Appleton city government exists to provide quality services responsive to the needs of the community

DEPARTMENT OF PUBLIC WORKS
Engineering Division
100 North Appleton Street
Appleton, WI 54911
(920) 832-6474
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CITY OF APPLETON
STORMWATER UTILITY CREDIT POLICY
June 2016

I. Purpose and Scope

The purpose of this policy is to provide a credit structure for stormwater utility charges for properties within the City of Appleton. Credit applications must be submitted by the property owner. Credit will only be considered for properties that meet at least one of the following criteria:

Property is a multi-family or non-residential property that meets one or more of the following criteria:

- Property implements onsite stormwater management practices according to the list of eligible practices per Appendix B, Basic Stormwater Practices.
- Property contains one or more approved stormwater practices that provide measurable, maintainable reductions in peak flow rates, flow volumes, and/or pollutant discharges.
- Property discharges some or all of its flow from impervious surfaces directly to the Fox River without such flow entering a stormwater conveyance owned or maintained by the City.

Property is a single-family or two-family residential property that:

- Implements onsite stormwater management practices according to the list of eligible practices per Appendix B, Basic Stormwater Practices.

This policy recognizes that:

- NR 151, containing water quality requirements from the State of Wisconsin, became effective October 1, 2004 and has since been updated.
- The Fox River TMDL, containing water quality requirements from United States Environmental Protection Agency and the State of Wisconsin, became effective March, 2012.
- The State of Wisconsin regulates floodplains through NR 116 and NR 117.
- The City of Appleton is regulated under a WPDES Stormwater Permit per NR 216.
- For some criteria, the City of Appleton Stormwater Management Ordinance exceeds the requirements of the state standards in NR 151 and the Fox River TMDL.

This policy may be reviewed and updated from time to time. Properties receiving a credit prior to adoption of this policy are not subject to re-evaluation of credits, unless site redevelopment causes the property to become subject to the stormwater management ordinance. Under this policy, properties that are not subject to re-evaluation of credits will continue to receive credits based on the policy in place at the time credit was issued.

II. Definitions

Definitions for this policy are as listed in the Appleton Municipal Code Sec. 20-229.

III. Credit Structure

1. Multi-Family and Non-Residential Properties

These properties may be eligible for a credit for implementing Basic Stormwater Practices per Appendix B, as well as for implementing onsite practices that provide quantifiable reductions in stormwater peak flow rates or measureable improvements in runoff quality.

For the purposes of calculating applicable credit rates for practices that do not qualify as Basic Stormwater Practices, the municipal stormwater management services, which are funded through the user fee, are divided into three categories. The listed percentages are the approximate fraction of utility expenditures within each category:

Stormwater Base Fee:	**27%**
Stormwater Peak Flow Fee:	**60%**
Stormwater Quality Fee:	**13%**

There is no credit applicable to the Stormwater Base Fee portion of Utility charges. The Stormwater Base costs are required to conduct the stormwater management programs throughout the City. Such programs include, but are not limited to leaf collection, street cleaning, and utility administration.

Only the costs associated with the Stormwater Peak Flow and Stormwater Quality Fees are eligible for a credit. These costs are associated with the City's efforts to maintain the capacity of the stormwater conveyance system, reduce flooding, and reduce pollution to meet regulations. Properties that demonstrate they are reducing the impacts on the stormwater peak flow and/or stormwater quality components may be eligible for a portion or all of the allowed credits.

2. Single Family and Two-Family Properties

The small scale of single-family and two-family properties renders impractical the accurate calculation of peak flow reduction and water quality improvement using stormwater practices. Therefore the credit for these properties is based upon a fixed amount according to the type of eligible Basic Stormwater Practice used, as listed in Appendix B. As long as a Basic Stormwater Practice meets City required design and operation criteria, the credit for such a practice is not based on performance calculation for peak flow control or runoff quality control.

IV. Credit Criteria for Multi-Family and Non-Residential Properties

Properties that implement the practices meeting the credit criteria described in this section are potentially eligible for a credit. To be eligible for a credit, the property owner shall comply with all of the following:

- Submit a completed credit application form and review fee per Section VI of this policy.
- For Basic Stormwater Practices, submit the following documentation:
  - Written description of the number, type, and location of each practice.
  - A photograph of each practice installed onsite.
- For other stormwater practices that provide measurable stormwater peak flow and/or runoff quality benefits, submit documentation regarding the design stormwater management function of each practice for which a credit is requested, as described in this section.
- Allow the City of Appleton to enter the property to confirm the outdoor practice(s).
- Operate and maintain each practice in such a way that it continues to function per the approved design and, for practices designed to provide measurable benefits, per the approved Operation and Maintenance Plan.

