land to surface or ground water. Examples include stormwater quality detention basins which temporarily hold runoff and release it at a slower rate, retention basins which hold water rather than release it, stream buffers which filter runoff, and similar facilities.
- Impact to streams. This includes measures that will improve water quality and increase awareness through education.
- Stormwater permitting requirements such as those within the community's National Pollutant Discharge Elimination System (NPDES) permit including public education and outreach.
- Other similar programs or practices.

Design and construction of many of these practices will require approval (this process is termed *permitting*) by the Gwinnett County DWR. Property owners must comply with standards and regulations that have been established for new development, redevelopment, zoning, etc., and are encouraged to contact DWR staff for additional guidance.

Credit Program Goals

The Credit Program was developed with the goals that it:

- Will not harm the financial integrity of the Stormwater Utility;
- Will provide an incentive to Gwinnett County property owners to reduce their stormwater utility bill;
- Will raise awareness of stormwater quantity and quality issues;
- Will produce environmental benefits;
- Will have a regulatory and technical basis;
- Will be easy to administer and maintain;
- Will provide a benefit to the Stormwater Utility greater than the cost to administer;
- Will receive public support and involvement; and
- Will have a proven track record based on community experience in other parts of the country.

Property owners can earn credits by performing activities that slow stormwater runoff down and keep it on site.

Stormwater credits are offered as an incentive to property owners for being good stewards of the Gwinnett County stormwater resources. The benefit to the property owner is a reduction in the stormwater utility bill



The result is that the entire community benefits from these enhancements or improvements to the stormwater system through the reduction in flooding, and a cleaner water system.

Residential Property Owners

All property owners can earn credits.

The credit program has been developed for all customers, including residential property owners. Residential property owners in unincorporated Gwinnett County and the City of Lilburn are eligible to apply for credits up to 40% if they take actions that diminish the impact of stormwater from their property.

Non-residential Property Owners

All properties with >100 sq.ft. of impervious area must pay the stormwater service fee.

Non-residential property owners typically have very large impervious areas (hard surfaces, buildings, parking lots, etc.). As a result, there is a much greater opportunity and financial incentive for non-residential property owners to use stormwater management practices to positively impact the stormwater system. Non-residential property owners in unincorporated Gwinnett County and the City of Lilburn are eligible to apply for credits up to 40% if they take actions that diminish the impact of stormwater from their property.

Frequently Asked Questions (FAQs)

The Gwinnett County Department of Water Resources maintains a list of frequently asked questions related to the stormwater utility and credits at its website at www.gwinnettstormwater.com. Please refer to the link to the Stormwater Utility.

Use of Manual

The Credits Manual has been created to provide guidance on credit procedures for stormwater management to property owners and the land development, design professionals, and contracting communities of Gwinnett County. It is designed to provide information on:

- How to obtain a stormwater credit;
- Types of credits available and percentages allowed for each type of credit;
- References on design and construction of stormwater management practices;
- Maintenance of stormwater management practices; and
- Examples of stormwater management practices.

Property owners should note that local codes (such as municipal and homeowners associations' regulations), restrictions and/or ordinances may not allow the installation of some of these practices. Before proceeding with design or installation of any practice, property owners should check to make certain that their actions will not violate any local requirements.

Property owners with questions about the applicability of credits to their particular situation may contact a customer service representative at 678-376-7193.



Credit Descriptions

Credits are offered for managing or positively impacting any of the following four different categories:

4 Credit Options

- **Watershed Stewardship**
- **Water Quality**
- **Channel Protection**
- **Peak Flow**

Total allowable credit is 40%.

- **Watershed Stewardship** – awarded to property owners who make efforts to learn about or increase public awareness about watershed management or take action to protect the watershed. The maximum allowable credit is 40%.
- **Water Quality** – awarded to property owners who capture the majority of pollutants, based on Total Suspended Solids (small particulates that remain in water such as silt and waste). The maximum allowable credit is 10%.
- **Channel Protection** – awarded to property owners who provide protection of stream channels from bank and bed erosion and degradation by detaining and reducing the volume of stormwater runoff from their property. The maximum allowable credit is 10%.
- **Peak Flow** – awarded to property owners who provide control of the post-development peak discharge to the pre-development rate for the 2-year and the 25-year, 24-hour storms. The maximum allowable credit is 10%.

More specific descriptions for each credit category are shown on the following pages. Please refer to Gwinnett County's [Stormwater Systems and Facilities Installation Standards and Specifications](#) (formerly known as the *Storm Water Manual*) for detailed discussions about the best management practices (BMPs).

Partial credits will be given in whole percentages, using conventional rounding methods. This means that if a property qualifies for a 2.5% credit under one of the categories, the actual credit will be 3%. For a 2.4% credit, the actual credit will be 2%.

Property owners can apply for credits from any or all of the categories listed above, and the total allowable credit for any property is 40%. This amount was established under the ordinance that created the Stormwater Utility in November 2005. It is based on the concept that even if all property owners were able to mitigate the impacts of impervious surfaces on their property, the DWR would still have to maintain the drainage system associated with roads for large rainfall events. The majority of the system that the DWR maintains is associated with roads. Allowing property owners to apply for credits up to 40% of their utility bill is consistent with standards throughout the country.

Credits from categories can be combined.

Total maximum credit for any property is 40%.

No properties are exempt from the stormwater service fee.



New Developments

All new developments are required to install BMP practices that meet the provisions for Water Quality, Channel Protection and Peak Flow credits.

When as-built plans for a development have been accepted by the DWR, the development will automatically qualify for up to a 30% credit for the following five billing years. These credits will be applied automatically for the initial 5 year period. Extension of the credit beyond the first 5 years will require an application.

Ongoing compliance with the BMP maintenance agreement which is created at the time the development is approved must be maintained in order for the credit to continue. Failure to maintain compliance will result in the credit being removed.

Retrofitting Existing Stormwater Control Facilities

Developments that retrofit existing stormwater control facilities are required to obtain a permit from the Gwinnett County Planning and Development Department.

These developments, which upgrade facilities to current design standards, will qualify for automatic credits up to 30% after as-built plans have been accepted by DWR. The amount of the credit will be determined by the effectiveness of the retrofitted facility and, subject to the facility being maintained in compliance with the maintenance agreement, will be valid for the following five billing years.

Projects with BMPs that do not bring the entire property up to current design standards will be assessed by the Department of Planning and Development plan review staff and may be awarded partial credit.

Existing Stormwater Control Facilities (installed between 2000 - 2005)

Developments with permitted BMPs installed during years 2000 – 2005 could qualify for credits up to 30% after a current volume certification by a State of Georgia Registered Professional Engineer has been accepted by DWR and a BMP maintenance agreement is put into place. The amount of the credit will be determined by the effectiveness of the facility, as determined by DWR Stormwater Division, and will be valid for the following five billing years.

Compliance with the BMP maintenance agreement must be maintained with Gwinnett County Department of Water Resources (DWR) in order to continue the credit (see [Renewal Requirements](#)).

Older subdivisions with detention ponds, permitted during or after 2000, could earn a credit of up to 30% for all homes in the drainage area, if facilities are upgraded to current design standards, volume certifications are renewed and BMP maintenance agreements are put into place.



Watershed Stewardship Credit

A Watershed Stewardship Credit will be awarded to the property of citizens who take action to protect the watershed, or property owners who make efforts to learn about or increase public awareness about watershed management.

The goal is to encourage citizens to practice good pollution prevention practices on their own properties and homes.

Practices that the County has identified as meeting these criteria, as well as the maximum percent credit that can be received are shown in the summary table. A description of each of these practices is contained in the following text. Property owners are allowed up to 40% credit under the Watershed Stewardship category and the combined 40% can be obtained from more than one practice. Please note that 40% is the maximum credit allowed for any property, no matter how many categories or practices are utilized.

Property owners should understand that local codes (such as municipal and homeowners associations' regulations), restrictions and/or ordinances may not allow the installation of some of these practices. Before proceeding with design or installation of any practice, property owners should check to make certain that their actions will not violate any local requirements.

Public Participation

Up to 5% Credit

Participating in efforts related to improving water quality provides an educational benefit to the community. The DWR will consider the following activities for Public Participation with approved certifications from the Water Resources Program Coordinator at the Gwinnett Environmental & Heritage Center (brian.sterner@gwinnettcountry.com) or (770) 904-3505:

- Spending four hours to obtain certification as an Adopt-a-Stream volunteer.
- Spending four hours stenciling storm drains.
- Spending four hours participating in a stream clean-up or shore sweep.

In order to qualify for a residential credit under this practice, at least one person (in the household living on the property) must meet one of the above requirements, and submit a certificate or verification of participation from a county official, verifying his/her participation. Attendance at the event must be taken and used to validate credit applications.

In order for non-residential property owners to receive credit for this practice, participating employees or members must be associated with the facility against which the credit is to be applied, and participation must meet the following levels:

Watershed Stewardship Credit

- *Public Participation*
- *Low Impact Parcels*
- *Deep Tillage*
- *Stream Restoration / Streambank Stabilization*
- *Watershed Improvement Project Participation*
- *Conservation Easements*
- *Conservation Use Valuation Assessment Properties*
- *Training Programs*
- *Stream Buffers*
- *Fencing Livestock Out of Stream*
- *Rain Barrels*
- *Automatic Sprinkler Sensors*
- *Direct Discharges*
- *Septic Tank Maintenance*
- *Connection to Sanitary Sewers*
- *Non-Residential School Education*



- 20% participation based on the number of parking spaces (i.e. the number of people required to attend must be at least 0.20 times the number of parking spaces visible in aerial imagery); OR
 - 20% participation based on verifiable number of employees or members;
- whichever is greater.

For a list of approved public participation activities that will meet requirements established by the Gwinnett County Department of Water Resources (DWR), please refer to the County's Stormwater Management website at www.gwinnettstormwater.com and then click on [Stormwater Utility](#). The list is located under the heading "Stormwater Service Fee Credits". There is a link to Workshops.

The maximum credit allowed under this practice is 5%. The credit will be valid for the following billing year only. In order to continue receiving credit beyond a one year term, additional participation is required the next year, and a verification of attendance issued by a county official must be submitted with a new application.

Conservation Use Valuation Assessment (CUVA) Properties

Up to 10% Credit

The CUVA credit assumes that each 900 square feet of conservation easement will mitigate the effects of 100 square feet of impervious area on the property.

Owners of agricultural land, timberland and environmentally sensitive land that have qualified for conservation use assessment status under O.C.G.A. Section 48-5-7.4 may be awarded a maximum credit of 10% for as long as the parcel has a current CUVA assessment status from the Tax Assessor.

More detailed information about CUVA is available on the Georgia Department of Revenue website, <http://www.etax.dor.ga.gov/ptd/cas/cuse/assmt.aspx>

If a Gwinnett County citizen does not have a CUVA assessment on their minimum ten acre parcel, they can contact the Assessors office at 770-822-7200 or email Assessor@gwinnettcountry.com to get more info on how to apply for CUVA assessment tax status designation.

Once they have obtained the CUVA tax status designation from the Tax Assessors office, property owners should submit documentation that they have received a Conservation Use Valuation Assessment (CUVA) designation to Stormwater Management with the application for credit.

The Stormwater Customer Service team of DWR will check the status of CUVA eligibility each year to verify continued eligibility.



Conversion

There are 43,560 square feet in one acre.

To calculate percent impervious, divide the number of impervious square feet by the parcel square feet.

Low Impact Parcels

Up to 30% Credit

A low impact parcel is one that has reduced land disturbance and minimal impervious surfaces, manages stormwater runoff on-site, and is less than 7% impervious.

