



City of Austin
Watershed Protection Department

505 Barton Springs Rd
One Texas Center
Austin, TX 78704

512-494-9400
www.austintexas.gov/DrainageDiscount



STORMWATER MANAGEMENT DISCOUNT

Guidance Manual

August 2017

TABLE OF CONTENTS

I. Background.....	3
II. Applicability.....	4
III. Eligible Stormwater Control Measures	6
IV. Inspection and Maintenance	9
V. Application Process	10
VI. Expiration of Discount	10
VII. Transfers	10
VIII. Discontinuance of Discount.....	10
IX. Maximum Allowable Discount	11
X. Calculation of the Discount.....	11
APPENDIX A <i>Discount Application Forms</i>	16
APPENDIX B <i>Discount Application Forms Completed Examples</i>	26
APPENDIX C <i>In filtration Test Procedure</i>	50
APPENDIX D <i>Stormwater Control Measure Maintenance Plans</i>	52



The drainage charge funds programs and projects to help protect Austin's creeks.

I. BACKGROUND

The Watershed Protection Department protects lives, property, and the environment by reducing the impact of flooding, erosion, and water pollution. As part of this mission, the department maintains and upgrades the City’s stormwater drainage system and protects Austin’s waterways from pollutants that run off when it rains. To do this, the department assesses a drainage charge which funds over 95% of its operating budget.

The drainage charge was first adopted in 1982. Since October 2015, the drainage charge has been calculated individually for each property based on the amount and percent of impervious cover. This method provides a close correlation between a property’s impact to the drainage system and the amount of the charge.

Watershed Protection has developed a Stormwater Management Discount to recognize the voluntary efforts of Austin’s residents and businesses to reduce the impact of their impervious cover. The discount applies to “**stormwater control measures**,” features like rain barrels, tanks or cisterns, green roofs, rain gardens, and certain ponds that capture, detain, and slowly release stormwater. Since all new developments and redevelopments must capture a certain amount of stormwater to receive a permit, this discount only applies to those doing more than what was required for the permit or development agreement. The amount of the discount is proportional to the additional benefit the stormwater controls provide.

This manual details the process and procedures for administering the Stormwater Management Discount and provides guidance for **Administrative Rules** under section 9.5.5 (D) pertaining to the discount.



After the 1981 Memorial Day Flood, Austin instituted a drainage charge to help the city prepare for flooding.

Austin History Center,
Austin Public Library,
PICA 29471

IMPERVIOUS COVER AND THE CALCULATION OF DRAINAGE CHARGE

Impervious cover includes rooftops, patios, driveways, parking lots, and other surfaces that do not absorb rainfall. Based on numerous studies, the two best indicators of a property’s impact on the drainage system are the amount and the percentage of impervious cover. The calculation for the drainage charge includes both these measures.

Monthly Drainage Charge = Monthly Base Rate x Amount of Impervious Cover x Adjustment Factor.

The adjustment factor incorporates the percent of impervious cover for each property, using a relationship developed from drainage studies:

Adjustment Factor = (1.5425 x Percent of Impervious Cover) + 0.1933

For an informative video of pervious vs. impervious cover, please visit:

www.austintexas.gov/drainagecharge.

Examples of Impervious Cover



II. APPLICABILITY

THIS SECTION DETAILS FIVE DIFFERENT REQUIREMENTS FOR THE DISCOUNT TO BE APPLIED.

1. TENANTS AND OWNERS CAN APPLY FOR THE DISCOUNT

The City of Austin can only apply the discount to utility accounts that are billing for the drainage charge. For those living in a house or duplex, whether owned or rented, this is fairly straightforward. The resident is most often being charged for drainage directly by the City.

For many multi-family and business properties, the billing may be more complicated. In these cases, the property owner, property manager, or homeowners association is generally billed by the City of Austin for the drainage charge. However, they generally pass the charge along to their tenants through their lease agreements. This means the tenant ultimately may pay the drainage charge, but the landlord is the one billed by the City of Austin. A tenant may apply for the discount on behalf of their landlord. However, the discount will be applied to the landlord's account. It is up to the tenant to work with the landlord how the discount can be appropriately passed along to the tenant.

This same situation may apply to residents in condominiums. For example, a condominium resident may apply for a discount (say for a rainwater harvesting system on their unit). Since the condominium resident doesn't pay a drainage charge to the City of Austin, the discount would be applied to the condominium association's overall utility bill. The condominium resident would need to discuss with the association an appropriate way for the discount to be passed along, such as through reduced dues.

It is important for tenants and condominium residents in this situation to know that, as much as City staff wants to assist them, City staff cannot legally discuss information from utility accounts that are not in their name. This information includes items like the amount of the drainage charge, the amount of the discount, or other utility account information. Discussing utility accounts of others is prohibited by a federal law called the Fair and Accurate Credit Transactions Act of 2003.

2. ONLY VOLUNTARY STORMWATER CONTROLS ARE ELIGIBLE

In most cases, a rain garden or tank at a single-family home has been voluntarily installed. For commercial properties, stormwater control measures are often required. To be eligible for a discount, the stormwater control measure must exceed the legal requirements for development of the property. Stormwater control measures that are legally required



For properties with multiple units, the City usually assesses the drainage charge to the property manager or homeowners association, who may pass the charge on to the individual units.

for development are described in [Chapters 25-7](#) and [25-8](#) of the City's Land Development Code. A stormwater control measure adopted pursuant to any agreement between a developer and City government, such as a development agreement, a Planned Unit Development (PUD), or a variance, would also be considered as legally required, and thus not eligible for a discount.

Generally, the easiest way to demonstrate this requirement is to identify whether the stormwater control measure was installed as part of development/redevelopment. If so, it was probably required and thus not eligible. However, if it was installed as a stand-alone item after development, it is likely a voluntary effort and eligible. There will be exceptions to this approach, and the burden is on the requestor to demonstrate compliance with this requirement, if requested. For example, it is possible that a particular stormwater control measure may have been required for development, but it was built larger than what was required. Thus the amount (i.e., volume) built beyond what was required would be eligible for a discount.

3. MAINTENANCE IS REQUIRED

The customer or tenant is required to maintain the stormwater control measure in order to continue to receive the discount. The discount expires after two years unless renewed by the applicant. More information is provided on this in later sections.

4. PERMITS MAY BE REQUIRED

In some cases, a permit or other approval may be needed to build or install a stormwater control measure. The City may require the permit or there may be other regulations, such as plumbing code requirements for larger cisterns or homeowner association requirements. The applicant is responsible for obtaining all required approvals and must be able to show evidence of the approvals, if requested.

5. STORMWATER CONTROL MEASURES MUST BE COMPLETED

Stormwater control measures must be fully constructed and operational in order to be eligible for the discount. However, Watershed Protection staff are available to discuss potential discount applications from those who are interested in obtaining this discount for their future developments and would like to facilitate the review/approval process for the discount prior to submission. Once constructed and permitted, an application will still be required to verify the completed stormwater control measures.

WHAT DOES THE CODE SAY?

The drainage charge is authorized in Chapter 15 of the City of Austin's Code of Ordinances. The code can be found online at: <https://www.municode.com/library/tx/austin/codes>.

§ 15-2-7(C) requires the discount to be proportional to the benefits of the stormwater control. The code reads, "The director may credit the monthly drainage charge based on voluntary installation of on-site stormwater control measures that exceed the applicable requirements of City Code, state law, or a development agreement with the City. A credit under this subsection:

- (i) may not exceed an amount equivalent to a 50% reduction in the square feet of impervious cover under the formula established in Subsection (B) of this section; and
- (ii) must be based on criteria, established by administrative rule, that tie the amount of the credit to the overall value of voluntary stormwater control measures in reducing runoff from the benefited property."

APPLY ONLINE AT

[www.austintexas.gov/
DrainageDiscount](http://www.austintexas.gov/DrainageDiscount)

III. ELIGIBLE STORMWATER CONTROL MEASURES

THE FOLLOWING STORMWATER CONTROL MEASURES ARE ELIGIBLE FOR DISCOUNT:



**RAINWATER
HARVESTING SYSTEMS
(TANKS)**



RAIN GARDENS



**DETENTION AND WATER
QUALITY PONDS AND
RETENTION/IRRIGATION
SYSTEMS**



GREEN ROOFS

These stormwater control measures capture, detain, and slowly release runoff from impervious surfaces and are identified in the City of Austin’s [Drainage Criteria Manual](#) (DCM) and [Environmental Criteria Manual](#) (ECM).