1. Practices That Provide Measureable Benefits That Exceed Peak Flow Control Requirements

This credit applies to properties that provide privately constructed, owned, and maintained runoff peak flow control practices that are not Basic Stormwater Practices, and which provide measurable benefits according to accepted engineering practices. Properties that implement flow control management practices so as to exceed the City's stormwater management standards may be eligible for a credit. Minimum stormwater management standards for peak flow control are described in the Stormwater Management section of the Appleton Municipal Code, Chapter 20, Article VI, Sec 20-312. If, during site plan or stormwater management plan review, the Department of Public Works imposes requirements that are more restrictive than standard requirement of the Stormwater Management Ordinance, the more restrictive standards shall be considered the minimum requirements for credit purposes. The utility customer must submit documentation demonstrating that a management practice on their property exceeds the peak flow reduction criteria to the Department of Public Works (DPW). The amount of credit will be based on the prorated amount by which the property is exceeding the requirements.

The amount of Stormwater Peak Flow credit will be based on the following criteria:

a. Post-development flow from all design storms, as defined in Article VI of Chapter 20 of the City's stormwater management ordinance, meet or exceed the minimum requirements.

b. Property must reduce the peak flow rate of the 10-year design storm below the City required rate. All calculations shall use the 10-year storm as defined in Article VI of Chapter 20. For existing developed properties with no peak flow reduction requirements, the allowable peak flow rate is based on the actual peak flow rate for the developed property prior to installation of peak flow reduction practices.

The credit amount will be based on the percentage the property exceeds the minimum peak flow control requirements for the 10-year design storm. An example of credit calculations is provided in Table 1.

Table 1: Example Stormwater Peak Flow Fee Credit Calculations

Reduce peak flow below the requirement by:	0%	20%	40%	60%	80%	100%
Multiply by 60% (maximum eligible credit for peak flows)	60%	60%	60%	60%	60%	60%
The utility fee credit will be:	0%	12%	24%	36%	48%	60%

To calculate the percentage amount by which Peak Flow is reduced below the requirement, subtract the actual 10-year peak runoff rate from the allowed 10-year peak runoff rate. Then divide the resulting value by the allowed 10-year peak runoff rate.

2. Practices That Provide Measureable Benefits Which Exceed Runoff Quality Requirements

This credit applies to properties that provide privately constructed, owned, and maintained runoff quality practices that are not Basic Stormwater Practices, and which provide measurable benefits according to accepted engineering practices and any applicable DNR technical standards. Properties that implement pollution control management practices to reduce stormwater sediment (Total Suspended Solids, or TSS) beyond the requirements of the City's Stormwater Management Ordinance may be eligible for a credit. Minimum stormwater management standards for runoff quality are described in the Stormwater Management section of the Appleton Municipal Code, Chapter 20, Article VI, Sec 20-312. If, during site plan or stormwater management plan review, the Department of Public Works imposes requirements that are more restrictive than standard requirements of the Stormwater Management Ordinance, the more restrictive standards shall be considered the minimum requirements for credit purposes. The utility customer must submit documentation demonstrating the sediment control effectiveness of the management practice on their property to the Department of Public Works (DPW). The amount of credit will be based on the prorated amount as described below.

The amount of Stormwater Quality credit will be based on the following criteria:

a. For new development and redevelopment properties as defined in the City's stormwater management ordinance:

1) All requirements of the City's stormwater management ordinance must be met.

2) If the stormwater Total Suspended Solids (TSS) reduction practices exceed the minimum requirements, then a credit is applied pro-rated to the level of TSS reduction achieved. An example of credit calculations is provided in Table 2.

Table 2: Example Stormwater Quality Credit Calculations for a New Development Parcel Required to Reduce Sediment by 80%

Parcel reduces TSS by:	80%**	85%	90%	95%	100%
Pro-ratio*	0/20	5/20	10/20	15/20	20/20
Multiply above row by 13% max eligible quality credit	13%	13%	13%	13%	13%
The utility fee credit will be:	0%	3%	6%	10%	13%

* credit pro-rated based on the percent sediment control remaining after the minimum requirement is met.
** this column does not exceed minimum requirement of City ordinance, thus no stormwater utility credit is applied.

b. For existing developed properties with no pollution control requirements, the credit will be equal to the pro-ratio multiplied by 13%, where the pro-ratio is equal to the sediment control achieved compared to the property under the pre-management condition. In no case will the credit for this category exceed 13%.

   For example: If an existing developed property installs a stormwater pollution management measure that reduces sediment pollution from the property by 20%, the property shall be eligible for a 2.6% credit. (20/100 * 13%)

3. Riparian Properties

Properties that discharge stormwater from all or a portion of their property directly into the Fox River, without entering a City of Appleton municipally owned stormwater conveyance system, may be eligible for a credit. The credit amount will be pro-rated based on the percent impervious area of the property that drains directly to the Fox River. Properties located on other creeks, streams and/or ditches, are not eligible for this credit.

For example if a property has 50% of its impervious area draining directly to the Fox River without entering the City's stormwater conveyance system, the eligible credit will be calculated as follows:

Stormwater Base Fee Portion of 27% =	0% (no credit applied)
Stormwater Peak Flow Fee Portion = 50% x 60% =	30%
Stormwater Quality Fee Portion = 50% x 13% =	6.5%
TOTAL CREDIT	36.5%

4. Properties that Implement Basic Stormwater Practices

Properties that implement the practices listed in Appendix B, Basic Stormwater Practices are

potentially eligible for a credit. To be eligible for a credit, the property owner shall:

- Submit a credit application per Section VI of this policy.
- Allow the City of Appleton to enter the property to inspect the practice.
- Install and maintain one or more practices according to the listed standards and in such a way that the practice provides a runoff quality benefit typical of such practices.
- Submit a photograph of the practice after installation.