Properties with 5% or less impervious meeting these criteria are eligible for a 30% credit. Properties with more than 5% but 6% or less impervious surface are eligible for 20% credit and properties with more than 6% but 7% or less impervious surface are eligible for 10% credit for a five year term. Properties with more than 7% impervious surface do not qualify for the credit.

In order to qualify for a credit under this practice, the property owner should include documentation with his/her application. Generally the documentation will include a [site map](#) (one can be printed from <http://gcgisweb01/OnPointWebsite/WebPages/Map/FundyViewer.aspx>) showing the entire parcel, all impervious areas on the property and a calculation of the percent impervious. Adjacent properties owned by the same person or family may be included in the calculation of percent impervious.

To continue the credit beyond a term of 5 years, complete a new application describing any changed conditions that affect the credit and resubmit.

Farmland Deep Tillage

Up to 10% Credit

Deep tillage is a farming practice that breaks up soil, usually with a tractor, and usually 18 inches deep, to allow increased water movement, better aeration of roots and access to additional minerals and nutrients for plant growth. By comparison, conventional tillage with a rototiller breaks up the soil 6 to 12 inches below the surface, and in areas of heavy compaction, conventional tillage is not adequate.

A 1% credit is offered for each 1% of the farm property that is deep tilled, up to a maximum credit of 10%.

Examples:

10,000 sq ft deep tilled: 100,000 sq ft parcel = 10% credit

.22 acres deep tilled: 2.29 acres parcel = 10% credit

In order to qualify for a credit under this practice, the property owner must provide a [site map](#) (one can be printed from <http://gcgisweb01/OnPointWebsite/WebPages/Map/FundyViewer.aspx>) that shows the area of the property that has been deep tilled, along with a statement stating when the land was deep tilled and certifying that the land was deep tilled to a depth of at least 18 inches and in rows no more than three (3) feet apart.

The credit will be effective for five (5) years after the date the land was deep tilled. In order to continue receiving credit beyond the five year term, the land must be deep tilled again and a new application submitted.



Stream Restoration/Stream bank Stabilization

Up to 30% Credit

Stream restoration is the re-designing and associated construction of a stream section to make it more stable and to re-establish the stream's hydraulics and habitat conditions. Streambank stabilization is the repair of an unstable streambank utilizing bioengineering practices. Both of these practices need to be prepared by a design professional registered in the State of Georgia, as appropriate. Approval to construct any improvements must be obtained from the Gwinnett County Department of Water Resources and permits must be secured from the US Army Corps of Engineers and the Georgia Department of Natural Resources before any actual construction takes place.

The Gwinnett County Department of Water Resources recognizes that there are different types of stream restoration projects and that they have different hydraulic and environmental benefits. The following four Levels of Restoration (LOR) have been established.

- LOR 1 -- Major channel realignment, grade control and floodplain connection. Reestablish channel on previous floodplain using relic channel or construction of a new bankfull discharge channel. Design new channel for dimension, pattern, and profile characteristic of stable reference reach form. Fill in existing incised channel to the new floodplain elevation.
- LOR 2 -- Minor channel realignment and provide grade control. Design channel for dimension, pattern, and profile characteristic of stable reference form. Construct a new bankfull discharge channel in the existing channel – at a higher elevation to re-connect to floodplain. Stabilize and vegetate banks.
- LOR 3 -- Reshape channel in place and grade control. Construct a new bankfull discharge channel in the bed of the existing channel. Design channel for dimension and profile characteristic of stable reference form. Stabilize and vegetate banks.
- LOR 4 – Spot repair over an extended reach length or a discrete, abbreviated reach length.

LOR 1 projects can qualify for up to a maximum credit of 30% for a maximum of 10 years. LOR 2 projects can qualify for a maximum credit of 20% for a maximum of 10 years, and LOR 3 and 4 projects can qualify for up to a maximum credit of 10% for a maximum of 10 years. The 10 year term starts the Tax billing year after the project is finished. As stated above, a project must be evaluated and approved by the DWR prior to contacting other agencies and before any actual construction starts.

The amount of credit is based on the amount of area restored or stabilized. It assumes that each 150 square feet of bare eroded bank restoration will mitigate the effects of 100 square feet of impervious area. For example, if a property owner has 3,500 square feet (sf) of impervious area on his/her parcel of land, and performs 2000 sf of streambank restoration on a LOR 2 project, the potential credit will be calculated as follows:

$$(2,000 \text{ sf of restoration} / 150 \text{ sf of restoration}) \times 100 \text{ sf of mitigation} = 1,333 \text{ sf of mitigation.}$$



1. Water quality protection for rivers, streams, and lakes;
2. Flood protection;
3. Wetlands protection;
4. Reduction of erosion through protection of steep slopes, areas with erodible soils, and stream banks;
5. Protection of riparian buffers and other areas that serve as natural habitat and corridors for native plant and animal species;
6. Protection of prime agricultural and forestry lands;
7. Protection of cultural sites, heritage corridors, and archaeological and historic resources;
8. Scenic protection;
9. Provision of recreation in the form of boating, hiking, camping, fishing, hunting, running, jogging, biking, walking, and similar outdoor activities; and
10. Connection of existing or planned areas contributing to the goals set out in this paragraph.

The easement must be properly recorded in the Gwinnett County deed room.

A landowner who has protected land in this permanent manner may earn a maximum 10% stormwater credit on such land. The credit calculation assumes that 900 square feet of land in the easement area will mitigate the effects of 100 square feet of impervious area on the property. Credits will be effective for a maximum of 10 years. A violation of the easement that compromises the conservation values of the property may require reapplication for credits at the discretion of the Director. Expiration of the easement will result in termination of the stormwater credit.

For example, if a property owner has 2,500 square feet (sf) of impervious area on his/her parcel of land and places 2,000 sf of property in a conservation easement, the credit will be calculated as follows:

$(2,000 \text{ sf of conservation easement} / 900 \text{ sf of easement}) \times 100 \text{ sf of mitigation} = 222 \text{ sf of mitigation.}$

$222 \text{ sf of mitigation} / 2,500 \text{ sf of impervious area} = 8.9\%$, which rounds to 9% credit.

The application must include a copy of the recorded easement and a survey or tax map of the protected property. Property owners who are interested in this credit should contact the Stormwater Management Division.

Once approved, credit for this action will remain in place until ownership of the property changes or for a maximum of 10 years. In order to continue this credit for more than one five-year term, submit a new application on the condition of the easement in year five.



County-Approved Training Programs

Up to 5% Credit

The County has established various water quality training programs that are generally available for free.

Residential Property - In order to qualify for a residential credit under this practice, the owner of the property or a resident must submit a certified application, verifying his/her participation. Attendance at the event will be taken and used to validate credit applications.

In order for non-residential property owners to receive credit for this practice, participating employees or members must be associated with the facility against which the credit is to be applied, and participation must meet the following levels:

- 20% participation based on the number of parking spaces (i.e. the number of people required to attend must be at least 0.20 times the number of parking spaces visible in aerial imagery); OR
 - 20% participation based on verifiable number of employees or members;
- whichever is greater.

Both residents (of residential property) and groups of employees/members of organizations (of non-residential property) may participate in several programs but are limited to obtain the maximum credit of 5% per billing year under this practice. Duplicate training credits are not allowed. Owners with multiple properties are limited to applying each training program course attended to one property.

Participants will submit signed and certified (by the host official) applications upon completion of the training.

The County-approved training programs, along with the requirements (such as number of hours required), will be posted on the County's Stormwater Management website at www.gwinnettstormwater.com and then click on Stormwater Utility. The programs are located under the heading "Stormwater Service Fee Credits". Call 678-376-7126 or email dwrswreg@gwinnettcountry.com to register.

Credits obtained for completing training programs are valid for the next (one) billing year and are non-transferable. Attendance records taken at the training program will be used to validate the credit application. In order to receive credit for this practice for subsequent years, additional training will be required during the subsequent years and a new application submitted at that time.



Rain Barrels

Up to 3% Credit

Rain barrels are containers that collect rain water and are typically located under roof downspouts. They provide opportunity for retention of rainwater and delayed distribution onto the pervious areas of a parcel of land, promoting infiltration and diminished runoff during saturating rain events.

A full credit of 3% is available if every downspout on the property buildings is served by a minimum of a 50-gallon rain barrel. Partial credit is offered for the percentage of the property buildings that are served by rain barrels. For example, if a house has six downspouts and two of them have a rain barrel, then the total credit is $3\% \times 2/6 = 1\%$.

Documentation should include a [site map](http://gcgisweb01/OnPointWebsite/WebPages/Map/FundyViewer.aspx) (one can be printed from <http://gcgisweb01/OnPointWebsite/WebPages/Map/FundyViewer.aspx>) showing structures on the property and the location of all rain barrels that have been installed. Photographs documenting the dimensions of the rain barrels, materials used, and method of construction should be included in the application.

The property owner should take care that these types of practices are installed and oriented to ensure that overflow is directed away from the foundations of the building.

A property owner may use alternates to rain barrels that have the same volume as rain barrels. A down spout can be directed underground into 50' of 6" perforated pipe surrounded by gravel that does not have an outlet. Another alternate would be to use a dry well that is 2.5' by 2.5' by 3' deep and filled with rock.

Property owners who install rain barrels that are sized to capture the first 1.2" of rainfall from the impervious area draining to the rain barrels may be eligible for a cistern credit. Details on applying for this credit are included under the Water Quality category in this manual.

A new application every fifth year is required in order to continue a rain barrel credit beyond a five year term.

Stream Buffers that Exceed 75' Standards

Up to 10% Credit

Stream buffers are naturally vegetated areas along the stream's banks. To be awarded any credit, the buffer width has to exceed the local requirements of 50 feet undisturbed and 75 feet impervious surface setback.

Only undisturbed, natural areas with no impervious surfaces in the area will be considered for preservation credit. Areas already required as a part of open space requirement may not be included in the preservation area. Areas used for preservation must be contiguous at all points along the existing stream



buffer and the length of the preservation area as measured parallel to the stream must be equal to or greater than the width as measured perpendicular to the stream (e.g., only rectangular areas parallel to the stream for protection of the stream corridor will be considered; flag shapes are not acceptable). The maximum width of the buffer from the stream bank is 300'. The 25' of impervious setback (transition zone) between the undisturbed buffer and unprotected area must be maintained.

The maximum credit allowed is 10% and is based on the amount of area placed in the buffer. It assumes that each 900 square feet of buffer will mitigate the effects of 100 square feet of impervious area.

For example, if a property owner has 2,000 square feet (sf) of impervious area on his/her parcel of land, and 1,000 sf of buffer outside the required buffer, the credit will be calculated as follows:

$(1,000 \text{ sf of buffer} / 900 \text{ sf of buffer}) \times 100 \text{ sf of mitigation} = 111 \text{ sf of mitigation.}$

$111 \text{ sf of mitigation} / 2,000 \text{ sf of impervious area} = 5.5\%$, which rounds to 6% credit.

The property owner must also provide documentation that a buffer easement has been established and recorded, and that the easement protects the natural buffer to the satisfaction of the Stormwater Management Division.

Documentation should include a [site map](#) (one can be printed from <http://gcgisweb01/OnPointWebsite/WebPages/Map/FundyViewer.aspx>) showing the location of the buffer, a copy of the easement establishing the buffer and any additional supporting material. A [site map](#) consisting of a simple drawing and a report on the condition of the easement should be included in the renewal application every fifth year in order to continue the credit beyond a five year term.