Stormwater Control Measures that slow down runoff, but do not capture and detain it temporarily, are not eligible. Examples include vegetative filter strips or other types of vegetation. Porous pavement is also not eligible for a discount because the Environmental Criteria Manual only considers porous pavement as self-treating, meaning it only mitigates for its own footprint. However, even though it is not eligible for the discount, porous pavement may reduce your drainage charge because it may not be considered 100% impervious cover in the calculation of the charge. If you have porous pavement, instead of applying for the discount, please call customer service at 512-494-9400 to make sure your drainage charge is taking into account the porous pavement. Finally, swimming pools are not eligible for a discount as they typically do not capture runoff from impervious cover.

There are many requirements in the Drainage and Environmental Criteria Manuals about where stormwater control measures are allowed and how they should be designed, constructed, and maintained. For purposes of the Stormwater Management Discount only, the guidance provided in this document shall take precedence if there is a conflict with the Drainage or Environmental Criteria Manuals. For example, the Environmental Criteria Manual states that rainwater harvesting systems (tanks) may only be permitted for commercial developments to obtain water quality credit. However, for purposes of this discount program, tanks under any land use are eligible.

To be eligible for a discount, stormwater control measures must capture runoff from impervious cover. They cannot only capture runoff solely from pervious or unpaved areas.

Example: Tank



Example: Tank



Example: Rain Gardens



A DESCRIPTION AND ELIGIBILITY CRITERIA OF EACH STORMWATER CONTROL MEASURE ARE PROVIDED BELOW:



RAINWATER HARVESTING SYSTEMS

Rainwater harvesting systems hold water that typically drains from roof gutters. This stored water can be released slowly after storms. Tanks can vary in capacity with some holding thousands of gallons.

ELIGIBLE RAINWATER HARVESTING SYSTEM REQUIREMENTS:

- 40 gallon minimum capacity
- Spigot, hose, or other way to release the stored water
- Screening at inlet and other access points to prevent mosquito larvae.
- Backflow prevention for non-gravity systems over 500 gallons as required by Austin Water.

In addition, while not required, one or more pre-treatment devices such as leaf guards, downspout filters, strainer baskets, filter socks, and first-flush diverters are strongly recommended to minimize future maintenance efforts and prevent pollutants from entering tank.



RAIN GARDENS

A rain garden is a vegetated, depressed landscape area designed to capture stormwater runoff. The runoff soaks into the soil over the course of a couple of days. If the soils under the rain garden do not soak up sufficient water, there may be an underdrain system beneath the rain garden that allows it to drain in less than 48 hours.

ELIGIBLE RAIN GARDENS:

- Ponding depth must be at least 6 inches and no more than 12 inches.
- Must be at least 50 square feet in area. Multiple smaller rain gardens cannot be added together to meet this 50 square foot requirement unless they are adjacent and connected such as a stair-stepped series of rain gardens.
- If there is no underdrain, the infiltration rate of the underlying soil must be sufficient to drain in 24 hours. See [Appendix C](#) for how to perform an infiltration test.

Raised rain gardens may be accepted provided there is no leakage through the perimeter walls and the raised bed meets all other rain garden requirements.

In addition, while not required, some level of pre-treatment is strongly recommended, such as a sediment chamber, a vegetated or manufactured separator/screen, or a vegetated filter strip to minimize future maintenance efforts and prevent pollutants from entering the rain garden(s).

Example: Stormwater Ponds



DETENTION PONDS, WATER QUALITY PONDS, AND RETENTION/IRRIGATION SYSTEMS

This category includes a range of pond facilities such as detention, extended detention, sedimentation/filtration, biofiltration, and retention/irrigation systems. Most detention and water quality ponds are built to meet development requirements and would typically not be eligible for a Stormwater Management Discount. However, some ponds may be larger than what was required for development. The excess volume is eligible for a Stormwater Management Discount. Excess pond volume that was part of a development agreement or other incentive mechanism is not eligible, nor is excess volume provided as a safety factor (such as freeboard requirements).

ELIGIBLE DETENTION PONDS, WATER QUALITY PONDS, AND RETENTION/IRRIGATION SYSTEMS:

1. For ponds that have been permitted as part of a development process:

- Show approval through a Site or Subdivision Plan or other development plan.
- Must clearly show the extra voluntary volume that exceeds the volume required for development. Stormwater control measures that required a Professional Engineer (PE) seal to construct will also require a PE seal for the supporting calculations to demonstrate the excess voluntary volume.

2. For ponds that have not been permitted as part of a development process:

- Ponding depth must exceed 12 inches.
- Must be at least 50 square feet in area. Multiple smaller ponds cannot be added together to meet this 50 square foot requirement unless they are adjacent and connected such as a stair-stepped series of ponds.
- For ponds that typically store water for longer periods (stock ponds, fountains, landscaped ponds), only the stored volume above the normal operating water surface is eligible for a discount. Thus, if a stock pond or fountain is typically full to the brim it is not eligible for this discount.
- Calculations and sufficient visual evidence must be provided demonstrating the available volume. Stormwater control measures that required a Professional Engineer (PE) seal to construct will also require a PE seal for the supporting calculations to demonstrate the excess voluntary volume.

Example: Green Roofs



GREEN ROOFS

A green roof is a roof top that is covered in plants and vegetation. It is built upon a waterproofed surface and can be at any level of a building. It must be separated from the natural ground by a human-made structure.

ELIGIBLE GREEN ROOFS:

- Must have been voluntarily developed and not used to meet a variance or a development requirement such as open space, parkland dedication, or density bonuses. If the green roof was built to meet an Austin Energy Green Building (AEGB) Program credit where following AEGB was mandatory, the green roof is not eligible for a discount.
- Must have a valid building permit.

The applicant must provide calculations that show how much stormwater is captured by the roof (designed capture volume).

In addition, while not required, consider combining a rainwater harvesting system with the green roof to minimize potable water use and help ensure long-term vegetation survival.

IV. INSPECTION AND MAINTENANCE

Stormwater control measures must be properly maintained in order to function as designed. As part of the application process, customers must sign a commitment form agreeing to a minimum level of maintenance for their stormwater control measures. In addition, the Watershed Protection Department reserves the right to inspect any Stormwater control measures that have been approved for this discount and verify that they are functional. Maintenance guidelines for Stormwater control measures can be found in [Appendix D](#) of this document.

MAINTENANCE EXAMPLES

- Trash, sediment, and debris should be removed or screened prior to entering stormwater control measures to ensure proper operation and water flow.
- Structural integrity must be maintained at all times. The owner should regularly inspect and promptly make repairs when necessary to restore the original functionality.



V. APPLICATION PROCESS

To receive a Stormwater Management Discount, the customer must submit an application to the City after the stormwater control measure has been installed. Apply online at www.austintexas.gov/DrainageDiscount.

THE APPLICATION SHALL INCLUDE:

- A completed application form and pertinent worksheet(s)
- Photographs of the stormwater control measure in place, and
- Supporting plans, drawings, or calculations, if required

Upon receipt of your application, the City will first review the amount of impervious cover on your property and will correct any errors. This may result in an increase or decrease to your drainage charge before the potential discount, if any, is applied. You may wish to use the “[Find My Drainage Charge](#)” tool to check your impervious cover before applying for a discount.

The City may request additional information necessary for review and approval. If the application is approved, the City will notify the customer of approval and begin providing the Stormwater Management Discount. Depending on the specific day of approval, the discount may not appear until the following month’s utility bill statement.

VI. EXPIRATION OF DISCOUNT

The Stormwater Management Discount is valid for a period of two years (24 months) from the date the discount first appears on your bill. After two years, the discount will expire unless the applicant successfully submits a renewal application. This two-year cycle is intended to ensure the Stormwater control measure is still present, functioning as intended, and eligible for a discount.

VII. TRANSFERS

The discount will lapse if the customer who is receiving the discount moves, closes their account, or is no longer associated with the property where the discount was implemented. The new resident may request that the discount be transferred to their account by completing a renewal application with a transfer request. Once approved, the two-year time period for the stormwater control measure will start over from the date of approval of the renewal application. Similarly, if someone moves a tank to a new property, a new application is required to receive the discount at the new location.