Refer to Appendix B for applicable credits and conditions.

V. Credit Criteria for Single-Family and Two-Family Properties

Properties that implement the practices listed in Appendix B, Basic Stormwater Practices are potentially eligible for a credit. To be eligible for a credit, the property owner shall:

- Submit a credit application per Section VI of this policy.
- Allow the City of Appleton to enter the property to confirm the outdoor practice(s).
- Install and maintain one or more practices according to the listed standards and in such a way that the practice provides a runoff quality benefit typical of such practices.
- Submit a photograph of the practice after installation.

Refer to Appendix B for applicable credits and conditions.

VI. Credit Request Submittal Requirements

The Director of Public Works shall review credit request submittals for compliance with this policy.

1. Multi-Family and Non-Residential Property:

A. Review Fee

i. Basic Stormwater Practices. There is no review fee for this category

ii. Stormwater Practices with Measurable Benefits. Prior to review, the individual requesting the review shall pay a non-refundable review fee of $200.00.

B. Required Documentation

i. Application Form

The applicant shall submit a completed application form to the Department of Public Works, Engineering Division.

ii. Narrative Description, Certification and Supporting Documentation

Applicant shall provide a report including a narrative description, supporting documentation, and certification as described herein.

Narrative description shall describe the amount and type of credit requested, and describe in general the property and the basis for the request.

For non-riparian properties, the applicant shall provide written certification that the stormwater practices that are the subject of the credit have been constructed and are functioning in the manner indicated on the credit request calculations, and are owned and maintained by the property owner.

For practices that are not Basic Stormwater Practices, the applicant shall provide for DPW review and approval any hydrologic/hydraulic studies, plans, computer models, and other supporting documentation required to demonstrate, to the satisfaction of the Director, that the measures taken meet the requirements for the credits requested. A Registered Engineer or Hydrologist, licensed in the State of Wisconsin, must certify supporting plan and calculations.

For riparian properties, the applicant shall provide a site plan (to scale) showing existing elevations, drainage divides, and drainage patterns. The plan shall be stamped by an engineer or surveyor licensed in the state of Wisconsin.

iii. Operations and Maintenance Manual and Agreement

For practices that are not Basic Stormwater Practices, the applicant shall provide a manual for the operation, inspection, and maintenance of each stormwater practice, to ensure that it will continue to function as designed. The applicant shall also sign an Operation and Maintenance Agreement that will be recorded with the appropriate county to ensure continued maintenance of on-site practices. The applicant shall provide records of the inspection and maintenance performed pursuant to the approved Operation and Maintenance Agreement.

2. Single-Family and Two Family Residential Property

A. <u>Review Fee</u>

There is no review fee for this category.

B. Required Documentation

i. Application Form

The applicant shall submit a completed application form to the Department of Public Works, Engineering Division.

ii. Certification and Supporting Documentation

Applicant shall provide the following information with the application form:

- A site plan (to scale, with aerial photo) showing location of on-site stormwater management practice(s) and size of contributing impervious area(s)
- Copy of manufacturer's information (if applicable)
- Plant list and sizing calculations (for rain gardens)

3. Approval Process

A. Director's Review

The Director shall have thirty (30) business days to review credit applications, whereupon the Director may approve the application, deny the application, or provide comments for resubmittal. In the event of a resubmittal request, the thirty-day period referred to above shall begin again once the requested additional information is received.

B. Appeals

If the Director denies a credit request, the applicant may appeal the decision pursuant to sec. 20-239 of the Appleton Municipal Code. The applicant must file a notice of appeal with the Director no later than fifteen (15) days after receipt of the decision of the Director. Failure by an applicant to file an appeal in accordance with the foregoing provisions shall be deemed to constitute a withdrawal of the application for a credit. As the committee of jurisdiction, the Utilities Committee shall approve, disapprove, or conditionally approve with changes the credit request.

C. Annual Reevaluation

All credits shall be subject to an annual review for compliance with the terms and conditions of the credit at the time it was granted as well as the criteria of the current policy. Credits may vary or be eliminated over time. It is the responsibility of the billed customer to provide the Director with any and all changes to the conditions of the onsite practices and conditions that may affect the credit rate for the site. Violations of the terms and/or conditions of the credit request may be subject to collection of utility fees retroactive to the date of the violation.

VII. Effective Date and Expiration of Credits

A. Effective date of credits.

a. Credits for Basic Stormwater Practices will be effective approximately 60 calendar days after they are approved.

b. All other credits will become effective the date they are approved.