Additional information on stream buffers can be found on the Gwinnett County Stormwater Management website at www.gwinnettstormwater.com. Please refer to the links to:

- Documents, then
- [Department of Planning and Development Stormwater Plan Review Forms & Documents](#)
- [Stream Buffer Protection Ordinance \(PDF\)](#)

Then refer to the [Stream Buffer Protection Ordinance](#). Information is also available in Chapter 9 of the [Stormwater Systems and Facilities Installation Standards and Specifications](#) (formerly know as the Storm Water Manual.)



Fencing Livestock Out of Stream

5% Credit

This practice typically applies to rural properties that have livestock with ready access to the stream which leads to streambank breakdowns, increased bacteria in the water, along with additional nutrients and sediment, all of which contribute to problems with water quality. Fencing the livestock out of the stream will reduce these problems, and credit will be offered for property where livestock are completely prevented from accessing the stream, although properly designed crossing devices are acceptable. The credit available for this practice is 5%.

The Natural Resources Conservation Service has a program titled, [Environmental Quality Incentives Program](http://www.nrcs.usda.gov/PROGRAMS/EQIP/) (EQIP), which may also provide some assistance. You may contact their office at 770-963-9288 for information about the program or visit the website at <http://www.nrcs.usda.gov/PROGRAMS/EQIP/>

Documentation for the stormwater service fee credit should include a [site map](#) (one can be printed from <http://gcgisweb01/OnPointWebsite/WebPages/Map/FundyViewer.aspx>) showing the location of the stream and fencing, along with any additional supporting material. A new credit application every fifth year is required in order to continue the credit beyond a five year term.

Automatic Sprinkler Sensors

Up to 10% Credit

Property owners who water their lawns with automatic sprinkler systems can minimize the amount of runoff from their property and save treated water by installing sensors that deactivate the sprinklers during rain events.

A credit of 10% will be allowed the year after they install the sensor, to property owners who submit documentation that the system has been installed and is functioning properly.

The term is one year only and is not renewable.

Direct Discharges

Up to 40% Credit

Property owners whose stormwater runoff does not flow through any stormwater facility owned, operated, or maintained by Gwinnett County can qualify for a 40% credit. Typically, this would be available to property owners who live on the border of the County with other counties where runoff from their property discharges outside the County limits.



Property owners should include a simple [site map](http://gcgisweb01/OnPointWebsite/WebPages/Map/FundyViewer.aspx) (one can be printed from <http://gcgisweb01/OnPointWebsite/WebPages/Map/FundyViewer.aspx>) showing the location of their property, along with drainage patterns and any additional information necessary to document that runoff from the property will not flow through any stormwater facility owned, operated, or maintained by the County or through a waterway that could be subject to future restoration efforts.

In order to continue the credit beyond a five year term, a new application should be submitted every fifth year along with a description of any changes that have occurred.

Septic Tank Maintenance

Up to 10% Credit

Residential property owners with septic systems can be awarded a credit by having their septic tanks pumped out on a regular basis every 5 years as recommended by the [Gwinnett County Board of Health, Environmental Health Section](#). 770-963-5132. Septic tanks that are not regularly pumped accumulate sludge. If sludge is not removed it can build up to a point where it will discharge into the drain field where it then clogs the drain lines causing failure and discharge of sewage onto the ground.

By submitting documentation in the form of a receipt or invoice for tank pumping from a licensed hauler of septic wastes, homeowners may be eligible for a 10% credit. This annual 10% credit may be available for up to 5 years after the date the septic tank was pumped, however any unclaimed years between the date of the pumping and the date of the credit application will not be eligible for any backdated credit. These unclaimed years also cannot be used to extend the credit beyond its expiration date which is set at 5 years after the date the septic tank was pumped.

Property owners may reapply for this credit at the end of every expiring 5 year term by submitting a copy of a new dated invoice showing that the septic tank was pumped again.

Connection to Sanitary Sewers

Up to 40% Credit

Property owners who utilize on-site wastewater disposal systems (typically a septic tank and lateral fields) will qualify for a 40% credit the year after they connect to the sanitary sewer system and abandon their on-site systems.

Property owners should submit documentation that the septic tank has been decommissioned by having a plumber remove the solids from the tank and then filling it with sand to ensure that no liquids continue to leach into the soil.

The 40% credit will only be available for the billing year after the connection is made. It is not renewable.



Summary Table

The practices that the County has identified as meeting Watershed Stewardship criteria, the maximum percent credit that can be received, and the term of the credit are shown in the following table.

| Watershed Stewardship Practice | Potential Stormwater Utility Credit | | |
|---|-------------------------------------|-----------------|---------------------------------------|
| | Residential | Non-Residential | Term |
| Public Participation | Up to 5% | Up to 5% | 1 year |
| Low Impact Parcels | Up to 30% | Up to 30% | 5 years |
| Farmland Deep Tillage | Up to 10% | Up to 10% | 5 years |
| Stream Restoration/Streambank Stabilization | Up to 30% | Up to 30% | 5 years |
| Watershed Improvement Project Participation | Up to 10% | Up to 10% | 1 year nonrenewable |
| Conservation Easements | Up to 10% | Up to 10% | 5 years |
| Conservation Use Valuation Assessment | Up to 10% | Up to 10% | Based on CUVA assessment status |
| County-Approved Training Programs | Up to 5% | Up to 5% | 1 year |
| Stream Buffers that Exceed Standards | Up to 10% | Up to 10% | 5 years |
| Fencing Livestock Out of Streams | Up to 5% | Up to 5% | 5 years |
| Rain Barrels | Up to 3% | Up to 3% | 5 years |
| Automatic Sprinkler Sensors | Up to 10% | Up to 10% | 1 year nonrenewable |
| Direct Discharges | 40% | 40% | 5 years |
| Septic Tank Maintenance | Up to 10% | Up to 10% | Up to 5 years |
| Connection to Sanitary Sewers | 40% | 40% | 1 year nonrenewable |
| Maximum Credit Allowed | 40% | 40% | |



Non-Residential School Education

The Gwinnett County Department of Water Resources is required by our [NPDES MS4](#) permit to educate the public about the effects of urbanization on stream water quality. Working with schools that teach stormwater management issues will help DWR meet these goals.

Using the credit process, the Gwinnett County Department of Water Resources, Stormwater Management, may award credits of up to 40% for eligible Group Day Care, Child Care Centers, preK-12th, and postsecondary educational institutions located in non-residential facilities that provide and/or promote educational activities that support and complement the County's stormwater goals.

Eligible Non-Residential Schools:

For the purposes of this manual "Eligible Non-residential Schools" will be limited to Schools, Postsecondary Institutions, Daycare and Pre-K as defined below.

- **School** – A school as defined by Unannotated Georgia Code 20-2-690 recognizes the existence of public schools, and private schools as educational entities. <http://www.lexisnexis.com/hottopics/gacode/default.asp>
- **Postsecondary Institutions** – Postsecondary educational institutions are defined in the Official Annotated Code of Georgia Code Section 20-3-519.7. http://www.legis.ga.gov/legis/2005_06//versions/sb561_AP_6.htm
- **Daycare** – The Georgia Department of Early Care and Learning defines and has jurisdiction for the licensing and registration for Group Day Care, and Child Care Centers. <http://www.dec.state.ga.us>
- **Pre-K** – The Georgia Department of Early Care and Learning is authorized to administer the Lottery funded Georgia Pre-K program and defines its authority over these programs. http://www.georgia.gov/00/channel_title/0,2094,4802_4989,00.html

Approved credit applications will result in the award of a credit to the parcel's Stormwater service fee. The per-parcel credit may not total more than 40% and credit may only be applied to the property where the educational activities are taught. Credits cannot be applied to Administrative Centers, Bus Lots, Parking Lots or Warehouse/Facility Operations purposed parcels.



The Stormwater Management Division endorses three methods for obtaining a stormwater service fee credit. These methods are Watershed Education Curriculum, Watershed Education Stewardship Activities, and participation in academic field studies and/or classes at the Gwinnett Environmental & Heritage Center.

Watershed Education Curriculum: Eligible Non-residential Schools will be considered for stormwater fee credit by teaching a watershed education curriculum. The maximum credit awarded is 20%. The Watershed Education Curriculum credit may be granted provided the following conditions are met:

- Schools will attach a list of appropriate Georgia Performance Standards, Academic Knowledge and Skills, or objectives for the lessons that were taught using watershed curriculum for each grade level.
- Approved curriculum may include but is not limited to:
 - [Project WET,](http://www.projectwet.org/)
 - [Project WET Urban Watershed,](http://gaprojectwet.org/urbanwatershed.htm)
 - Gwinnett County Watershed Curriculum for grades 3 & 4
 - [Wonder of Wetlands,](http://www.wetland.org/education_wow.htm)
 - [Georgia's Native Waters,](http://www.conservewatergeorgia.net/documents/edu_resources.html)
 - [Healthy Water/Healthy People,](http://www.projectwet.org/hwhp/)
 - [GLOBE Program,](http://www.globe.gov/)
 - [Project WILD Aquatic,](http://www.projectwild.org/ProjectWILDK-12AquaticCurriculumandActivityGuide.htm)
- At least 20% of enrolled students at the eligible non-residential school have completed at least one unit of study during the calendar year. Greater than 20% participation will be rewarded with a higher credit in accordance with the following:

50% of students = 20% credit
40% of students = 15% credit
30% of students = 10% credit
20% of students = 5% credit

The 20% credit will be considered for approval if the principal, headmaster, dean, school director, or other authorized representative for curriculum implementation, documents and submits applicable curriculum standards and verifies by signature the percentage of the student population who received at least one unit (for purposes of this manual a unit is defined as a minimum 4



hours of face to face instruction) of study on identified standards during the calendar year prior to the billing year against which the credit will be applied..

Watershed Education Stewardship Activities: Eligible Non-residential schools will be considered for a stormwater fee credit for participation in approved public service activities. The maximum credit for this activity is 20%. Participation in several activities in order to reach the 20% maximum is allowed. For the purposes of this credit a participating student is defined as one who completes at least 4 hours of stewardship activities. Watershed Education Stewardship stormwater fee credits may be granted for participation in approved programs provided the following conditions are met:

- Watershed Education Stewardship activities may be integrated into the school curriculum. Suggested activities may include but are not limited to Earth Week celebrations, Environmental Science Nights, Water Festivals, Great American Clean-Up, Adopt-A-Stream, Rivers Alive, Georgia Wildlife Federation events, and/or Clean Water Week.

Participation in activities related to watershed education and in the Gwinnett Clean & Beautiful Environmental Achievement Profile may also be considered. Additional County-approved events may be appropriate and can be located on the County website. (To ensure acceptability of the activity, it is recommended that Eligible Non-residential Schools discuss the proposed activity with the designated agent of the GEHC.)

- The number of participants, name and description of the activity, and date of the activity is submitted in support of the application for Watershed Education Stewardship. This description of the activity, if signed by a principal, headmaster, dean, or school director, will be considered acceptable evidence that the activity was completed as stated.
- At least 5% of enrolled students at the eligible non-residential school have completed at least 4 hours of stewardship activities during the calendar year. Greater than 5% participation will be rewarded with a higher credit in accordance with the following:

20% of students = 20% credit
15% of students = 15% credit
10% of students = 10% credit
5% of students = 5% credit

Gwinnett County Environmental & Heritage Center: Eligible Non-residential schools will be considered for the Gwinnett County Environmental Heritage Center stormwater service fee credit when students participate in field trips to the center. The maximum available credit is 20%. The education credit will be based on school enrollment and participation levels. The Gwinnett County Environmental & Heritage Center stormwater fee credit may be awarded provided the following conditions are met:

- An official receipt from the GEHC showing the date and number of students attending must be provided with the application.