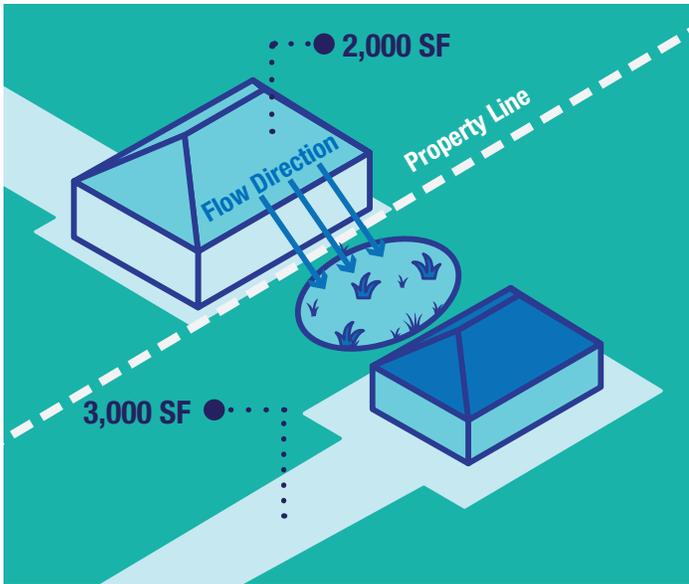
VIII. DISCONTINUANCE OF DISCOUNT

If it is determined, whether by means of inspection or otherwise, that the account holder or their tenant is not maintaining a stormwater control measure approved for a discount or if the application/renewal contains a misrepresentation of facts, the discount may be discontinued and the account holder may be back-charged for the discount from the date the discount was awarded or from the date of violation. A notice of noncompliance may be issued which includes a list of required repairs. The customer will have 45 days from delivery of notice to correct the deficiency and contact Watershed Protection for re-inspection. Failure to do so will result in loss of the discount. After loss of the discount, the customer may submit a new application, but will need to demonstrate at least six months of adequate maintenance prior to reinstatement of the discount.

IX. MAXIMUM ALLOWABLE DISCOUNT

The amount of the discount will vary from property to property, based on the amount of impervious cover, the percent of impervious cover, and the volume of stormwater captured by the stormwater control measure. The discount is calculated by reducing the amount and percent of impervious cover at the property.

Up to 50% of a property's impervious cover may be reduced with this discount. Because of the way the drainage charge is calculated, this means that up to 70% of the drainage charge can be discounted. See Calculation of the Discount for examples.



OFFSITE IMPERVIOUS COVER

It is possible an account holder may have built a stormwater control measure to mitigate for impervious cover that is not on his or her property, e.g., a rain garden built in the backyard to capture runoff from a neighbor's property. For these cases, the account holder must still demonstrate the amount of impervious cover that is being mitigated (a Stormwater Management Discount cannot be provided for captured runoff solely from non-impervious surfaces). However, the maximum allowable discount of 50% impervious cover is still applied to the amount of impervious cover on the account holder's property. For example, a customer owns a property with 3,000 sqft of impervious cover. This customer has a rain garden that offsets 2,000 sqft of impervious cover from an adjacent property. The most this customer's rain garden can offset is 1,500 sqft ($3,000 \times 50\%$).

X. CALCULATION OF THE DISCOUNT

The amount of the discount, like the amount of the drainage charge itself, will vary depending on the total amount and percentage of impervious cover at each property.

Since the drainage charge is based on impervious cover, the discount must be calculated through impervious cover measurements. First, the City looks at the volume of the stormwater control measure – how many gallons of stormwater runoff can it hold? Next, the City converts those gallons to square feet of impervious cover. This will be the amount of impervious cover potentially discounted.

This potentially discounted impervious cover is then subtracted from the total impervious cover of the property. This will reduce both the amount and percent of impervious cover used to calculate the drainage charge and result in a reduced drainage charge. There are three important caveats:

1. The discounted impervious cover is capped at 50% of the total impervious cover on any given property.
2. Only impervious cover draining to the stormwater control measure can be discounted. For example, only the impervious cover on the roof can be discounted for a rainwater harvesting system, not the impervious cover of the driveway, which is not draining to the system.
3. There is a sliding scale for converting the volume of the stormwater control measure to impervious cover as described below.

CONVERTING VOLUME TO IMPERVIOUS COVER

For systems under 10,000 gallons, multiply 0.6 by the volume of the stormwater control measure. This will calculate the potentially discounted impervious cover. For larger systems, consult the table and examples below.

For larger systems, the larger constant progressively applies for each volume range. Several examples are as follows:

TABLE 1: VOLUME TO IMPERVIOUS COVER CONVERSION

VOLUME OF STORMWATER CONTROL MEASURE (GALLONS)	CONVERSION RATIO USED TO CALCULATE IMPERVIOUS COVER AMOUNT
0-10,000	0.6
10,001-100,000	0.2
Over 100,000	0.1

Example 1 – A 6,000 gallon system is $6,000 \times 0.6 = 3,600$ square feet of impervious cover potentially discounted

Example 2 – A 12,000 gallon system is $10,000 \times 0.6 + 2,000 \times 0.2 = 6,400$ square feet of impervious cover potentially discounted

Example 3 – A 150,000 gallon system is $10,000 \times 0.6 + 90,000 \times 0.2 + 50,000 \times 0.1 = 29,000$ square feet of impervious cover potentially discounted

How did the City correlate volume to impervious cover? The City evaluated the additional runoff caused by impervious cover for both small and large storms specific to the Austin area. The methodology was similar to the development of the drainage charge itself. For purposes of the discount, the City also considered the potential economic benefit to the account holder relative to the City's cost of providing drainage service.

TABLE 2: TYPICAL DISCOUNT AMOUNTS FOR VARIOUS STORMWATER CONTROL MEASURES

STORMWATER CONTROL MEASURE	TYPICAL DISCOUNT RANGE*
55 gallon tank	\$0.20 to \$0.30 per month
Small rain garden (60 sq ft., 6 inches deep)	\$0.70 to \$1.20 per month
1,000 gallon tank	\$2.90 to \$4.90 per month

Actual discount will vary depending on the amount and percent of impervious cover on a property. The low end of the range is based on a property with 2,000 square feet and 30% impervious cover. The high end is based on a property with 5,000 square

THE FORMULAS

Drainage Charge = Monthly Base Rate x Amount of Impervious Cover x Adjustment Factor

Adjustment Factor = $(1.5425 \times \text{Percent of Impervious Cover}) + 0.1933$

Discounted Impervious Cover = Volume of Stormwater Control Measure x Conversion Ratio

Adjusted Impervious Cover = Amount of Impervious Cover – Discounted Impervious Cover

Discounted Percent of Impervious Cover = Adjusted Impervious Cover / Property Area

Discounted Adjustment Factor = $(1.5425 \times \text{Discounted Percent of Impervious Cover}) + 0.1933$

Discounted Drainage Charge = Monthly Base Rate x Adjusted Impervious Cover x Discounted Adjustment Factor

EXAMPLES

In the two examples shown below, the monthly base rate is 0.00498, the rate for Fiscal Year 2017.