B. Expiration of Credits

a. Ongoing Multi-Family and Non-Residential credits for Basic Stormwater Practices automatically expire as described in Appendix B. Other stormwater credits do not automatically expire. Credits are subject to cancellation or modification at any time if practices are found not to meet applicable credit standards. Credits are subject to modification based on changes to the credit standards. The applicant is responsible for tracking the date of credit expiration. The City does not provide notification of credit expiration, and any such changes are reflected by the amount billed.

b. Ongoing Single- and Two-Family credits automatically expire as described in Appendix B. A new credit application must be filed to be eligible for a credit after credit expiration. Subsequent applications are allowed. Credits are subject to cancellation or modification at any time if practices are found not to meet applicable credit standards. Credits are subject to modification based on changes to the credit standards. The applicant is responsible for tracking the date of credit expiration. The City does not provide notification of credit expiration, and any such changes are reflected by the amount billed.

Appendix A
Stormwater Utility Credit Application Form

CITY OF APPLETON
STORMWATER UTILITY CREDIT APPLICATION FORM

June 2016

Submit completed application and any necessary attachments to:

City of Appleton Department of Public Works
Attn: Engineering Division
100 N. Appleton Street
Appleton, WI 54911

Please read the requirements of the City of Appleton Stormwater Utility Credit Policy prior to completing this application. You may contact the Engineering Division at 920-832-6474 if you have any questions.

Property Information	Utility Account #
Property Owner Name:	
Property Address:	
Phone & E-mail:	

Check all practices for which you are applying for a credit:

Residential (Single Family and 2-Family Credits)

	Stormwater Practice (No Application Fee)	**Credit Amount**
☐	Rain Barrel (Min 40 Gal. Capacity) _____Number of barrels Installed $0 Application Fee	One-Time Credit $20 per barrel Maximum $80 Credit per property
☐	Rain Garden $0 Application Fee	Ongoing Credit $25 per year. Expires after 3 years.
☐	Pervious Pavement System $0 Application Fee	Ongoing Credit $25 per year. Expires after 3 years.
☐	Stormwater Pledge Supporter (must attach completed pledge form) $0 Application Fee	Ongoing Credit $10 per year. Expires after 3 years.

Multi-Family and Non-Residential Credits

	Stormwater Practice/Application Fee	**Credit Amount**
☐	Rain Barrel (Min 55 Gal. Capacity) ____ number of barrels installed $0 Application Fee	One-Time Credit $20 per barrel Maximum $80 Credit per property
☐	Rain Garden $0 Application Fee	Ongoing Credit $25 per year. Expires after 3 years.
☐	Stormwater Peak Flow/Quality Practice must provide calculations $200 Review Fee Applies	Special, See Credit Policy Section IV
☐	Riparian Property must provide drainage map $200 Review Fee Applies	Special, See Credit Policy Section IV

Attach the following information to your application (Refer to Stormwater Utility Credit Policy for guidance):

(1) Site plan (to scale) showing location of onsite stormwater management practice(s) and size of contributing impervious area(s) (rooftop, driveway, concrete walks/patios).
(2) Copy of manufacturer's information (if applicable)
(3) Plant list and sizing calculations (for rain gardens)
(4) For Multi-Family and Nonresidential properties applying for Peak Flow Reduction credit, applicant must submit documentation for function of practice(s) per Credit Policy.
(5) For Multi-Family and Nonresidential properties applying for Runoff Quality credit, applicant must submit documentation for function of practice(s) per Credit Policy.

Property Owner Certification

By signing this application, I certify that I am the owner or authorized representative of the owner and have read this application and understand the terms and conditions of Appleton's Stormwater Utility Credit Program. I certify that this application and additional materials accurately describe stormwater management practices on the property identified on this application. I hereby grant the City permission to enter this property for the sole purpose of confirming the outdoor stormwater management practices on my property.

Property Owner Signature	Printed Name	Date
Reviewed By	Printed Name/Title	Date
Approved By	Printed Name/Title	Date**

**For single- and two-familiy properties, this credit approval is valid up to three years from date of approval. After this period, property owner must submit a new application to remain elligible for a credit.

Terms and Conditions

The design of the on-site stormwater management practice must be approved by the City of Appleton Public Works Department before a credit will be issued. **Applicants may submit this application form along with the required supporting documents for review prior to the installation of any on-site stormwater management practice, but credit will only be applied once practices are in-place.** The City may require the applicant to have the design certified and stamped by a registered Wisconsin Professional Engineer qualified in stormwater management design (see policy for further information).

The City grants stormwater utility credits to the property owner. If approved, the credit will be deducted from the City stormwater bill for the utility account provided on this application. The City may revoke the discount, require payment of previous discounts, and impose civil penalties if any of the following conditions occur:

(1) the City finds that this application is inaccurate;
(2) the private stormwater management system is unsafe or illegal;
(3) the property does not comply with City building, plumbing, or stormwater requirements; or
(4) the practice is not operated and maintained as required;
(5) the City is denied an opportunity to conduct a site confirmation of the stormwater systems.

The Director of Public Works or their designee may change the amount of the stormwater credit in response to changes in the stormwater utility rates, changes to the Credit Policy, or changes to the property.