- At least 5% of enrolled students at the eligible non-residential school have visited the GEHC during the calendar year. Greater than 5% participation will be rewarded with a higher credit in accordance with the following:

20% of students = 20% credit
 15% of students = 15% credit
 10% of students = 10% credit
 5% of students = 5% credit

Non-Residential School Education Example: By participating in two or three of the Watershed Education programs, eligible non-residential schools may be considered for a maximum 40% credit for the calendar year prior to the billing year against which the credit is to be applied.

Further participation, though encouraged, will not increase the stormwater fee credit beyond the maximum allowable Watershed Education stormwater fee credit of 40%.

| Watershed Stewardship Practice | Potential Stormwater Service Fee Credit | Term |
|--|---|--------|
| | Non-Residential School Education | |
| Watershed Education Curriculum | Up to 20% | 1 year |
| Watershed Education Stewardship Activities | Up to 20% | 1 year |
| Gwinnett Environmental & Heritage Center Visit | Up to 20% | 1 year |
| Maximum Credit Allowed | 40% | |

Non-Residential School Education Application Process: The school(s) must comply with the procedures outlined in the program when submitting a stormwater service fee credit application.

All information necessary for a credit to be evaluated and recommended must be supplied at the time of application and failure to comply with the procedures outlined could result in a denial of the credit application.

Applications are due December 31 and credit will be applied to the next billing year. Watershed Education activities completed after the December 31 deadline may be submitted with the following year's application.

Non-Residential School Education Review Process and Credit Implementation: A designated agent of the Gwinnett Environmental and Heritage Center will review the school's stormwater service fee credit application within 30 days of receipt and make a recommendation to the Gwinnett County Department of Water Resources for approval or denial. The final decision remains with the Department of Water Resources. Participation in educational activities after December 31 may be submitted with the following year's application.



Appeals of credit application decisions by the Gwinnett County Department of Water Resources shall be in accordance with the Stormwater Utility Appeal process. Additional information on the appeals process can be found on the Gwinnett County website at www.gwinnettstormwater.com and then click on Stormwater Utility.

Questions on the Watershed Education credit policy may be directed to the Water Resources Program Coordinator at the Gwinnett Environmental and Heritage Center at (770) 904-3505 or email brian.sterner@gwinnettcountry.com.



Water Quality Credit

- *Based on the County's TSS Performance Criterion Tool*
- *Partial credit is offered*

Water Quality Credit

The Water Quality Credit may be awarded to properties that capture the majority of pollutants, based on Total Suspended Solids (TSS) capture, thereby providing adequate treatment of the water before discharge.

The maximum Water Quality Credit is 10% and is awarded if any best management practice (BMP) or combination of practices are placed on the property to reduce the TSS loading from the property to no more than 850 lbs/acre-yr, as determined by the County's TSS Performance Criterion Tool. This tool estimates TSS loadings commensurate with potential contributions from four land use types.

The sum of the products of the areas and their corresponding TSS loading rates represent the total load from the property that includes both areas not managed and areas routed through a BMP. The approach is simple to use and encourages stormwater management that takes advantage of the natural site amenities and minimizes impervious surfaces.

The [computerized spreadsheet form](#) that is the main component of the tool automatically calculates and graphs the TSS loading value from the property and provides options for implementing BMPs on the property and designating the tributary drainage area to each BMP. BMPs available in the spreadsheet tool and the respective TSS removal efficiencies are shown in the table on the following page. The form compares both existing property loading rates and the proposed loading rates with the installation of BMPs to the TSS criterion. This tool can be used to compare several options in the BMP selection process.

Instructions for using the automated spreadsheet tool are attached to the spreadsheet, and an electronic copy of the tool is available on the Gwinnett County website at <http://www.gwinnettstormwater.com>. Please refer to the links to:

- Stormwater Management
- Documents
- [Department of Planning and Development Stormwater Plan Review Forms & Documents](#)
- Stormwater Plan Review Performance and Design Tools

The automated spreadsheet tool is called the [Stormwater Quality Performance Review Tool](#). When opening the tool from the website, the user should enable all macros (click "YES" when prompted by Microsoft Excel).

Partial credit is offered for BMPs that reduce the TSS loading from the present condition. The percent of the credit is determined by the following formula:

$$\frac{\text{TSS loading presently} - \text{TSS loading w/additional BMPs}}{\text{TSS loading presently}} \times 10\%$$



TSS loading presently – 850 lbs/acre-yr

The calculated value needs to be rounded to the nearest whole number.

For example, if the present TSS loading for a property, according to the TSS Performance Criterion Tool, is 2,000 lbs/acre-yr and the loading rate with BMPs that are proposed to be installed and maintained is 1,000 lbs/acre-yr according to the Tool, then the **Water Quality** credit is:

$$\frac{2,000 - 1,000}{2,000 - 850} \times 10\% = 8.7\%, \text{ which rounds to } 9\%$$

| Water Quality Best Management Practice (BMP) | TSS Removal (%) |
|---|------------------------|
| Wet and Dry Extended Detention Ponds | 80 |
| Wet and Dry Detention Ponds w/Channel Protection | 50 |
| Constructed Wetlands | 80 |
| Vegetated Filter Strips | 50 |
| Sand Filters | 80 |
| Infiltration Trenches | 80 |
| Oil/Grit Separators | 40 |
| Grassed Swales (2% slope, dam) | 15 |
| Wet and Dry Water Quality Basins | 80 |
| Bioretention (Rain Gardens) | 80 |
| Alternate BMPs (Roof Gardens, Cisterns, Green Roofs, Etc.) | As Approved |

Detailed information on these BMPs can be found in the [Stormwater Systems and Facilities Installation Standards and Specifications](#) (formerly known as the *Storm Water Manual*) on the Gwinnett County Stormwater Management website at www.gwinnettstormwater.com. Please refer to the links to:

- Stormwater Management
- Documents
- [Department of Planning and Development Stormwater Plan Review Forms & Documents](#)
Guideline Documents
- [Stormwater Systems and Facilities Installation Standards and Specifications](#) (formerly known as the *Storm Water Manual*)

During the last year of eligibility for the credit the Gwinnett County DWR will notify owners of permitted BMPs when a new five-year certification is required.

A Standard BMP Inspection and Maintenance Report found in the [Stormwater Systems and Facilities Installation Standards and Specifications](#) (formerly known as the *Storm Water Manual*) in Chapter 8, under the Appendix B, Maintenance Agreement Exhibit D, pages 487 – 490 needs to be included in



the report for wet or dry detention facilities. It must include a certification by a State of Georgia Registered Professional Engineer that the BMP has the volume needed for the BMP to function as designed, every five years.

Gwinnett County DWR reserves the right to periodically inspect the credited BMPs to assure utility requirements are being followed and the credit still applies.

Uncorrected BMP performance deficiencies cited during the term of the credit will result in the loss of the credit for each billing year the deficiency remains uncorrected.

Cisterns

Up to 10% Credit

Cisterns are containers that collect rain water and are typically connected to roof downspouts. They enhance water quality by providing opportunity for retention and stilling of rainwater which promotes the settling of pollutants. In addition cisterns allow water to be held for future use, generally in dry times, where the water is then typically distributed onto pervious surfaces where it can infiltrate into the ground.

In recognition of these benefits, a full credit of 10% is available if the entire impervious area of a parcel is served by a properly sized cistern (see below). Partial credit is offered for the percentage of the impervious area that is served by cisterns. For example, if a parcel has 2000 sq. ft. of impervious area and only 1000 sq. ft. is draining to the cistern, then the total credit is $10\% \times 1,000/2,000 = 5\%$.

The term cistern, as used within this manual, will refer to a container or containers that are capable of storing a volume of rainwater equal to the amount of runoff generated by a 1.2 inch storm event on the impervious area connected to the cistern. Smaller containers may be eligible for a rain barrel credit.

An application for a cistern credit must include a site map (one can be printed from <http://gcgisweb01/OnPointWebsite/WebPages/Map/FundyViewer.aspx>) showing the impervious area of the parcel that drains to the cistern and the location of any cisterns that have been installed. Photographs or other documents verifying the volume of the cistern, materials used, and method of construction must also be included.

For a cistern to provide water quality enhancement in line with Gwinnett County Stormwater Management requirements, the cistern must be adequately sized to capture the first 1.2" of rainfall from the impervious area draining to the cistern. The method for sizing a cistern consists of the following calculations. For each 1 inch of rainfall that falls on 1,000 square feet (sq.ft.) of impervious surface, 620 gallons of stormwater runoff is created. 1.2 inches of rainfall is equivalent to 0.1 ft. The cistern sizing formula would take the impervious area in sq. ft. and multiply it by 0.1 ft and again by 7.48 cu. ft. / gallon (cubic feet to gallon conversion factor). As an example, to capture 1.2



inches of rainfall onto 2,000 sq. ft. of impervious area you would multiply 2,000 sq.ft., by 0.1ft, and then again by 7.48 cu. ft. / gallon which would result in a cistern having to be at least 1,500-gallons in capacity.

Cistern Volume Formula:

$$\text{Impervious Area Draining to Cistern} \times 0.748 = \text{Required Volume of Cistern}$$

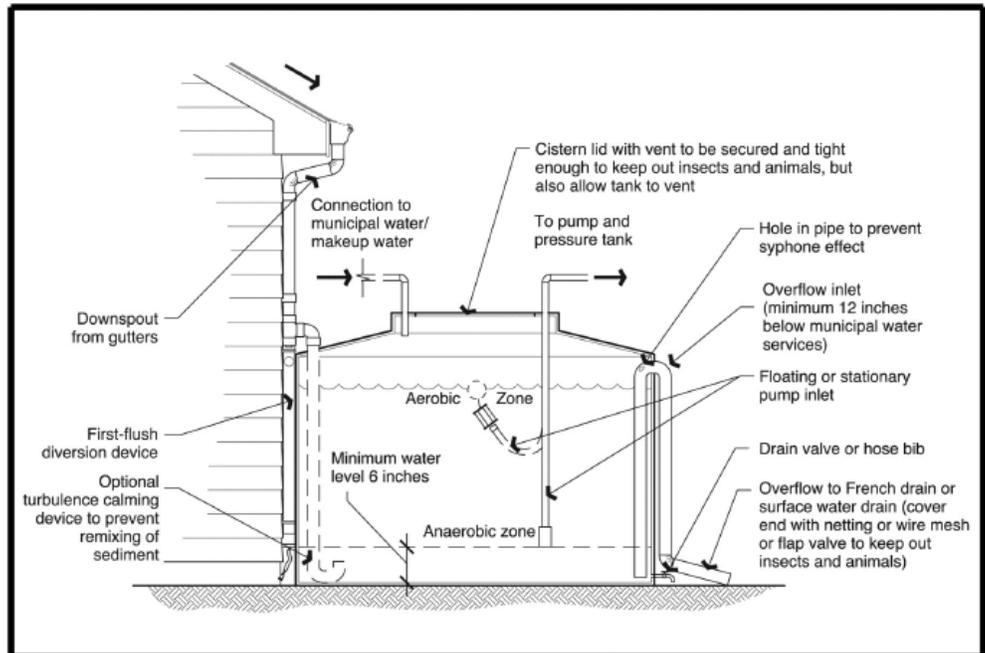
Ft³ to Gal Conversion Factor

The property owner should ensure that overflow from the cistern is also directed away from the house foundation. Because cisterns enhance water quality by allowing pollutants to settle out they must also be serviced periodically to remove sediment build up. In addition inlet filters/screens need to be checked monthly and maintained as necessary to ensure debris removal and screen integrity. Annually, the cistern should be checked for sediment accumulation and if greater than 6 inches in depth such sediment must be removed and disposed of properly. For large systems, the tanks would need to be entered to properly clean them and OSHA confined space safety requirements would have to be followed. Sediment drainage taps may also be placed at the bottom of above-ground cisterns to facilitate sediment removal.