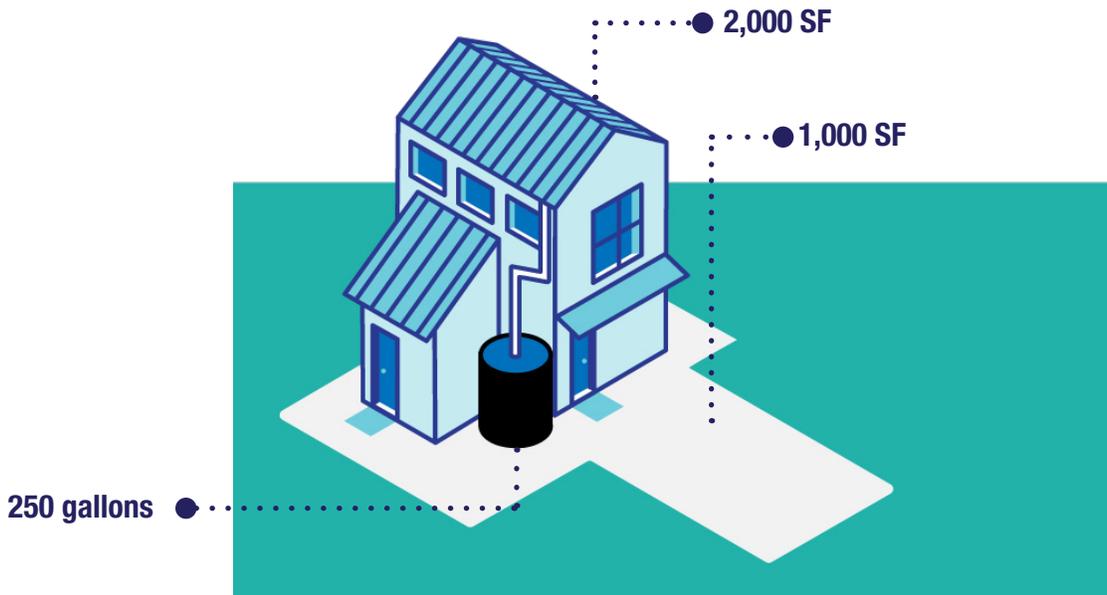
EXAMPLE 1:

A resident has applied for the Stormwater Management Discount for a 250 gallon rain tank.

- Property Area is 6,000 square feet
- Impervious Cover is 3,000 square feet
- Percent of Impervious Cover is 50%
- Drainage Charge is \$14.41

With the discount, their drainage charge is \$13.14 per month, a \$1.27 monthly discount.

EXAMPLE 1: Stormwater control measure captures a portion of the Impervious Cover that drains to it



HERE ARE THE CALCULATIONS FOR THE DISCOUNT:

- **Discounted Impervious Cover** = 250 gallons x 0.6 = 150 sqft
- **Adjusted Impervious Cover** = 3,000 sqft – 150 sqft = 2,850 sqft
- **Discounted Percent of Impervious Cover** = 2,850 sqft / 6,000 sqft = 47.5%
- **Discounted Adjustment Factor** = 0.9260
- **Discounted Drainage Charge** = \$0.00498/sqft/month x 2,850 sqft x 0.9260 = \$13.14/month.

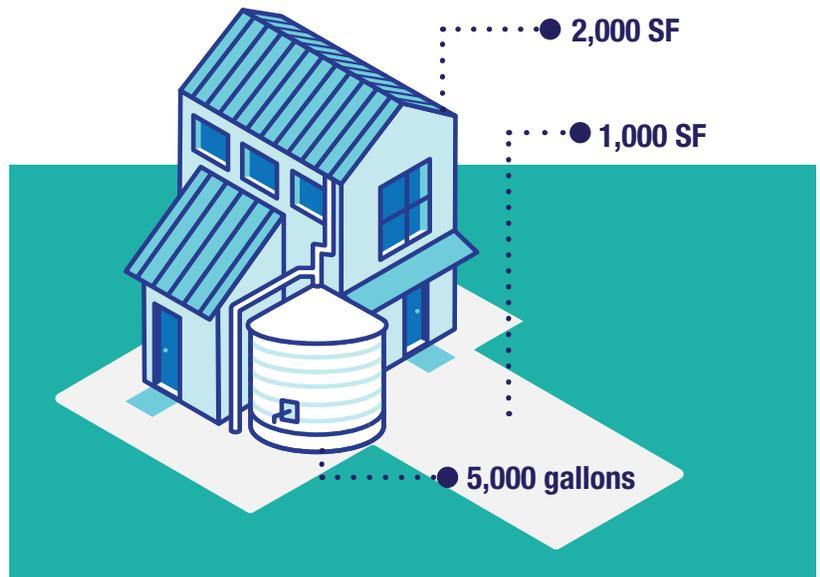
Example 2: Volume of stormwater control measure capture exceeds allowable discount

EXAMPLE 2:

A resident has applied for the Stormwater Management Discount for a 5,000 gallon tank.

- Property Area is 6,000 square feet
- Impervious Cover is 3,000 square feet
- Percent of Impervious Cover is 50%
- Drainage Charge is \$14.41 per month

There's a catch, though. The tank is capturing runoff from a 2,000 square foot roof. The rest of the property's impervious cover is from a 1,000 square foot driveway. There are two constraints that potentially limit the discount.



- 1.** The area draining to stormwater control measure — The 5,000 gallon tank has the potential to provide a discount up to 3,000 square feet ($5,000 \times 0.6$), but the roof is only 2,000 square feet. So, any stormwater control measure catching runoff from this roof would discount a maximum of 2,000 square feet of impervious cover. In addition, the resident would need to demonstrate the entire roof's gutter system drains to this single tank or show a combination of stormwater control measures that capture that total volume.
- 2.** Discount Cap—The entire property has 3,000 square feet of impervious cover. Per City Code, only 50% of the total impervious cover can be discounted, so the maximum allowable discount is 1,500 square feet of impervious cover.

Even with these constraints, the discounted drainage charge drops by more than \$10 a month to \$4.32 per month.

HERE ARE THE CALCULATIONS FOR THE DISCOUNT:

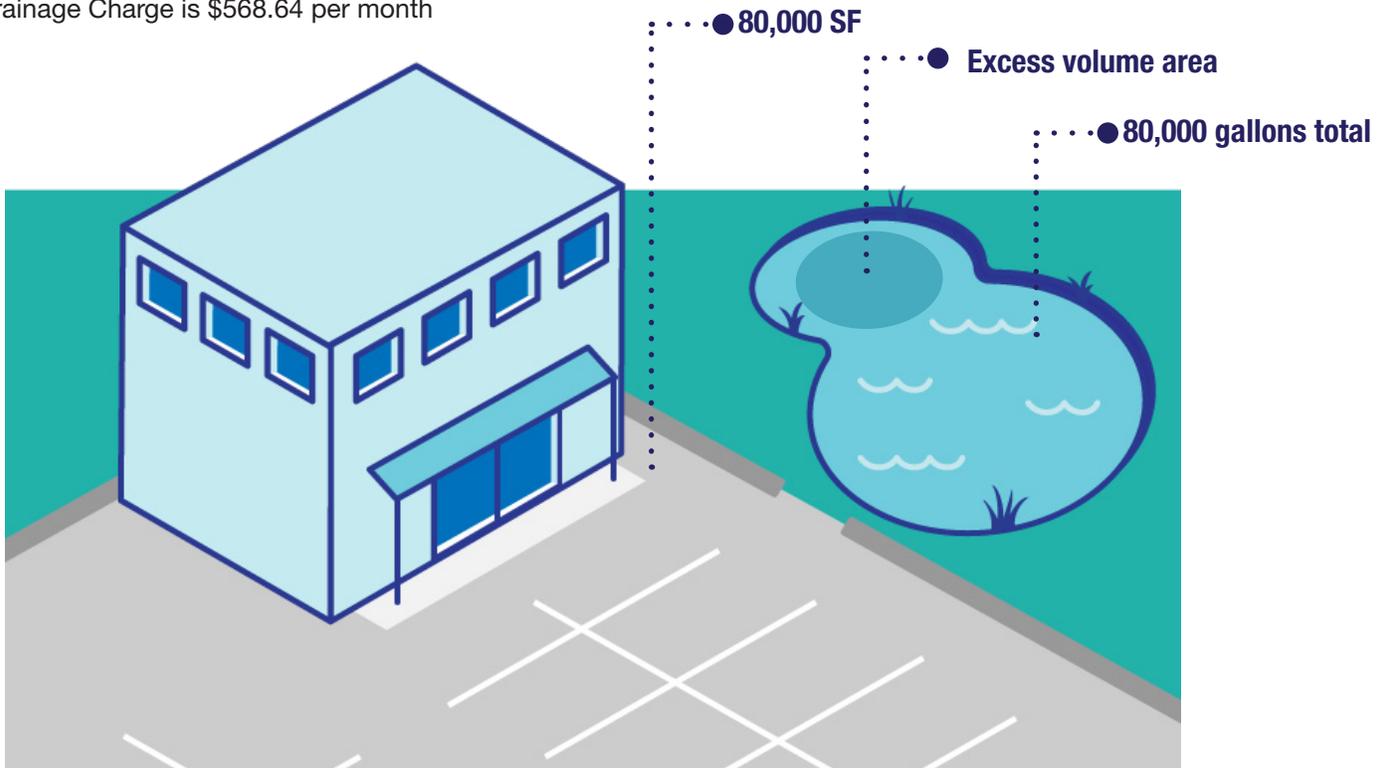
- **Discounted Impervious Cover** = 1,500 square feet. While the 5,000 gallon volume of the tank allows discounting up to 3,000 square feet in impervious cover, the entire roof is only 2,000 square feet. Also, the maximum allowed for the property is 1,500 square feet. The lesser of these amounts (i.e. 1,500) is used in the calculations.
- **Adjusted Impervious Cover** = $3,000 \text{ sqft} - 1,500 \text{ sqft} = 1,500 \text{ sqft}$
- **Discounted Percent of Impervious Cover** = $1,500 \text{ sqft} / 6,000 \text{ sqft} = 25\%$
- **Discounted Adjustment Factor** = 0.578925
- **Discounted Drainage Charge** = $\$0.00498/\text{sqft}/\text{month} \times 1,500 \text{ sqft} \times 0.578925 = \$4.32/\text{month}$