Appendix B
Basic Stormwater Practices

1. Rain Barrel (One-Time $20 Credit per Barrel, Maximum $80 per Property)

   This credit applies to properties that provide one or more onsite rain barrels to collect and contain rooftop runoff. Each rain barrel shall have a minimum storage capacity of 40 gallons (for one- and two-family) or 55 gallons (for multi-family and nonresidential) and shall receive runoff from at least one-quarter of the roof surface of the residence in question.

   There are many functional rain barrel configurations. Unless otherwise allowed by City of Appleton, rain barrels shall follow the guidance provided in University of Wisconsin Garden Facts: Rain Barrels, Revised February 5, 2008 (XHT1157).
   http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/LC_PDF/Rain_Barrels.pdf

2. Rain Garden (Ongoing $25 Annual Credit)

   This credit applies to properties that provide one or more onsite rain gardens to collect runoff from impervious onsite sources. Such practices shall receive runoff from at least one quarter of the impervious surfaces on the site.

   Rain Gardens shall be constructed and maintained according to WDNR Publication PUB-WI-776 2003 (UWEX Publication GWQ037) "Rain Gardens a How To Manual for Homeowners".
   http://dnr.wi.gov/topic/shorelandzoning/documents/rgmanual.pdf

   This credit automatically expires after 3 years, at which time a new credit application may be submitted. The applicant is responsible for tracking the date of credit expiration. The City does not provide special notification of credit expiration, and any such changes are reflected by the amount billed.

3. Pervious Pavement System (Ongoing $25 Annual Credit)

   This credit applies to single- and two-family properties that provide a minimum of 200 square feet of pervious pavement system driveway on private property, constructed and maintained according to manufacturer's guidelines such that infiltration of runoff occurs.

   Multi-family and non-residential properties that implement a Pervious Pavement System are not eligible for a credit as a Basic Stormwater Practice. Such properties shall follow the requirements for Peak Flow Reduction and/or Runoff Quality practices in Section IV.

   The pervious pavement system shall not violate standards in City Ordinance Sec 19-91 "Parking in front and side yard in residential district; parking on terraces."

   This credit automatically expires after 3 years, at which time a new credit application may be submitted. The applicant is responsible for tracking the date of credit expiration. The City does not provide special notification of credit expiration, and any such changes are reflected by the amount billed.

4. Stormwater Supporter Pledge (Ongoing $10 Annual Credit)

   The City of Appleton encourages "good housekeeping" stormwater practices by homeowners. This credit applies to single- and two-family property owners who sign and submit the Appleton Stormwater Supporter Pledge Form and then implement pledge practices over the duration of the credit. For single- and two-family properties, this credit automatically expires after 3 years, at which time a new credit application may be submitted. The applicant is responsible for tracking the date of credit expiration. The City does not provide special notification of credit expiration, and any such changes are reflected by the amount billed.

Appendix C
Appleton Stormwater Supporter Pledge Form

Appleton Stormwater Supporter Pledge Form

Submit completed pledge form to:
City of Appleton
Department of Public Works
Attn: Director of Public Works
100 N. Appleton Street
Appleton, WI 54911

Please contact the Department of Public Works at 920-832-6474 if you have any questions on this pledge form.

Property Information	Utility Account #:
Property Owner Name:	
Property Address:	
Phone & E-mail:	

Property Owner Certification

By signing this pledge form, I certify that I am the owner or authorized representative of the owner of the subject property listed above. I certify that I am pledging that everyone on this subject property will follow 30 of the total 47 activities as checked off on the following pages. I hereby grant the City permission to enter this property for the sole purpose of confirming the outdoor practices on my property.

Property Owner Signature | Printed Name | Date

Reviewed By | Printed Name/Title | Date

Welcome to the Appleton Stormwater Supporter Program!

The Appleton Stormwater Supporter program is a community education and action project that helps local residents and businesses do their part for clean water. Take a moment to look through this application form and learn how you can help prevent pollution to Appleton's waters. You may find you have already incorporated many water-friendly practices into your daily life. We hope you will find new ideas to try as well.

To be a "Appleton Stormwater Supporter", fill out this form and submit it to the Appleton Public Works Department. We want to know what you are already doing to protect the watershed and which new things you will try. Applicants that can demonstrate they are doing at least 30 of the 47 activities noted to protect Appleton's waters are eligible for a credit on their stormwater utility bill.

Join your neighbors in pledging to protect our watersheds. Remember, kids can help too (see http://www.renewourwaters.org/wp-content/uploads/2015/07/Kids-can-help-too.pdf for more info). Together we can make a difference!

The Appleton Stormwater Supporter program is sponsored by the City of Appleton's Stormwater Utility.

1. **Lawn Care**

   Everyone loves a green, healthy lawn. There are many ways to keep your lawn beautiful without applying harmful chemicals. The right amount of water and proper mowing are important to keep your lawn in top shape. Lawns consisting of short turf grass need no more than one inch of water every week. Too much water leads to run-off and an unhealthy lawn. Consider letting your lawn go brown and dormant during the summer dry season – it will green up when the rains return. A low growing clover (ie: Dwarf White 'Dutch' Clover – *Trifolium repens*) interseeded with your lawn will help keep it green during drought conditions and help capture nitrogen. Use 2-5 oz. per 1000 ft^2. If you have a shady area that you do not walk on much, 'Low-Mow' or 'No-Mow' grasses such as a mix of fine fescues (*Festuca ovina, Festuca longifolia, Festuca rubra, etc.*) may also be worth considering to reduce the need to mow your lawn.