A new application every fifth year is required in order to continue the credit beyond a five year term.

RESIDENTIAL CISTERN DETAIL

Image courtesy of Heather Kinkade, [Design for Water](#), published by New Society Publishers.



Residential Rain Gardens/Bioretenion Facilities Up to 10% Credit

Residential property owners can receive up to a 10% credit by installing rain gardens/bioretenion facilities, which are depressions in the landscape, planted with native vegetation that collect stormwater runoff and allow it to slowly soak into the ground. Native vegetation consists of plants that are adapted to, and occur naturally in an area (versus non-native vegetation which are often invasive and affect habitat and food supply for native animal and fish species).

Nonresidential property owners can be awarded credit for rain gardens using the spreadsheet methodology of the automated spreadsheet tool called the [Stormwater Quality Performance Review Tool](#). When opening the tool from [the website](#), the user should enable all macros (click "YES" when prompted by Microsoft Excel). The maximum credit of 10% is for facilities that collect and treat stormwater runoff from all the impervious surfaces on the property. These facilities shall be designed in accordance with the County's [Stormwater Systems and Facilities Installation Standards and Specifications](#) (formerly known as the *Storm Water Manual*).

Residential property owners can use the methodology described immediately below without using the [Stormwater Quality Performance Review Tool](#).

Partial credit is offered for the percent of the entire impervious surfaces that the practice serves. For example, if a rain garden/bioretenion facility serves 30% of the impervious surfaces on the entire property, then the total credit is $10\% \times 30\% = 3\%$.

Additional information on rain garden requirements can be found on the Gwinnett County Stormwater Management website at www.gwinnettstormwater.com. Please refer to the links under Stormwater Management:

- Public Education, then
- [Rain Gardens](#)

In order to continue the credit when it expires, a new credit application must be submitted every fifth year for nonpermitted Water Quality BMPs. Notice will not be provided when the term expires.

| Best Management Practice | Potential Stormwater Service Fee Credit | | |
|--------------------------------|---|-----------------|-------|
| | Residential | Non-Residential | Term |
| Water Quality BMP nonpermitted | Up to 10% | Up to 10% | 5 yrs |



| Best Management Practice | Potential Stormwater Service Fee Credit | | |
|---|---|-----------------|-------|
| | Residential | Non-Residential | Term |
| Residential Rain Garden or Bioretention Facility-nonpermitted | Up to 10% | Not Available | 5 yrs |
| Cistern | Up to 10% | Up to 10% | 5 yrs |
| Maximum Credit Allowed | 10% | 10% | |

Channel Protection Credit

The Channel Protection Credit may be awarded to property of owners who provide protection of stream channels from bank and bed erosion and degradation. This can be accomplished by:

Channel Protection Credit

- Stormwater Detention Ponds
- Constructed Wetlands

- 24-hour extended detention storage of the 1-year, 24-hour return frequency storm event

The practices that the County has identified as meeting these criteria, are shown in the following table. The full percentage is for practices that provide extended detention of the 1-year storm event for the **entire property** released over a 24-hour period. Partial credit is offered for the percent of the entire property that the practice protects and the percent of the 1-year storm event volume that is detained and is released over a 24-hour period. For example, if a practice offers up to 10% credit and the practice protects 50% of the entire property, but only detains 60% of the 1-year storm event volume, then the total credit is $10\% \times 50\% \times 60\% = 3\%$.

| Channel Protection Best Management Practice (BMP) | | | |
|---|---|-----------------|-------|
| Dry Extended Detention Ponds | | | |
| Wet Extended Detention Ponds | | | |
| Dry Detention Ponds | | | |
| Constructed Wetlands | | | |
| Best Management Practice | Potential Stormwater Service Fee Credit | | |
| | Residential | Non-Residential | Term |
| Channel Protection BMP | Up to 10% | Up to 10% | 5 yrs |
| Maximum Credit Allowed | 10% | 10% | |

During the last year of eligibility the Gwinnett County DWR will notify owners of permitted BMPs when a new five-year certification is required..



A Standard BMP Inspection and Maintenance Report found in the [Stormwater Systems and Facilities Installation Standards and Specifications](#) (formerly known as the *Storm Water Manual*) in Chapter 8, under the Appendix B, Maintenance Agreement Exhibit D, pages 487 – 490 needs to be included in the report for wet or dry detention facilities. It must include a certification by a State of Georgia Registered Professional Engineer that the BMP has the volume needed for the BMP to function as designed, every five years.

Gwinnett County DWR reserves the right to periodically inspect the credited BMPs to assure utility requirements are being followed and the credit still applies.

Uncorrected BMP performance deficiencies cited during the term of the credit will result in the loss of the credit for each billing year the deficiency remains uncorrected.

Peak Flow Credit

The Peak Flow Credit principle is to delay the highest flow from impacting the drainage system, thereby protecting downstream property.

This is accomplished through the construction of small impoundments or dry ponds that fill up during rainstorms, providing control of the post-development peak discharge rate to the pre-development rate for the 2-year and 25-year, 24-hour return frequency storm events.

The practices that the County has identified as meeting these criteria, as well as the maximum percent credit that can be received, are shown in the following table. The full percentage is for practices that provide peak discharge control for the entire property released over a 24-hour period. Both the 2-year and 25-year, 24-hour events must be calculated and the credit will be based on the smallest peak reduction.

Partial credit is offered for the percent of the entire property that the practice protects. For example, if a practice offers up to 10% credit and the practice protects 70% of the entire property, then the total credit is 10% x 70% = 7%.

Partial credit is also offered for the percent of the peak flow reduction provided, as determined by the following formula:

$$\frac{\text{Peak flow post development} - \text{Peak flow with BMPs}}{\text{Peak flow post development} - \text{Peak flow pre development}} \times 10\%$$

The calculated value needs to be rounded to the nearest whole number.

Peak Flow Credit

The most widely used method of credit by a majority of stormwater programs throughout the United States.



| Peak Flow Best Management Practice (BMP) | | | |
|---|--|------------------------|-------------|
| Dry Extended Detention Ponds | | | |
| Wet Extended Detention Ponds | | | |
| Constructed Wetlands | | | |
| Best Management Practice | Potential Stormwater Service Fee Credit | | |
| | Residential | Non-Residential | Term |
| Peak Flow BMP | Up to 10% | Up to 10% | 5 yrs |
| Maximum Credit Allowed | 10% | 10% | |

During the last year of eligibility the Gwinnett County DWR will notify owners of permitted BMPs when a new five-year certification is required.

A Standard BMP Inspection and Maintenance Report found in the [Stormwater Systems and Facilities Installation Standards and Specifications](#) (formerly known as the *Storm Water Manual*) in Chapter 8, under the Appendix B, Maintenance Agreement Exhibit D, pages 487 – 490 needs to be included in the report for wet or dry detention facilities. It must include a certification by a State of Georgia Registered Professional Engineer that the BMP has the volume needed for the BMP to function as designed, every five years.

Gwinnett County DWR reserves the right to periodically inspect the credited BMPs to assure utility requirements are being followed and the credit still applies.

Uncorrected BMP performance deficiencies cited during the term of the credit will result in the loss of the credit for each billing year the deficiency remains uncorrected.



Partial Credit Award

Partial credit will be awarded for practices that do not meet 100% of the Water Quality credit, Channel Protection credit, and Peak Flow credit requirements. However, the practice needs to be fully constructed and functioning. The County reserves the right to inspect any management practice prior to awarding credit. Where applicable, the credit will apply only to that portion of the property that is controlled by the credit practice.

Partial credit may be awarded for the practices in the Watershed Stewardship credit category also. Please refer to the discussion of each practice to determine if partial credits are available. Please note that the practice needs to be fully constructed and functioning. The County reserves the right to inspect any management practice prior to the awarding of credit.

Partial credits will be given in whole percentages, using conventional rounding methods. This means that if a property qualifies for a 2.5% credit under one of the categories, the actual credit will be 3%. If a property qualifies for a 2.4% credit under one of the categories, the actual credit will be 2%.

Applications

The application form is found in Appendix A. One application may cover several credit types for a single parcel. Multiple billing addresses will not be considered on the same application except for a regional BMP that serves more than one property or for schools with multiple parcels/properties. An electronic spreadsheet is the preferred method of submitting multiple billing addresses and all usual information including parcel numbers must be indicated for each address.

Timing of Application Review

Applications must be received by March 1 in order to be considered for the current billing year, with the exception of county-approved training programs, non-residential school watershed education, water quality, channel protection and peak flow credits. Applications for those credits must be received by December 31 and will be considered for the following year. Gwinnett County intends that most applications will be reviewed and responses made within fourteen (14) calendar days of receipt of the application. However, if the analysis requires significant review time, or if the number of applications received is large such as around the submittal deadline, the review period may be extended beyond the fourteen (14) days.



Appeals

An [appeals process](#) has been developed so property owners have the opportunity to challenge their service fee amounts, their approved credits and other decisions made by the Gwinnett County Department of Water Resources (DWR) staff.

The appeals process begins by filling out an appeals form found on the Gwinnett County website at www.gwinnettstormwater.com and then click on Stormwater Utility and send it to the DWR staff by:

- Email to swservice@gwinnettcountry.com; or
- By mail to Department of Water Resources
Stormwater Management Division
684 Winder Highway
Lawrenceville, GA 30045-5012

You may also contact staff by phone at 678-376-7193 or come by the office at 684 Winder Highway in Lawrenceville.

Credit Requirements

The various credits described in this manual are applicable as indicated and are subject to the requirements of the most recent version of Gwinnett County's [Stormwater Systems and Facilities Installation Standards and Specifications](#) (formerly known as the *Storm Water Manual*), complete with all appendices and attachments. Any changes during the term of the credit to the conditions used to earn the credit will terminate the credit the following billing year.

Credit Application Summary

Many of the practices that are offered for credit are technical in nature (permitted BMPs) and therefore require extensive document preparation as required by the [County Design Review Checklist](#).