The resident in Example 2 could calculate the smallest tank that would maximize his drainage discount by back-calculating what size would be needed to offset 1,500 square feet of impervious cover. The answer is 2,500 gallons ($1,500 \text{ sqft} / 0.6$).

EXAMPLE 3:

A commercial property has applied for the stormwater management discount for a water quality pond that totals 80,000 gallons. The water quality pond was required for development, but was built larger than the minimum size required. The minimum size required for water quality was 55,000 gallons, but this pond was built to capture 80,000 gallons, thus an excess voluntary volume of 25,000 gallons.

- Property Area is 100,000 square feet
- Impervious Cover is 80,000 square feet
- Percent of Impervious Cover is 80%
- Drainage Charge is \$568.64 per month



HERE ARE THE CALCULATIONS FOR THE DISCOUNT:

- **Discounted Impervious Cover** = 9,000 square feet. The 25,000 gallons of additional volume converts to 9,000 sqft as follows from Table 1: Volume to Impervious Cover Conversion: $10,000 \times 0.6 + 15,000 \times 0.2 = 9,000$ sqft.
- **Adjusted Impervious Cover** = $80,000 \text{ sqft} - 9,000 \text{ sqft} = 71,000 \text{ sqft}$
- **Discounted Percent of Impervious Cover** = $71,000 \text{ sqft} / 100,000 \text{ sqft} = 71\%$
- **Discounted Adjustment Factor** = 1.288475
- **Discounted Drainage Charge** = $\$0.00498/\text{sqft}/\text{month} \times 71,000 \text{ sqft} \times 1.288475 = \$455.58/\text{month}$

If you would like to calculate the amount of discount you can expect if your application is approved, there is an optional worksheet at the end of [Appendix A](#) in this document for properties with stormwater control measures of 10,000 gallons or less.

APPENDIX A

Discount Application Form

CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Application Form

Use this form to apply for a Stormwater Management Discount, renew an existing discount or transfer a discount to a different utility account. You will also need to submit the pertinent worksheet(s), photo(s) of your stormwater control measure, and any other documentation indicated on the worksheet. For renewals or transfers, you do not need to re-submit the worksheet(s) unless there are changes to the location or size of the stormwater control measures.

Please check your current bill and impervious cover on the “Find my drainage charge” tool located at www.austintexas.gov/drainagecharge. Upon receipt of your application, the City will review your impervious cover and correct any errors. A correction may result in an increase or decrease to your drainage charge. Any approved discount will apply to the corrected bill based on corrected impervious cover.

Mail your completed application package to: City of Austin – WPD
Attn: Stormwater Management Discount
P.O. Box 1088
Austin, TX 78767

Save your stamp! Fill out this form online at: www.austintexas.gov/DrainageDiscount

List of Stormwater Control Measures

Please list each type of stormwater control measure for which you are applying. You must submit a worksheet and photo(s) for each type of stormwater control measure listed.

- | | |
|----------------|---|
| 1. TYPE: _____ | Eligible Stormwater Control Measure Types
A. Rainwater Harvesting System (tanks)
B. Rain Garden
C. Ponds (including detention, water quality and retention/irrigation)
D. Green Roof |
| 2. TYPE: _____ | |
| 3. TYPE: _____ | |
| 4. TYPE: _____ | |

Applicant Information

Utility Account Number (if known): _____
Last name: _____ First name: _____
Telephone: _____ Email: _____

Site Information

Address where the stormwater control measure is physically located:

Street: _____

Austin, TX, Zip: _____

Address where the drainage charge is billed, if different.

(Example: Homeowners association pays the drainage charge, but homeowner has a tank.)

Street: _____

Austin, TX, Zip: _____

Utility Account Name: _____ Account No. (if known): _____

Application Type

Is this application for a new discount, a renewal, or a transfer to a different utility account?

NEW RENEWAL TRANSFER

If renewal or transfer, have there been any changes to the original stormwater control measures that were approved for a discount? If yes, please provide information in the box on the next page.

YES NO N/A

If renewal or transfer, has the person responsible for the stormwater control measure changed? For example, there is a new tenant or owner. If yes, please provide information in the box on the next page.

YES NO N/A

If renewal or transfer, has the physical location of the stormwater control measure changed? For example, a tank has been moved to a new location. If yes, please provide information in the box below.

YES NO N/A

Please provide additional information here.

Optional: Do you give permission for the City of Austin to use any photo(s) you submit for promoting the Stormwater Management Discount or other initiatives?

YES NO

Disclaimer and Signature

- I understand that the City will review and correct any pre-existing errors to the amount of impervious cover recorded on my property before processing the discount and that this may increase my drainage charge.
- I certify that the information provided is accurate to the best of my knowledge and that I have the authority to make such a request for this property.
- I certify that the stormwater control measure volume for which I am requesting a discount is voluntarily built and exceeds the applicable requirements of City Code, state law, development agreement, or variance.
- I agree to provide the City of Austin with corrected information should there be any changes made to the information provided herein.
- I agree to provide the City of Austin with reasonable access to the property in order to conduct inspections.
- I understand that I am responsible for ongoing maintenance of the stormwater control measure(s), and that failure to do so may result in discontinuation of the discount and possible back charges by removing the discount of prior months.

- I understand that the discount, if approved, will expire 24 months after it begins. I understand I must reapply showing evidence of proper maintenance to obtain another 24 months of discount.

Name (printed): _____ Date: _____

Signature: _____

CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Worksheet: Rainwater Harvesting System

Site Information

1. Property Address: _____

2. Utility Account Number: _____

Required Information

3. Complete the table, using one line for each size of tank.

Size of Tank (gallons)	Number of Tanks	Combined Volume (gallons)

4. Total number of tanks: _____ Total combined volume (gallons): _____

5. What impervious cover areas drain to your tank(s)? Check all that apply.

ROOF **DRIVEWAY** **PATIO/DECK** **STREET** **PARKING** **OTHER** _____

6. For tanks that each hold 250 gallons or more:

How much impervious cover drains into all the tanks? _____ square feet

7. Does each tank have an outflow device (spigot, hose, etc.)? **YES** **NO**

8. Does each tank have a screen at the inlet to prevent mosquito larvae? **YES** **NO**

9. If your tank stores more than 500 gallons, have you installed a back flow prevention device as required by the Plumbing Code for the City of Austin? **YES** **NO** **N/A**

Commercial Properties Only

10. Was the rainwater harvesting system part of a site development plan, development requirements or development agreement for the property? **YES** **NO** **N/A**

11. If yes, provide permit or site plan/subdivision number: _____

Required Documentation

____ Photo(s) showing each tank. Photo(s) must show connection to downspout AND that it has an outflow device (hose, spigot, etc.).

____ If any tank is 250 gallons or more, provide a site map (sketch or drawing) including location of tanks, flow of rainwater to the tanks, and approximate dimensions of the impervious cover draining to the tanks.

Maintenance Plan

YES I agree to maintain the rainwater harvesting system by following the guidelines in [Appendix D](#).

CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Worksheet: Rain Garden

Site Information

1. Property Address:

2. Utility Account Number:

Required Information

3. Rain garden's approximate size (square feet): _____ (length multiplied by width, if rectangular)

4. Rain garden's depth (inches): _____

5. What impervious cover areas drain to this rain garden? Check all that apply.

ROOF **DRIVEWAY** **PATIO/DECK** **STREET** **PARKING** **OTHER** _____

6. How much impervious cover drains into the rain garden? _____ square feet

7. How much of this impervious cover is from a neighboring property? _____ square feet

8. Is the rain garden raised above the ground? **YES** **NO**

9. If YES, are the perimeter walls sealed in order to prevent leakage? **YES** **NO** **N/A**

10. Does standing rainwater completely drain in less than 24 hours? **YES** **NO**

See [Appendix C](#) for instructions on infiltration testing.

Commercial Properties Only

10. Was the rain garden part of a site development plan or development agreement for the property?

a. **YES** **NO** **N/A**

11. If yes, provide permit or site plan/subdivision number: _____

N/A

Required Documentation

_____ Photo(s) showing each rain garden

_____ Site map (sketch or drawing) including rain garden's location, dimensions and depth, rainwater flow, and dimensions of the impervious cover draining to it.

_____ Calculations used to determine the volume of the rain garden.

Maintenance Plan

YES I agree to maintain this rain garden by following the guidelines in [Appendix D](#).

CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Worksheet: Ponds

Includes Detention Ponds, Wet Ponds, Sedimentation & Filtration Systems or Retention/Irrigation Systems with excess voluntary volume

Site Information

1. Property Address:

2. Utility Account Number:

Required Information

3. Was a Professional Engineer (P.E.) seal required for construction? **YES** **NO**

4. Was this pond required for development or part of a development agreement? **YES** **NO**

If YES,

a. Provide site plan or subdivision plan number _____ and skip to question 5.

If NO, answer questions b. to d.

b. Check the box that best characterizes this pond's purpose:

STOCK POND **LANDSCAPING POND** **FOUNTAIN** **OTHER** _____

c. What is the capacity of the pond to hold excess stormwater? _____ feet deep
(For example, if the pond is usually 2 feet deep, but can hold another 1 foot of water without overflowing, the answer is 1 foot)

d. What is pond surface area? _____ square feet

5. Amount of excess voluntary storage volume: _____ gallons or _____ cubic feet

6. What impervious cover areas drain to this pond? Check all that apply.

ROOF **DRIVEWAY** **PATIO/DECK** **STREET** **PARKING** **OTHER**

7. How much impervious cover drains into the pond? _____ square feet

8. How much of this impervious cover is from a neighboring property? _____ square feet

Required Attachments

____ Photo(s) showing each pond

____ Site map (sketch or drawing) showing pond location and dimensions, flow of water, and approximate dimensions of impervious cover

____ Calculations showing excess volume. If an engineer seal was required for construction, the calculations must be sealed as well. In this case, a sealed statement from an engineer can substitute for sealing the calculations.

Maintenance Plan

YES I agree to maintain this pond by following the guidelines listed in [Appendix D](#).

CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Worksheet: Green Roof

Site Information

1. Property Address: _____
2. Utility Account Number: _____

Required Information

3. Was this green roof required for development or part of a development agreement?
 YES **NO** If yes, provide site plan or subdivision plan number:

4. Was the green roof a voluntary installation (i.e. not part of meeting any development requirements such as mandatory participation in the Austin Energy Green Building Program)?
 YES **NO**
5. Were there any incentives received for the green roof?
 YES **NO**
If so, please describe

6. Was the green roof built at the same time as the building?
 YES **NO**
If no, please list date of construction for building _____ and green roof _____
7. Calculated storage volume: _____ gallons or _____ cubic feet
8. Including the footprint of the green roof, how much impervious area drains to the green roof?
_____ square feet

Required Attachments

- ___ Photo(s) of green roof
- ___ Site map (sketch or drawing) including location and dimensions of the green roof, flow of water, and dimensions of impervious cover draining to green roof
- ___ Calculations showing storage volume of the green roof.

Maintenance Plan

- YES** I agree to maintain this green roof by following the guidelines listed in [Appendix D](#).

CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT

Worksheet: Optional Discount Calculation for up to 10,000 gallon systems

This optional worksheet is supplied for customers who wish to calculate the amount of discount they can expect if their application is approved. *There is no obligation to complete this worksheet. Once the discount is approved, City staff will notify applicants of their discount amount.*

Optional Stormwater Management Discount Calculation Worksheet For FY 2017*		
A	Current Drainage Charge before Discount	
1	Your current monthly drainage charge per your City of Austin Utility Bill (if known)	\$
2	Total Property Area in square feet	Sq. Ft.
3	Total impervious cover area in square feet	Sq. Ft.
If Line 1 is blank, go to Line 4. Otherwise go to Section B.		
4	Divide Line 3 by Line 2. This is your estimated percent of current impervious cover.	
5	Multiply Line 4 by 1.5425.	
6	Add 0.1933 to Line 5. This is your estimated adjustment factor before discount.	
7	Multiply Line 3 by Line 6.	
8	Multiply Line 7 by \$0.00498 (FY17 monthly base rate)*. This is your estimated monthly current drainage charge before discount.	\$

B	Discounted Drainage Charge (for a Single Stormwater Control Measure)	
9	Number of Gallons stored through Stormwater Control Measure.	Gal.
10	Total volume stored through Stormwater Control Measure in cubic feet	Cu. Ft.
11	Multiply Line 10 by 7.48052 to convert volume in cubic feet to gallons	Gal.
12	If Line 11 is blank, write amount from Line 9. Otherwise write amount from Line 11.	Gal.
13	Amount of impervious cover draining to the Stormwater Control Measure. You may leave this blank if Stormwater Control Measure is a tank less than 250 gallons.	Sq. Ft.
14	Multiply Line 3 by 0.5. This is the most impervious cover your property can discount.	Sq. Ft.
15	If Line 13 is not blank, write lesser of Line 13 or Line 14. Otherwise write Line 14.	Sq. Ft.
16	Multiply Line 12 by 0.6. This is the impervious cover your Stormwater Control Measure(s) could potentially discount.	Sq. Ft.
17	Write lesser of Line 15 or Line 16.	Sq. Ft.
18	Subtract Line 17 from Line 3. This is your estimated adjusted impervious cover in square feet.	Sq. Ft.
19	Divide Line 18 by Line 2. This is your estimated discounted percent of impervious cover.	
20	Multiply Line 19 by 1.5425.	
21	Add 0.1933 to Line 20. This is your estimated adjustment factor after discount.	
22	Multiply Line 21 by Line 18.	
23	Multiply Line 22 by \$0.00498 (FY17 monthly base rate). This is your estimated monthly drainage charge after discount.	\$
24	If Line 1 is blank, subtract line 23 from Line 8. Otherwise subtract Line 23 from Line 1. This is your estimated monthly discount for a single stormwater control measure only.	\$

Discounted Drainage Charge (for Properties with Multiple Stormwater Control Measures)		
C	If you have more than one Stormwater Control Measure, compute Line 9 to Line 14 from Section B for each Stormwater Control Measure.	
<i>a</i>	Add Line 17 from Section B for all measures.	Sq. Ft.
<i>b</i>	Multiply Line 3 from Section A by 0.5. This is the most impervious cover your property can discount.	Sq. Ft.
<i>c</i>	Write lesser of Line <i>a</i> or Line <i>b</i> .	Sq. Ft.
<i>d</i>	Subtract Line <i>c</i> from Line 3 of Section A. This is your estimated adjusted impervious cover in square feet.	Sq. Ft.
<i>e</i>	Divide Line <i>d</i> by Line 2 from Section A. This is your estimated discounted percent of impervious cover.	
<i>f</i>	Multiply Line <i>e</i> by 1.5425.	
<i>g</i>	Add 0.1933 to Line <i>f</i> . This is your estimated adjustment factor after discount.	
<i>h</i>	Multiply Line <i>g</i> by Line <i>d</i> .	
<i>i</i>	Multiply Line <i>h</i> by \$0.00498 (FY17 monthly base rate). This is your estimated monthly drainage charge after discount.	\$
<i>j</i>	If Line 1 is blank, subtract line <i>i</i> from Line 8 from Worksheet A. Otherwise subtract Line <i>i</i> from Line 1 in Section A. This is your estimated monthly discount.	\$

* The monthly base rate changes from year to year as approved by City Council. For current rate, visit austinenergy.com, Rates section, Approved Rates Schedule and click at the very bottom of the page on the link - City of Austin Utility Rates and Fees Schedule (pdf).