   Grass clippings fertilize the lawn, help hold moisture, and improve soil organic matter content to reduce the need for chemical fertilizers that can end up in our groundwater. Instead of bagging your clippings, leave them on the lawn, add them to your compost pile, or use them as mulch in garden beds. Grass clippings will not cause thatch build-up. Thatch is mostly roots and stems, not grass blades.

   Consider using slow release natural fertilizers such as compost or corn gluten meal. Conventional fertilizers are petroleum-based products that have a high salt content. They also tend to be quick release, creating a greater risk of leaching into streams and groundwater. Grass takes up fertilizer best in late fall.

   Consider installing one or more rain barrels to collect roof runoff that would be lost. Catching rainwater allows you to water your garden and plants during dry periods, saving you money on your water bill. See http://www.renewourwaters.org/wp-content/uploads/2015/07/Rain-Barrel.pdf .

   Did you know a regular gas-powered mower emits pollutants into the air at over ten times the rate of the average car? When it comes time to buy a new mower, think about

getting a mulching, electric mower – they are quiet and will finely chop your clippings. Better yet, use a hand-powered reel mower, which gives your grass the healthiest cut, has the least impact on the environment, and is great exercise too! For more information, check out http://www.renewourwaters.org/wp-content/uploads/2015/07/The-Perfect-Lawn.pdf and http://www.renewourwaters.org/wp-content/uploads/2015/07/The-Pefect-Landscape.pdf for more information.

I pledge to:

	a.	Mow with a non-power or electric mower to reduce fossil fuel consumption, noise, air pollution, and run-off.
	b.	Leave grass clippings on the lawn and sweep them from sidewalk, driveway, and street areas back into the lawn.
	c.	Compost any collected grass clippings and other yard waste. Check http://clean-water.uwex.edu/pubs/pdf/managlt.pdf for composting information.
	d.	Obtain a soil test on my lawn before selecting a chemical fertilizer and sweep up any fertilizer that lands on the driveway, sidewalk, or street
	e.	Use natural lawn fertilizers such as compost or corn gluten meal.
	f.	Reduce lawn size and enhance the beauty of my yard by installing a rain garden with native vegetation. Many native plants require less water and maintenance than grass and provide better stormwater capabilities as well as habitat for native insects and animals. Check http://dnr.wi.gov/topic/shorelandzoning/documents/rgmanual.pdf for information on rain gardens.

2. Weeds and Pests

While they may seem to be a great solution to weed and pest problems, fertilizers, insecticides, fungicides and herbicides (collectively called pesticides), often provide a short-term solution with long-term consequences. The suffix "-cide" means "to kill." Insecticides kill insects, herbicides kill plants and fungicides kill fungus species. Understanding the nutritional and environmental needs of your lawn and garden will help you maintain them without chemicals. Most diseases and insects attack plants that are already stressed by poor growing conditions. For example, plants that thrive on sunny, sandy soil are likely to be susceptible to molds and other diseases when planted in shady, moist areas. Healthy plants well suited to their environment are the best prevention against pest and weed damage.

Avoid "weed and feed" products that spread chemicals over a large area instead of targeting specific weeds. These products also apply a heavy dose of quick-release fertilizer that your lawn oftentimes doesn't need. All pesticides can be harmful to the health of your family and pets by increasing exposure to toxic chemicals. Pesticides can also kill earthworms and other soil organisms that are beneficial to your lawn.

A healthy, fluffy soil high in organic matter is the best prevention for insect and disease problems. Regular soil aeration helps create a good environment for beneficial microbes and earthworms. Core aerate your lawn once a year in the fall or early spring. Then overseed to create a dense lawn that shades out weeds. Corn gluten meal is a natural product that fertilizes lawns and prevents weed seedlings from growing.

Check http://clean-water.uwex.edu/pubs/ for more information on yard and garden care recommendations.

I pledge to:

	a. Accept a few weeds, even clover which adds nitrogen to the soil.
	b. Target invasive and/or noxious weeds with hand-weeding or spot spraying.
	c. Avoid conventional "weed and feed" products and replace with corn gluten meal if necessary.
	d. Re-seed thin lawn areas to crowd out weeds.
	e. Read herbicide and pesticide labels and follow application directions. Never apply more than the recommended amount.
	f. Pick harmful insects off plants or spray them off with water.
	g. Keep pesticides from leaving my property via storm runoff.