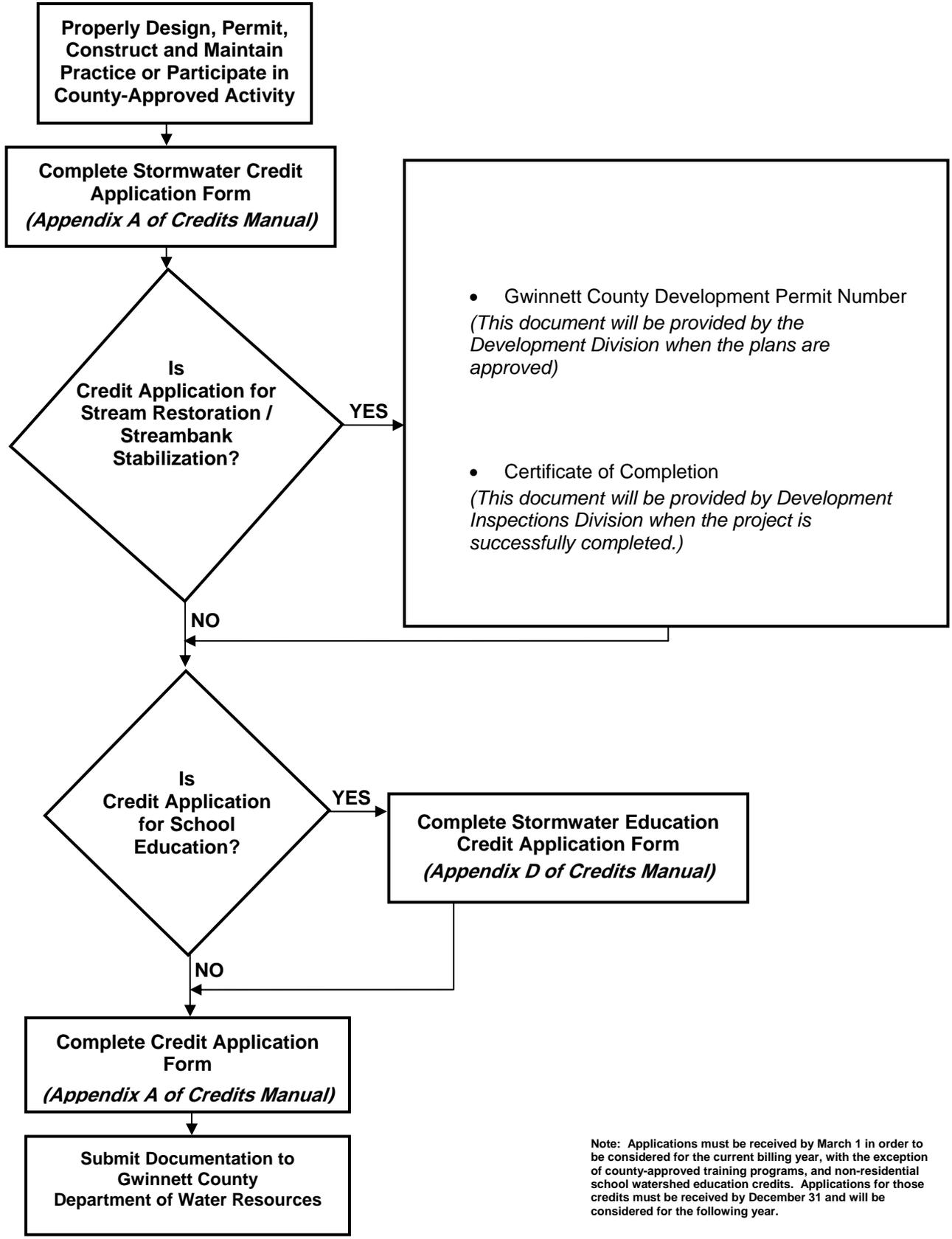
The practices in the Watershed Stewardship credit category (unpermitted BMPs) are not as technical and therefore will not require as much documentation.

The two flow charts on the following pages show the process that an applicant has to follow when submitting a request for Watershed Stewardship credits (unpermitted BMPs) or when submitting a request for Water Quality, Channel Protection and Peak Flow credits (permitted BMPs).

Regardless of which flow chart is followed, a Credit Application Form (Appendix A) is required.



Credit Application Process Watershed Stewardship Credit Category



Note: Applications must be received by March 1 in order to be considered for the current billing year, with the exception of county-approved training programs, and non-residential school watershed education credits. Applications for those credits must be received by December 31 and will be considered for the following year.



Credit Application Process

Water Quality, Channel Protection and Peak Flow Credit Categories

Properly Design, Permit,
Construct and Maintain
Practice

Complete Stormwater Credit
Application Form
(Appendix A of Credits Manual)

Complete the following, which can be found on the County's Stormwater Management webpage, click on Documents, and click on Development Review Documents.

- As Built Plans
- Maintenance Agreement Checklist
- Stormwater Management Report
- Applicable As-Built BMP Checklist from those listed
(These documents can be found under the header "Development Submittal Checklist".)
- Maintenance Agreement
(This document can be found under the header "Maintenance Agreement Forms".)

Complete Credit Application
(Appendix A of Credits Manual)

Submit Documentation to
Gwinnett County
Department of Water Resources

Note: Applications must be submitted no later than December 31 in order to receive credit for the next billing cycle.



Renewal Requirements

Unpermitted BMPs (Watershed Stewardship Category)

Practices which do not require a construction permit from Gwinnett County Planning & Development Review are referred to as unpermitted.

For the BMPs in the Watershed Stewardship credit category which do not require a construction permit from Gwinnett County Planning & Development Review, a new [Stormwater Credit Application Form](#) and supporting documents (certificates, [site maps](#), photos, etc.) as requested in this manual are required, noting substantive changes that have occurred on the property, with the practice, or within the contributory drainage area.

The Gwinnett County DWR will NOT notify these BMP credit recipients in advance of the need for renewal, and failure to submit the renewal will result in expiration of the credit.

Gwinnett County DWR reserves the right to periodically inspect the credited BMPs to assure utility requirements are being followed and the credit still applies.

Failure to continue or adequately maintain the Watershed Stewardship practice will result in loss of the credit.

Permitted BMPs (Water Quality/Channel Protection/Peak Flow Categories)

Permits are required to build Best Management Practices (BMPs).

A Standard BMP Inspection and Maintenance Report found in the [Stormwater Systems and Facilities Installation Standards and Specifications](#) (formerly known as the *Storm Water Manual*) in Chapter 8, under the Appendix B, Maintenance Agreement Exhibit D, pages 487 – 490 needs to be included in the report for wet or dry detention facilities.

Volume certification, from the owner's design professional, (a State of Georgia Registered Professional Engineer) is needed every five years for BMPs in order to ensure that the practice is performing as intended.

During the last year of eligibility the Gwinnett County DWR will notify owners when a new five-year certification is required..

Gwinnett County DWR reserves the right to periodically inspect the credited BMPs to assure utility requirements are being followed and the credit still applies.

Uncorrected BMP performance deficiencies cited during the term of the credit will result in the loss of the credit for each billing year the deficiency remains uncorrected.



Change of Property Ownership

Credits are awarded against an account associated with a particular property and are not transferable to a new property once they have already been awarded. Persons moving to a new address may not take the credit with them. It remains with the property. If eligible, the new owner will need only reapply for the credit upon its expiration.

The Gwinnett County Department of Water Resources will allow new owners to review credit applications that were previously submitted and approved for their properties. Please contact customer service at 678-376-7193 for assistance.

Credit Calculation Examples

Several examples are presented on the following pages. For additional information on designing structural BMPs, please refer to Gwinnett County's [Stormwater Systems and Facilities Installation Standards and Specifications](#) (formerly known as the *Storm Water Manual*).

In accordance with Section 100-37 of the Gwinnett County Stormwater Utility Ordinance, this revised Stormwater Credits Manual is adopted and shall be effective on November 1, 2008, but shall be retroactive to January 1, 2006.

Lynn Smarr, Acting Director
Department of Water Resources

Date

In accordance with Section 100-37 of the Gwinnett County Stormwater Utility Ordinance, this revised Stormwater Credits Manual is adopted and shall be effective on January 1, 2007, but shall be retroactive to January 1, 2006.

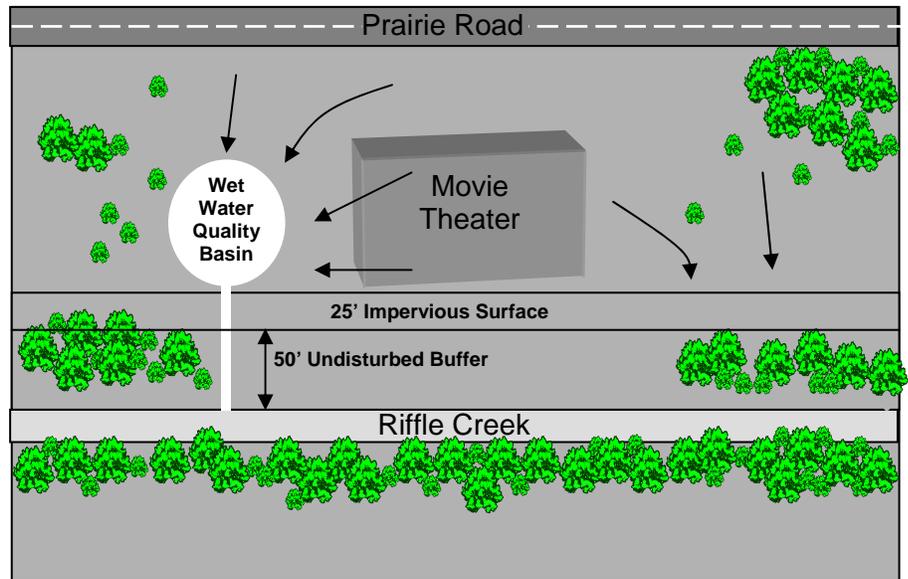
Frank Stephens, Director
Department of Water Resources

Date



Example 1 (Non-Residential Property)

A movie theatre has been constructed on a 5-acre re-development site in Gwinnett County. The impervious area associated with the parking lot and building is three acres in size. All of the impervious area and 0.5 acres of disturbed pervious area drain to a wet water quality basin. The other 0.75 acres of disturbed pervious area and 0.25 acres of undisturbed upland area drain to Riffle Creek without any treatment. The property has a 50' buffer that equates to 0.50 acres.



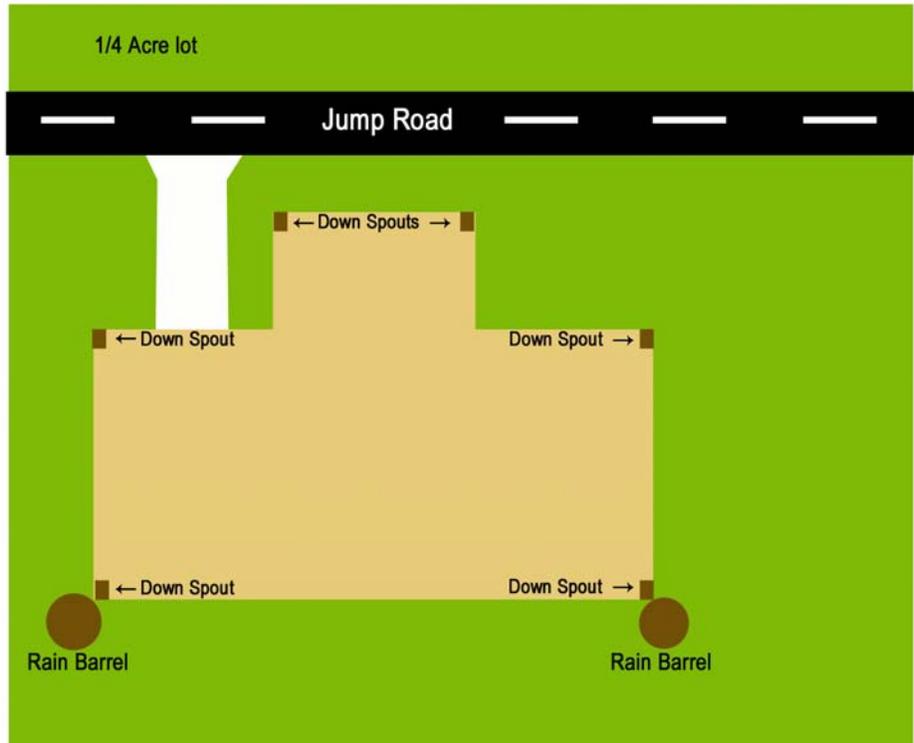
Credit Determination

Plugging the information into the County's Stormwater Quality Performance Review Form yields a TSS load of 722 lbs/acre-yr, which is lower than the criterion of 850 lbs/acre-yr. Therefore, the property receives the entire 10% credit for **Water Quality**.



Example 2 (Residential Property)

The homeowners have installed rain barrels on two of the six roof downspouts. In addition, the homeowners have participated in a local storm drain stenciling effort and have received a certificate of participation for four (4) hours.



Credit Determination

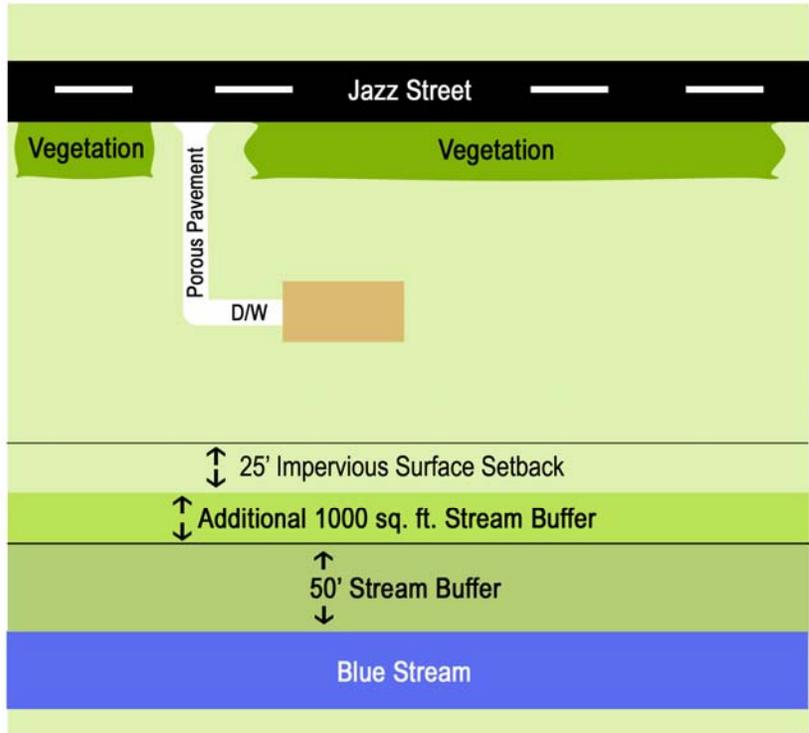
The credits available are in the **Watershed Stewardship** category. From Appendix A, 5% credit is available for residential education for the storm drain stenciling effort. The credit for the rain barrels is the percent of the downspouts having a rain barrel times 3%. In this example the rain barrel credit is $2/6 \times 3\% = 1\%$.

Total credit = 5% + 1% = 6%



Example 3 (Residential Property)

This residential property has incorporated extensive stormwater management practices, including meeting the requirements for a low-impact parcel with 4% impervious area. In addition, the homeowners have added another 1,000 square feet to the stream buffer along the back of their property. Their entire impervious area measures 2,000 square feet.



Credit Determination

The available credits are in the **Watershed Stewardship** category.

30% credit is available for the low-impact parcel because the impervious area is less than 5% of the total property area. The stream buffer credit is calculated based on the assumption that each 900 square feet of buffer will mitigate 100 square feet of impervious area as follows:

$$1,000 \text{ sf buffer} / 900 \text{ sf buffer per } 100 \text{ sf of mitigation} = 111 \text{ sf of mitigation}$$

$$111 \text{ sf of mitigation} / 2,000 \text{ sf of impervious area} = 5.5\%, \text{ which rounds to } 6\%$$

Therefore, the credit would be the addition of these two practices, $30\% + 6\% = 36\%$.



**GWINNETT COUNTY STORMWATER MANAGEMENT DIVISION
STORMWATER SERVICE FEE - CREDIT APPLICATION FORM**

Applicant's Name: _____ Parcel ID No. (Account # on Tax Bill): _____
 Property Address: _____
 Phone Number: _____ E-mail: _____
 Mailing Address (if different): _____

| Credit Category | Percent Credit Available | | Percent Credit | | Term ⁽⁴⁾ (Years) |
|---|----------------------------|----------------------------|----------------|----------|--------------------------------|
| | Residential | Non-Residential | Requested | Approved | |
| WATERSHED STEWARDSHIP PRACTICES | | | | | |
| Public Participation | Up to 5% | Up to 5% | | | 1 |
| County-Approved Training Programs | Up to 5% | Up to 5% | | | 1 |
| Non-Residential School Education <small>(3.1 Curriculum@ % (3.2 Activities@ % (3.3 GEHC visits@ %)</small> | ----- | Up to 40% | | | 1 |
| Watershed Improvement Project <small>(one 5 yr term only)</small> | Up to 10% | Up to 10% | | | 5 only |
| Low Impact Parcels <small>=(_____ ft² impervious/ _____ ft² parcel)= _____ % impervious</small> | Up to 30% | Up to 30% | | | 5 |
| Conservation Use Valuation Assessment (CUVA) | 10% | 10% | | | Until CUVA expires |
| Conservation Easements | Up to 10% | Up to 10% | | | 10 |
| Farmland Deep Tillage <small>=(_____ ft² deep tilled/ _____ ft² parcel)= _____ %</small> | Up to 10% | Up to 10% | | | 5 |
| Fencing Livestock Out of Stream | 5% | 5% | | | 5 |
| Stream Restoration/Streambank Stabilization | Up to 30% ⁽³⁾ | Up to 30% ⁽³⁾ | | | 10 |
| Stream Buffers that Exceed 75' Standards | Up to 10% | Up to 10% | | | 5 |
| Rain Barrels <small>(photos of installed barrels & a map must be submitted)</small> | Up to 3% | Up to 3% | | | 5 |
| Residential Rain Garden/Bioretenention Facility | Up to 10% | ----- | | | 5 |
| Automatic Sprinkler Sensor Installation <small>(term 1 yr only)</small> | 10% | 10% | | | 1 only |
| Direct Discharges to Another County | 40% | 40% | | | 5 |
| Septic Tank Maintenance <small>(term determined from date on invoice) Date Pumped: _____</small> | 10% | 10% | | | Up to 5 |
| Connection to Sanitary Sewers <small>(term 1 yr only)</small> | 40% | 40% | | | 1 only |
| BEST MANAGEMENT PRACTICES (BMP Program) | | | | | |
| Water Quality | Up to 10% ^(1,3) | Up to 10% ^(1,3) | | | 5 |
| Water Quality-Cistern <small>(photos of installed cistern must be submitted)</small> | Up to 10% | Up to 10% | | | 5 |
| Channel Protection | Up to 10% ^(2,3) | Up to 10% ^(2,3) | | | 5 |
| Peak Flow | Up to 10% ^(2,3) | Up to 10% ^(2,3) | | | 5 |
| TOTAL PERCENT CREDIT (CANNOT EXCEED 40%) | | | | | |

⁽¹⁾ Percent credit is based on the portion of Total Suspended Solids (TSS) the practice removed based on the requirements stipulated in the [Gwinnett County Stormwater Systems and Facilities Installation Standards and Specifications](#) and calculated by the spreadsheet tool – [Stormwater Quality Performance](#)
⁽²⁾ Percent credit is based on the portion of calculated volume the practice provides, based on the requirements stipulated in the [Gwinnett County Stormwater Systems and Facilities Installation Standards and Specifications](#).
⁽³⁾ Development Permit Numbers associated with credit application must be identified below.
⁽⁴⁾ In last year of term, credit will expire without notice unless a new application is submitted. Some credits are limited to one term only. See [manual](#) for full requirements. Conditions of approval must be maintained for credit to continue during term.

Development Permit Number(s) (if applicable; see note 3 above): _____

Applicant's Signature _____ Date
 APPROVED _____
 Gwinnett County Department of Water Resources _____ Date

Please return completed Form, along with all supporting documentation, to:



Attn: Steve Leo, Director. c/o credits
 DWR Stormwater Management
 684 Winder Highway
 Lawrenceville, GA 30045-5012

www.gwinnettstormwater.com
<mailto:swservice@gwinnettcountry.com>
 Ph: 678-376-7193
 Fax: 678-376-7082

CreditForm.doc
 modified 3/08/2012

Appendix A

3.1B

Attach a list of Georgia Performance Standards, AKS, or objectives for the watershed education lessons.

Date

Signature of Authorized Representative

3.2 Watershed Stewardship Activities

| <u>Name and Date of Activity</u> | <u>Number of Participants</u> |
|----------------------------------|-------------------------------|
| 1. _____ | _____ |
| 2. _____ | _____ |
| 3. _____ | _____ |
| 4. _____ | _____ |
| 5. _____ | _____ |
| 6. _____ | _____ |

Attach an additional sheet if necessary

Total Students _____

Total school enrollment as of September 1 _____

_____ 20% of enrollment = 20 % credit

_____ 15% of enrollment = 15% credit

_____ 10% of enrollment = 10% credit

_____ 5% of enrollment = 5% credit

Date

Signature of Authorized Representative



APPENDIX E
GWINNETT COUNTY STORMWATER MANAGEMENT DIVISION
BIBLIOGRAPHY AND WEB SITE REFERENCES

Bibliography

1. "Georgia Stormwater Management Manual – Volume 1: Stormwater Policy Guidebook" Georgia's policy document designed to provide guidance on the basic principles of effective stormwater management for Georgia communities. 2001
2. "Georgia Stormwater Management Manual – Volume 2: Technical Handbook" Georgia's technical engineering handbook for implementing stormwater management measures for new development and redevelopment. 2001
3. "Model Stormwater Management Ordinances" Metropolitan North Georgia Water Planning District. 2003
4. "Stormwater Utility Credit Manual" Rockdale County, Georgia. 2005
5. "Stormwater Utility and Credit Adjustment Manual" Covington, Georgia. 2004
6. "Stormwater Management Service Charge Technical Manual" North Augusta, South Carolina.
7. "Credits Program Application" Butler County Storm Water District, Hamilton, Ohio.
8. "Stormwater Management and Drainage Utility Credit Manual" Davenport, Iowa. 2006
9. "Design for Water" (cistern image), Heather Kinkade, published by New Society Publishers.

Web Site References

1. **School** – A school as defined by Unannotated Georgia Code 20-2-690 recognizes the existence of public schools, and private schools as educational entities.
<http://www.lexis-nexis.com/hottopics/gacode/default.asp>
2. **Postsecondary Institutions** – Postsecondary educational institutions are defined in the Official Annotated Code of Georgia Code Section 20-3-519.7.
http://www.legis.ga.gov/legis/2005_06//versions/sb561_AP_6.htm
3. **Daycare** – The Georgia Department of Early Care and Learning defines and has jurisdiction for the licensing and registration for Group Day Care, and Child Care Centers. (<http://dec.al.ga.gov/>)
4. **Pre-K** – The Georgia Department of Early Care and Learning is authorized to administer the Lottery funded Georgia Pre-K program and defines its authority over these programs.
http://www.georgia.gov/00/channel_title/0,2094,4802_4989,00.html

5. Gwinnett County Stormwater Utility – www.gwinnettstormwater.com
6. Gwinnett County Department of Water Resources, Stormwater Management
swservice@gwinnettcountry.com 684 Winder Hwy., Lawrenceville, GA
30045. To report stormwater problems: call (678) 376-7000. To discuss
stormwater service fee: call (678) 376-7193.
7. Gwinnett County Environmental & Heritage Center
Water Resources Program Coordinator
2020 Clean Water Dr., Buford, GA. (770) 904-3505
8. Gwinnett County Department of Planning and Development - Stormwater Plan
Review Section and the Department of Planning and Development both
located at One Justice Square, 446 West Crogan Street in Lawrenceville.
Call (678) 518-6150 or (678) 518-6000.