3. Sanitary Sewer Savvy

Appleton's storm sewer system is separate from its sanitary sewer (wastewater) system. Well-maintained private sewer systems can provide years of reliable service. Poor housekeeping practices can affect the performance and longevity of private and public sanitary sewer systems. Poor housekeeping practices can also place a greater burden on Appleton's Wastewater Treatment Plant. Chemical drain cleaners, solvents, and some cleaning products can kill beneficial bacteria that make sanitary sewage treatment systems work. To keep wastewater systems healthy, try biodegradable cleaning products and do not flush baby wipes or cleaning wipes down your drains. Avoid pouring fats, oils, and grease (FOG) down the drain-- instead pour it into a container after it has cooled, secure the lid and put it in the trash. Check your basement plumbing to make sure your sump pump isn't connected to or discharging into your sanitary sewer. Inspect your floor drains to confirm there are no drain tiles connected to them. Drain tile piping should discharge to a sump pit and then to the outside of the building. Never dump unused medicine or hazardous products down the drain; never dump motor oil or other auto fluids down any sanitary drain.

See http://www.recyclemoreoutagamie.org/what-do-i-do-with/ for more information on disposing of special waste such as household hazardous waste.

I pledge to:

	a. Use biodegradable soaps and alternatives to hazardous cleaning compounds.
	b. Never put refuse down the drain or in toilets. Oil, grease, plastics, paper towels, wipes and cigarettes can clog the sanitary sewer system.
	c. Never flush unused medications down the toilet. Instead, take meds to an approved medication drop-off. See http://www.recyclemoreoutagamie.org/wp-content/uploads/2015/12/pill-dropoff-landing-page-Rev1.pdf for medication drop-off info.
	d. Verify that no basement floor drains are connected to my storm lateral, and that my sump pump and foundation drain tiles are not discharging into my sanitary lateral.

	e. Dispose of dirty wash water from carpet cleaning into a sanitary drain in my house, never into a storm drain. See http://www.renewourwaters.org/wp-content/uploads/2015/07/carpet-cleaning.pdf

4. In the Home: Tips on Toxics

Many household products contain hazardous ingredients. If improperly handled, they may end up in our local streams, wetlands, marshes, lakes, or groundwater. Small amounts of toxins from many homes can build up and cause big problems. When choosing a product, take a moment to read the label. Key words can alert us to the hazardous nature of products. "Danger'" "Caution" and "Warning" signify products that are potentially dangerous to the environment and animals, including humans. If you choose to use a hazardous product, use the least toxic substance, buy only what you need, and use it up or dispose of it properly. For more information, see http://www.renewourwaters.org/wp-content/uploads/2015/07/Household-Hazardous-Waste.pdf . For disposal of hazardous products, such as household cleaners, pesticides, oil paints, and solvents, visit http://www.recyclemoreoutagamie.org/what-do-i-do-with/ for more information.

I pledge to:

	a. Use all-purpose cleaner made of 1 cup of vinegar in a pail of water.
	b. Use bathtub/sink cleaner – sprinkle baking soda, scrub, and rinse.
	c. Use drain cleaner – pour ½ cup of borax in drain followed by 2 cups of boiling water.
	d. Use phosphate-free laundry soaps.
	e. Use oven cleaner – mix 2 teaspoons borax and 2 tablespoons liquid soap in a spray bottle of warm water. Spray on and clean after 20 minutes.
	f. Use toilet cleaner – scrub with a solution of ½ cup borax in 1-gallon water.
	g. Use window cleaner – mix 1 part vinegar to every 4 parts water.
	h. Read labels when purchasing household cleaning products and dispose of unused products as directed.

5. Pets and Animals

Animal waste is a serious water quality problem that is often overlooked. While there have always been animals, it was not until humans and their pets and farm animals concentrated populations along waterways that animal waste became a real problem. Waste from dogs, cats, horses, and waterfowl may contain disease-causing organisms that are harmful to both humans and animals. Animal waste also contains nutrients that encourage weed and algae growth in streams and lakes. Never put animal waste in a street inlet.

Did you know that dogs are not the only problem? Cat waste is also a significant contributor to water quality problems in urban watersheds. Encourage your cat to use a litter box inside and out. Keep it clean so that the cat will prefer it to the garden. Dispose of the waste in the trash.

I pledge to:

	a. Carry a bag and clean up after my pet when out walking and in the yard. I will either put it in a plastic bag in the refuse or give it a flush.
	b. Encourage my cat to use a litter box by keeping it clean. I'll dispose of the waste in the refuse rather than the yard or garden.
	c. Never feed ducks and geese. They will be healthier without my breadcrumbs and will not be encouraged to concentrate in one area where their waste would also be concentrated.

Check http://www.renewourwaters.org/wp-content/uploads/2015/04/Pet-Waste.pdf for more information on protecting our waters from pet waste.

6. On the Road

Automobiles are one of the largest sources of water pollution. Cars leak oil, antifreeze, and other fluids that are washed into waterways. Exhaust and brake systems also release chemicals, particulates, metals, and other compounds into the air and onto the ground. When these products get into streams or wetlands they are harmful to plants, fish, wildlife, and humans.

So each time you get in the car, remember the impacts and consider an alternative to driving. Driving less often and owning an efficient and well maintained car saves money and resources and helps protect the environment. For more information, see http://www.renewourwaters.org/wp-content/uploads/2015/07/Car.pdf .