APPENDIX F
GWINNETT COUNTY STORMWATER MANAGEMENT DIVISION
GLOSSARY AND DEFINITIONS

Applicant – A property owner or a public agency or public or private utility, which drains to a drainage way owned, operated or maintained by Gwinnett County. This definition could also apply to any person or entity designated or named in writing by the property or easement owner to be the applicant, in any application for a development proposal, permit or approval.

Appeal – The process that allows property owners the opportunity to challenge their service fee amounts, their allowed credits and other decisions made by the Gwinnett County Department of Water Resources (DWR) staff.

Best Management Practices (BMPs) – means those practices which provide the best available and reasonable physical, structural, managerial, or behavioral activity to reduce or eliminate pollutants loads and/or concentrations leaving the site. BMPs can be structural (constructed) such as detention ponds or stream buffers or non-structural such as educational outreach programs.

Buffer – The area of land immediately adjacent to the banks of state waters in its natural state of vegetation, which facilitate the protection of water quality and aquatic habitat.

Channel Protection Credit – Is a credit given to property owners who provide protection of stream channels from bank and bed erosion and degradation using a structural measure to detain or retain stormwater runoff.

Cistern – a container capable of storing a volume of water equal to the amount of run-off generated by a 1.2 inch storm event on the impervious area connected to the cistern. The container is typically connected to a roof downspout.

Conservation Easement – means a voluntary, legally binding agreement that limits certain types of uses or prevents development from taking place on a property now and in the future, while protecting the property's ecological or open-space-values.

Constructed Channel – A channel or ditch constructed to convey surface water; also includes reconstructed natural channels.

Conveyance – means a mechanism for transporting water from one point to another, including but not limited to pipes, ditches and channels.

Conveyance System – See Private Stormwater Management Systems and Facilities and Public Stormwater Management Systems and Facilities.

County Standards – shall mean the Gwinnett County ordinances that govern water quality including but not limited to the Development Regulations, the Floodplain Management Ordinance, the Soil Erosion and Sediment Control Ordinance, the Illicit Discharge and Illegal Connection Ordinance, the Stream Buffer Protection Ordinance, the Stream Buffer Mitigation Bank Ordinance, the Zoning Resolution, the *Stormwater Systems and Facilities Installation*



Standards and Specifications (formerly known as the *Storm Water Manual*, and all procedures, rules, and policies pertaining thereto as these may be updated or amended from time to time.

Credit – shall mean a conditional reduction allowed against the stormwater service fee charged to an individual parcel based upon the technical requirements and the design and performance standards contained in the County's Stormwater Credits Manual, as it may be updated or amended from time to time.

Culvert – means a pipe or concrete box structure, which drains open channels, swales or ditches under a roadway or embankment typically with no catch basins or manholes along its length.

Customer – shall mean all persons, parcels, and entities served by the utility's acquisition, management, maintenance, extension, and improvement of the public stormwater management systems and facilities and regulation of public and private stormwater systems, facilities, and activities related thereto, and persons, parcels, and entities which will ultimately be served or benefited as a result of the stormwater management program.

Detention – means the release of surface and stormwater runoff from the site at a slower rate than is collected by the drainage facility system, the difference being held in temporary storage. (Detention comes from the root word "detain" meaning to slow or delay.)

Detention Facility – A facility, by means of a single control point, which provides temporary storage of stormwater runoff in ponds, parking lots, depressed areas, rooftops, buried underground vaults or tanks, etc., for future release, and is used to delay and attenuate flow.

Developed Land – shall mean all parcels not deemed as undeveloped land as defined herein.

Development – means any new construction activity that requires a permit or approval inspection to complete. This includes all public and private development activities.

Direct Discharge – means unmanaged discharge from a property, facility, or proposed project to a receiving water that does not flow through any stormwater facility managed by Gwinnett County.

Director – shall mean the director of the Gwinnett County Department of Water Resources or designee.

Dry Extended Detention Ponds – means stormwater control ponds that do not have a standing pool of water but are dry between storm events. Extended detention ponds are designed to have detention per the water quality requirements.

Easement – means a legal right to use a parcel of land for a particular purpose. It does not include fee ownership but it may restrict the owner's use of the land.

Engineering Review – means an evaluation by the Gwinnett County Department of Water Resources engineering staff to review applications for stormwater credit.

Grassed Swales – Concave, vegetated conveyance systems that can improve water quality through infiltration and filtering; systems incorporate modified geometry and other design features to use the swale to treat and convey stormwater runoff.



Impervious Surface – shall mean any paved, hardened or structural surfaces, including but not limited to buildings, dams, decks, driveways, parking areas, patios, streets, swimming pools, tennis courts, walkways or other structures which prevent or impede the infiltration of stormwater into the soil.

Infiltration Trenches – means a long, narrow trench with no outlet that received stormwater run-off that stores the run-off and allows it to infiltrate through the bottom and into the soil.

Low Impact Parcel – One that has reduced land disturbance and minimal impervious surfaces (less than 7%) and manages stormwater run-off on-site.

Native Vegetation – Plants that are adapted to and occur naturally in Gwinnett County.

Natural Channel – means a channel which has occurred naturally due to the flow of surface waters or a channel that, although originally constructed by human activity, has taken on the appearance of a natural channel including a stable route and biological community.

Non-Native Vegetation – Plant life that is often invasive and affects habitat and food supply for native animal, plant, and fish species.

NPDES –means the National Pollutant Discharge Elimination System. A provision of the Clean Water Act which prohibits the discharge of pollutants into waters of the United States unless a special permit is issued by the U. S. Environmental Protection Agency (EPA), or delegated to a state or tribal government on Indian Lands. For the purposes of this credit manual, the NPDES permit refers to stormwater only.

Oil/Grit Separators – Systems designed to remove trash, debris, and some amount of sediment, oil and grease from stormwater run-off

Owner – A person having a majority fee simple interest in real property, or a majority interest through any other form of real property ownership. (from Development Ordinance)

Parcel – shall mean a designated parcel, tract, or area of land established by plat, subdivision, or as otherwise permitted by law, to be separately owned, used, developed, or built upon.

Peak Flow – means the highest flow rate of a stream during or following a rainfall event. It is usually related to a specific event recurrence interval (e.g. a 1 in 25 year runoff event).

Pervious – permeable or having pores or openings that permit liquids to pass through.

Private Stormwater Management Systems and Facilities – shall mean those natural and manmade channels, swales, ditches, rivers, streams, creeks, branches, reservoirs, ponds, drainageways, inlets, catch basins, pipes, headwalls, storm drains, lakes and other physical works, properties and improvements which transfer, control, convey or otherwise influence the movement of stormwater runoff or water quality, which are not public.

Public Stormwater Management System and Facilities (or Gwinnett County's Municipal Separate Storm Sewer System) – shall mean those natural and manmade channels, swales, ditches, rivers, streams, creeks, branches, reservoirs, ponds, drainageways, inlets, catch basins, pipes, headwalls, storm drains, curbs and gutters, lakes and other physical works, properties and improvements which transfer, control, convey or otherwise influence



either the movement of stormwater runoff or water quality, which are either owned by the County or over which the County has accepted an offer of dedication of an easement or other legally binding permanent right of use for stormwater drainage, and for which the County has the obligation of maintenance for stormwater drainage purposes. Bridges or multi-barreled culverts with a combined span of 20 feet or more are not part of the system managed by the Utility.

Qualified Professionals – Persons with the knowledge, education and technical licenses to design stormwater management facilities. Examples include engineers and landscape architects licensed in the State of Georgia.

Rain Barrels – Containers with a minimum capacity of 50 gallons that collect stormwater and are typically located under roof downspouts.

Rain Gardens – mean depressions in the landscape, planted with native vegetation, that collect stormwater run-off and allow it to soak slowly into the ground.

Retention – The process of collecting and holding surface and stormwater runoff with no surface outflow. (Retention comes from the root word "retain" meaning to hold.)

Retention Facility – Any type of drainage facility designed either to hold water for a considerable length of time and then release it by evaporation, plant transpiration, and/or infiltration into the ground.

Sand Filter – means a basic water treatment device that uses sand or gravel to remove pollutants from stormwater. As water moves through the device, impurities become attached to the rough edges of the sand and gravel particles.

Sediment – refers to the loose particles of organic or inorganic material that suspend in a body of water and eventually settle to the bottom of the body of water.

Small Impoundments – waters accumulated in reservoirs that do not occur naturally in the landscape.

Stabilization – The process of establishing an enduring soil cover of vegetation by the installation of temporary or permanent structures for the purpose of reducing to a minimum the erosion process and the resultant transport of sediment by wind, water, ice or gravity.

Streambank – means the confining cut of a stream channel.

Streambank Stabilization – means the repair of unstable streambank utilizing structural or bioengineering practices.

Stormwater – Stormwater runoff, snow melt runoff, and surface runoff and drainage.



Stormwater Management Services – may address the quality and the quantity of stormwater runoff and include all services provided by the County which relate to the:

- (a) Transfer, control, conveyance or movement of stormwater runoff through the unincorporated portions of the county, or through any city which has entered into an intergovernmental agreement with the County pursuant to the Gwinnett County Stormwater Utility Ordinance;
- (b) Operation, maintenance, repair, enhancement and replacement of existing public stormwater management systems and facilities;
- (c) Planning, development, design and construction of additional stormwater management and facilities to meet current and anticipated needs;
- (d) Regulation of the use of stormwater management services or of stormwater management systems and facilities;
- (e) Education of the public as to stormwater issues;
- (f) Development plan review to require compliance with County standards;
- (g) Inspection for water quantity and water quality to require compliance with County standards;
- (h) Monitoring for water quantity and water quality to determining compliance with County standards, State water quality standards and stormwater management programs; and
- (i) Other services as the director may deem appropriate.

Stormwater Service Fees – shall mean the periodic service charge imposed by the County to a parcel of developed land pursuant to the Gwinnett County Stormwater Utility Ordinance for providing the stormwater management services and stormwater management systems and facilities, which fees shall be used only for the purpose of funding the Gwinnett County stormwater utility's cost of providing stormwater management services and stormwater management systems and facilities. Stormwater service fees shall be based on the relative contribution of each parcel to the demand for stormwater management services, shall be structured so as to be fair and reasonable and shall bear a substantial relationship to the cost of providing stormwater management services and stormwater management systems and facilities. The cost of operating expenses, capital investments and reserve accounts may be included in the stormwater service fees.

Swale – A shallow drainage conveyance with relatively gentle side slopes, generally with flow depths less than one foot.

Total Suspended Solids (TSS) – Small particulates that remain suspended in the water, such as silt and waste.

TSS Removal Efficiencies – The percent of total suspended solids that enters a system that is removed from the total suspended solids in the system.

Undeveloped Land – shall mean a parcel that has less than one hundred (100) square feet of impervious surface.

Water Quality – shall mean the chemical, physical, and biological characteristics of the State's water resources.

Water Quantity – shall mean the volume of runoff which is not entirely confined and retained completely upon a parcel.



Watershed – The geographic region which drains toward a central collector such as a stream, river or lake. Large watersheds may be composed of several smaller "sub-watersheds," each of which contributes runoff to different locations that ultimately combine at a common delivery point.

Vegetated Filter Strips – Natural or landscaped areas of vegetation designed to accept non-channelized run-off from developed areas.

Wet Extended Detention Ponds – means a stormwater control pond that maintains a permanent pool of water typically equal to a portion of stormwater run-off after a storm and effectively reduces downstream peak flows and removes pollutants. (Alcovy Watershed Protection Project/University of Georgia) www.georgiaplanning.com.