I pledge to:

	a. Wash cars at a commercial car wash where wastewater is treated and recycled. If washed at home, cars will be washed on grass or permeable pavement with biodegradable soap.
	b. Maintain cars with regular tune-ups and fix fluid leaks. Clean up any leaks that accumulate on surfaces as soon as possible.
	c. Use ground cloths and/or drip pans under the car when working on it at home.
	d. Properly dispose of used antifreeze by taking it to a local auto service center that will accept it, or to the Brown County Hazardous Waste Facility. You can also use the Outagamie County Hazardous Waste Collection Program. See http://www.recyclemoreoutagamie.org/what-do-i-do-with/ for the latest schedule.
	e. Properly dispose of used motor oil by taking it to an approved drop-off. See http://www.recyclemoreoutagamie.org/what-do-i-do-with/#topic-Waste-Oil-Oil-Filters
	f. Reduce the number of car trips I take by consolidating errands, carpooling, walking, using public transportation, or riding my bike.
	g. Consider purchasing a more fuel efficient vehicle, or other method of transportation, when it's time to replace my current vehicle(s).

7. Runoff and Stormwater

In the natural world, soil acts like a sponge, filtering out impurities and slowly releasing water from runoff into the groundwater and adjacent surface waters. Hard surfaces such as roadways, parking lots, and rooftops increase runoff that contributes to flooding and water pollution. Porous surfaces, such as natural landscapes, and pervious pavement, slowly absorb pollutants and reduce runoff. Buffers along the banks of streams and water bodies filter sediments and other pollutants from runoff.

Appleton storm sewers and roadside ditches do not drain to the wastewater treatment plant; they carry runoff, along with any pollutants, directly to area streams and the Fox River. The combination of cars, homes, people, and animals in the watershed makes pollution from stormwater a serious threat to water quality.

I pledge to:

	a. Minimize or reduce paved or non-porous surfaces when planning to build or remodel.
	b. Use paving alternatives such as spaced paving stones, paver bricks, and paver blocks.
	c. Position rain gutters so they drain rainwater onto grass or garden beds and away from hard surfaces such as asphalt or concrete.

Appleton is a member of the Northeast Stormwater Consortuim (NEWSC). Check out the NEWSC "Renew our Waters" website at http://www.renewourwaters.org/ for more information.

8. Urban Forestry

According to the USDA Forest Service, planting trees improves water quality and reduces runoff and erosion. During rain events, trees capture and hold water in their canopy and then release it later into the atmosphere by evapotranspiration. Where rain falls on paved surfaces, a much greater amount of runoff is generated compared to runoff from the same storm falling over a forested area. The large volumes of water from impervious surfaces are swiftly carried to our local streams, lakes, wetlands and rivers and can cause flooding and erosion, and wash away important animal habitats. In addition, tree roots and leaf litter create soil conditions that promote the infiltration of rainwater into the soil. This helps to replenish our groundwater supply and maintain streamflow during dry periods. Visit http://www.arborday.org/trees/stormwater.cfm to get a better idea of how a city changes when more trees are present.

The benefits of trees are more than just reducing stormwater runoff. Trees around your home can increase its value by improving curb appeal. In the summer they provide shade (and save you money on air conditioning bills) and in winter help by providing wind breaks to help lower your heating costs. Trees remove carbon dioxide (CO_2) from the atmosphere and release oxygen, and they provide a habitat for birds and other small creatures. By properly maintaining existing trees and planting new ones, we both protect our streams and enjoy all of the other benefits that these plants have to offer.

For more information about planting trees in urban areas, visit http://www.forestsforwatersheds.org/storage/Part3ForestryManual.pdf to learn how to plant trees. Most established trees and shrubs in our area should never need fertilization. In particular, where trees are surrounded by fertilized turf, they very likely receive adequate nutrients.

I pledge to:

	a. Minimize removal of trees.
	b. Preserve established trees, plant new trees when possible, and replace any established trees that are cut down.
	c. Plant new trees that encourage diversity and site suitability. Select tree species that are appropriate for the climate and site conditions, including soils and sun exposure. Visit http://www.arborday.org/shopping/trees/treeWizard/intro.cfm to find a tree that's right for you.
	d. Mulch my leaves into my lawn, or compost them for use in the spring. See http://www.renewourwaters.org/wp-content/uploads/2015/07/Leaf-Collection.pdf for more info.
	e. Preserve and improve the soil quality around any trees. Soil should be accessible to air, water and nutrients. Minimize soil compaction, displacement, and erosion.
	f. Not over fertilize or over irrigate trees or lawns.

9. Ice and Snow

Winter is a fact of life in northeast Wisconsin. Managing ice and snow properly requires being aware of both safety and water quality. Shoveling frequently during and after snow storms, and using only as much salt as necessary will improve both safety and water quality. See http://www.renewourwaters.org/wp-content/uploads/2015/07/Ice-and-Snow-Control.pdf for more information.

I pledge to:

	a. Limit the amount of salt I apply to my sidewalk and driveway to the amount needed for safety, and not use it as a substitute for shoveling.
	b. Shovel during and immediately after snow storms to reduce snow and ice accumulation.