APPENDIX B
Discount Application Forms
Completed Examples

CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Examples of Completed Application Forms

The following pages show several examples of completed applications, worksheets, and supporting documentation.

Note: Estimated discount amounts are shown for illustrative purposes only. Actual discounts for any given application will vary because each property has a different property size and amount and percent of impervious cover. Estimated discounts for examples 1-3 below are based on a typical residential property with 37% impervious cover (3,100 sq. ft.) on an 8,378 square foot size property. Examples 4-5 are hypothetical commercial examples. For an estimate of your discount, please fill out the optional Discount Calculation Worksheet.

Example 1: Residential customer who has a rainwater harvesting system (six tanks less than 250 gallons each)

- Completed Application Form, Completed Rainwater Harvesting System Worksheet, Photo, and optional Discount Calculation Worksheet
- The drainage charge was \$11.80 per month and would be reduced to \$9.34 per month, based on a reduction of 390 square feet of impervious cover.

Example 2: Residential customer who has a rainwater harvesting system (two tanks larger than 250 gallons each)

(Completed Application Form not shown, see Example 1)

- Completed Rainwater Harvesting System Worksheet, Photos, Site Map, and Calculations
- The drainage charge was \$11.80 per month and would be reduced to \$3.69 per month, based on the maximum allowed reduction of 1,550 square feet of impervious cover.

Example 3: Residential customer who has a rain garden

(Completed Application Form not shown, see Example 1)

- Completed Rain Garden Worksheet, Photos, Site Map, and Calculations
- The drainage charge was \$11.80 per month and would be reduced to \$10.75 per month, based on a reduction of 161 square feet of impervious cover.

Example 4: Commercial customer who has a pond with excess volume and a rainwater harvesting system (two tanks larger than 250 gallons each)

- Completed Application Form, Completed Rainwater Harvesting System and Pond Worksheets, Photos, Site Maps, Calculations, and PE Sealed Statement
- The drainage charge was \$231.54 per month and would be reduced to \$187.94 per month, based on a reduction of 3,965 square feet of impervious cover.

Example 5: Commercial customer who has a green roof

(Completed Application Form not shown, see Example 4)

- Completed Green Roof Worksheet, Photos, Site Maps, and Calculations
- The drainage charge was \$109.21 per month and would be reduced to \$106.27 per month, based on reduction of 291 square feet of impervious cover.

Example 1: Residential customer who has a rainwater harvesting system (six tanks less than 250 gallons each)

**CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Application Form**

Use this form to apply for a Stormwater Management Discount, renew an existing discount or transfer a discount to a different utility account. You will also need to submit the pertinent worksheet(s), photo(s) of your stormwater control measure, and any other documentation indicated on the worksheet. For renewals or transfers, you do not need to re-submit the worksheet(s) unless there are changes to the location or size of the stormwater control measures.

Mail your completed application package to: City of Austin - WPD
Attn: Stormwater Management Discount
P.O. Box 1088
Austin, TX 78767

Save your stamp! Fill out this form online at: www.austintexas.gov/DrainageDiscount

List of Stormwater Control Measures

Please list each type of stormwater control measure for which you are applying. You must submit a worksheet and photo(s) for each type of stormwater control measure listed.

- | | |
|-----------------------|--|
| 1. TYPE: <u>tanks</u> | Eligible Stormwater Control Measure Types |
| 2. TYPE: _____ | A. Rainwater Harvesting System (tanks) |
| 3. TYPE: _____ | B. Rain Garden |
| 4. TYPE: _____ | C. Ponds (including detention, water quality and retention/irrigation) |
| | D. Green Roof |

Applicant Information

Utility Account Number (if known): 12345 67890
Last name: Doe First name: Wooderson
Telephone: 512.555.0162 Email: wooderson.doe@XXXXX.XXX

Site Information

Address where the stormwater control measure is physically located:

Street: 2002 Creekcrossing Dr.

Austin, TX, Zip: 78704

Address where the drainage charge is billed, if different.

(Example: Homeowners association pays the drainage charge, but homeowner has a tank.)

Street: (same)

Austin, TX, Zip: _____

Utility Account Name: _____ Account No. (if known): _____

Application Type

Is this application for a new discount, a renewal, or a transfer to a different utility account?

- NEW RENEWAL TRANSFER

If renewal or transfer, have there been any changes to the original stormwater control measures that were approved for a discount? If yes, please provide information in the box on the next page.

YES NO N/A

If renewal or transfer, has the person responsible for the stormwater control measure changed? For example, there is a new tenant or owner. If yes, please provide information in the box on the next page.

YES NO N/A

If renewal or transfer, has the physical location of the stormwater control measure changed? For example, a tank has been moved to a new location. If yes, please provide information in the box below.

YES NO N/A

Please provide additional information here.

All tanks were installed in 2016 so
might not appear on recent aerial photos.

Optional: Do you give permission for the City of Austin to use any photo(s) you submit for promoting the Stormwater Management Discount or other initiatives?

YES NO

Disclaimer and Signature

- I certify that the information provided is accurate to the best of my knowledge and that I have the authority to make such a request for this property.
- I certify that the stormwater control measure volume for which I am requesting a discount is voluntarily built and exceeds the applicable requirements of City Code, state law, development agreement, or variance.
- I agree to provide the City of Austin with corrected information should there be any changes made to the information provided herein.
- I agree to provide the City of Austin with reasonable access to the property in order to conduct inspections.
- I understand that I am responsible for ongoing maintenance of the stormwater control measure(s), and that failure to do so may result in discontinuation of the discount and possible back charges by removing the discount of prior months.
- I understand that the discount, if approved, will expire 24 months after it begins. I understand I must reapply showing evidence of proper maintenance to obtain another 24 months of discount.

Name (printed): WOODERSON D O E Date: 8.15.2017

Signature: WOODERSON D O E

CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Worksheet: Rainwater Harvesting System

Site Information

1. Property Address: 2002 Creekcrossing Dr
2. Utility Account Number: 12345 67890

Required Information

3. Complete the table, using one line for each size of tank.

Size of Tank (gallons)	Number of Tanks	Combined Volume (gallons)
100	4	400
125	2	250

4. Total number of tanks: 6 Total combined volume (gallons): 650
5. What impervious cover areas drain to your tank(s)? Check all that apply.
 ROOF DRIVEWAY PATIO/DECK STREET PARKING OTHER _____
6. For tanks that each hold 250 gallons or more:
 How much impervious cover drains into all the tanks? N/A square feet
7. Does each tank have an outflow device (spigot, hose, etc.)? YES NO
8. Does each tank have a screen at the inlet to prevent mosquito larvae? YES NO
9. If your tank stores more than 500 gallons, have you installed a back flow prevention device as required by the Plumbing Code for the City of Austin? YES NO N/A

Commercial Properties Only

10. Was the rainwater harvesting system part of a site development plan, development requirements or development agreement for the property? YES NO N/A
11. If yes, provide permit or site plan/subdivision number: N/A

Required Documentation

- Photo(s) showing each tank. Photo(s) must show connection to downspout AND that it has an outflow device (hose, spigot, etc.).

N/A If any tank is over 250 gallons, provide a site map (sketch or drawing) including location of tanks, flow of rainwater to the tanks, and approximate dimensions of the impervious cover draining to the tanks.

Maintenance Plan

- YES I agree to maintain the rainwater harvesting system by following the guidelines in Appendix D.



CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Optional Worksheet: Discount Calculation for up to 10,000 gallon systems

This optional worksheet is supplied for customers who wish to calculate the amount of discount they can expect if their application is approved. *There is no obligation to complete this worksheet. Once the discount is approved, City staff will notify applicants of their discount amount.*

STORMWATER MANAGEMENT DISCOUNT CALCULATION WORKSHEET (OPTIONAL) FOR FY2017*		
A Current Drainage Charge before Discount		
1	Your current monthly drainage charge per your City of Austin utility bill (if known)	\$
2	Total property area in square feet	8378 Sq. Ft.
3	Total impervious cover area in square feet	3100 Sq. Ft.
If Line 1 is blank, go to Line 4. Otherwise go to Section B.		
4	Divide Line 3 by Line 2. This is your estimated percent of current impervious cover.	0.3700
5	Multiply Line 4 by 1.5425.	0.570725
6	Add 0.1933 to Line 5. This is your estimated adjustment factor before discount.	0.764025
7	Multiply Line 3 by Line 6.	2368.4775
8	Multiply Line 7 by \$0.00498 (FY17 monthly base rate)*. This is your estimated monthly current drainage charge before discount.	\$ 11.80

B Discounted Drainage Charge (for a Single Measure)		
9	Number of gallons stored through Stormwater Control Measure (if known)	650 Gal.
10	Total volume stored through Stormwater Control Measure in cubic feet (if known)	Cu. Ft.
11	If Line 10 is not blank, multiply Line 10 by 7.48052 to convert volume in cubic feet to gallons.	Gal.
12	If Line 11 is blank, write amount from Line 9. Otherwise write amount from Line 11.	650 Gal.
13	Amount of impervious cover draining to the Stormwater Control Measure. You may leave this blank if Stormwater Control Measure is a tank less than 250 gal.	Sq. Ft.
14	Multiply Line 3 by 0.5. This is the most impervious cover your property can discount.	1550 Sq. Ft.
15	If Line 13 is not blank, write lesser of Line 13 or Line 14. Otherwise write Line 14.	1550 Sq. Ft.
16	Multiply Line 12 by 0.6. This is the impervious cover your Stormwater Control Measure could potentially discount.	390 Sq. Ft.
17	Write lesser of Line 15 or Line 16.	390 Sq. Ft.
18	Subtract Line 17 from Line 3. This is your estimated adjusted impervious cover in square feet.	2170 Sq. Ft.
19	Divide Line 18 by Line 2. This is your estimated discounted percent of impervious cover.	0.3235
20	Multiply Line 19 by 1.5425.	0.498999
21	Add 0.1933 to Line 20. This is your estimated adjustment factor after discount.	0.692299
22	Multiply Line 21 by Line 18.	1876.13
23	Multiply Line 22 by \$0.00498 (FY17 monthly base rate). This is your estimated monthly drainage charge after discount.	\$ 9.34
24	If Line 1 is blank, subtract line 23 from Line 8. Otherwise subtract Line 23 from Line 1. This is your estimated monthly discount for a single measure only.	\$ 2.46

EXAMPLE 2: Residential customer who has a rainwater harvesting system (two tanks larger than 250 gallons each)

**CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Worksheet: Rainwater Harvesting System**

Site Information

1. Property Address: 1234 Verdant Dr
 2. Utility Account Number: 43210 43210

Required Information

3. Complete the table, using one line for each size of tank.

Size of Tank (gallons)	Number of Tanks	Combined Volume (gallons)
500	1	500
2,550	1	2,550

4. Total number of tanks: 2 Total combined volume (gallons): 3,050
5. What impervious cover areas drain to your tank(s)? Check all that apply.
 ROOF DRIVEWAY PATIO/DECK STREET PARKING OTHER _____
6. For tanks that each hold 250 gallons or more:
 How much impervious cover drains into all the tanks? 1,612 square feet
7. Does each tank have an outflow device (spigot, hose, etc.)? YES NO
8. Does each tank have a screen at the inlet to prevent mosquito larvae? YES NO
9. If your tank stores more than 500 gallons, have you installed a back flow prevention device as required by the Plumbing Code for the City of Austin? YES NO N/A

Commercial Properties Only

10. Was the rainwater harvesting system part of a site development plan, development requirements or development agreement for the property? YES NO N/A
11. If yes, provide permit or site plan/subdivision number: N/A

Required Documentation

- Photo(s) showing each tank. Photo(s) must show connection to downspout AND that it has an outflow device (hose, spigot, etc.).
- If any tank is over 250 gallons, provide a site map (sketch or drawing) including location of tanks, flow of rainwater to the tanks, and approximate dimensions of the impervious cover draining to the tanks.

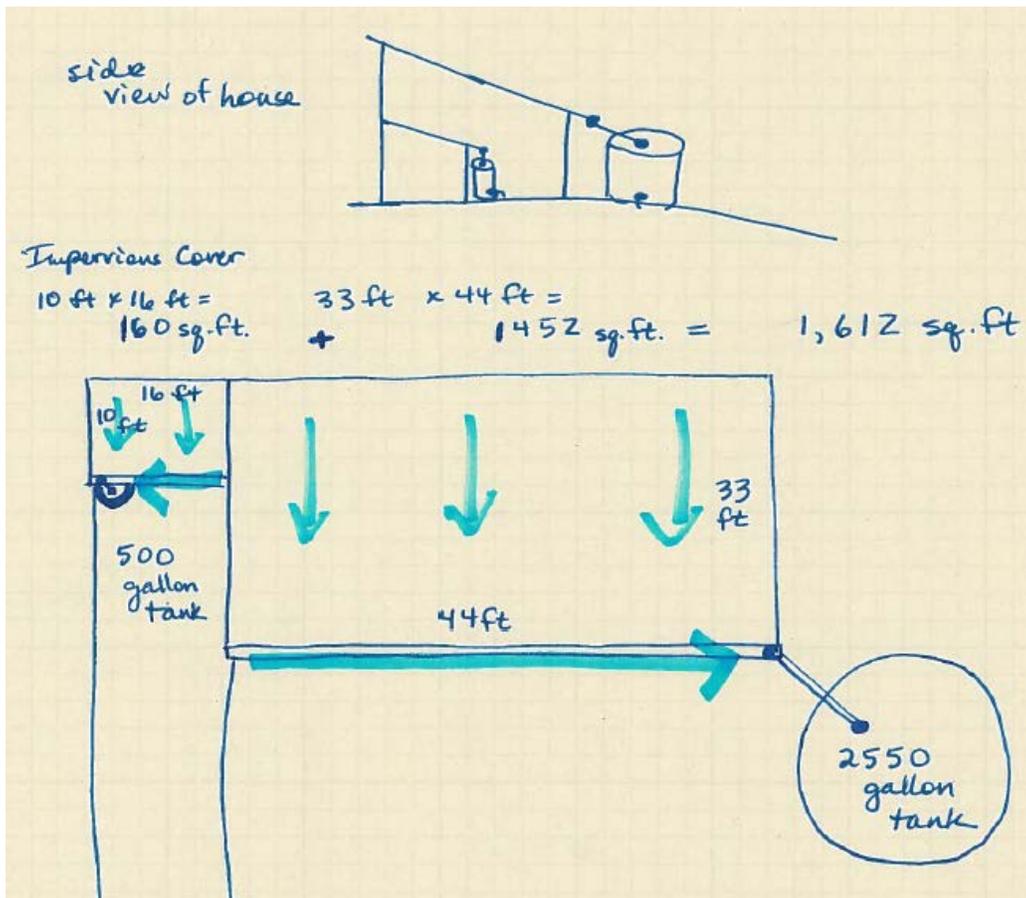
Maintenance Plan

- YES I agree to maintain the rainwater harvesting system by following the guidelines in Appendix D.

My larger rainwater tank stores 2550 gallons and is located at the southeast corner of the house. It drains 1452 sq ft of impervious cover from the house roof.



My smaller rainwater tank stores 500 gallons, and is located under the carport overhang. It drains 160 sq ft. of impervious cover from the carport roof.



EXAMPLE 3: Residential customer who has a rain garden

**CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Worksheet: Rain Garden**

Site Information

1. Property Address: 567 Rainscape St.
2. Utility Account Number: 56780 01234

Required Information

3. Rain garden's approximate size (square feet): 72 (length multiplied by width, if rectangular)
4. Rain garden's depth (inches): 6
5. What impervious cover areas drain to this rain garden? Check all that apply.
 ROOF DRIVEWAY PATIO/DECK STREET PARKING OTHER _____
6. How much impervious cover drains into the rain garden? 625 square feet
7. How much of this impervious cover is from a neighboring property? 0 square feet
8. Is the rain garden raised above the ground? YES NO
If YES, are the perimeter walls sealed in order to prevent leakage? YES NO N/A
9. Does standing rainwater completely drain in less than 24 hours? YES NO
See Appendix C for instructions on infiltration testing.

Commercial Properties Only

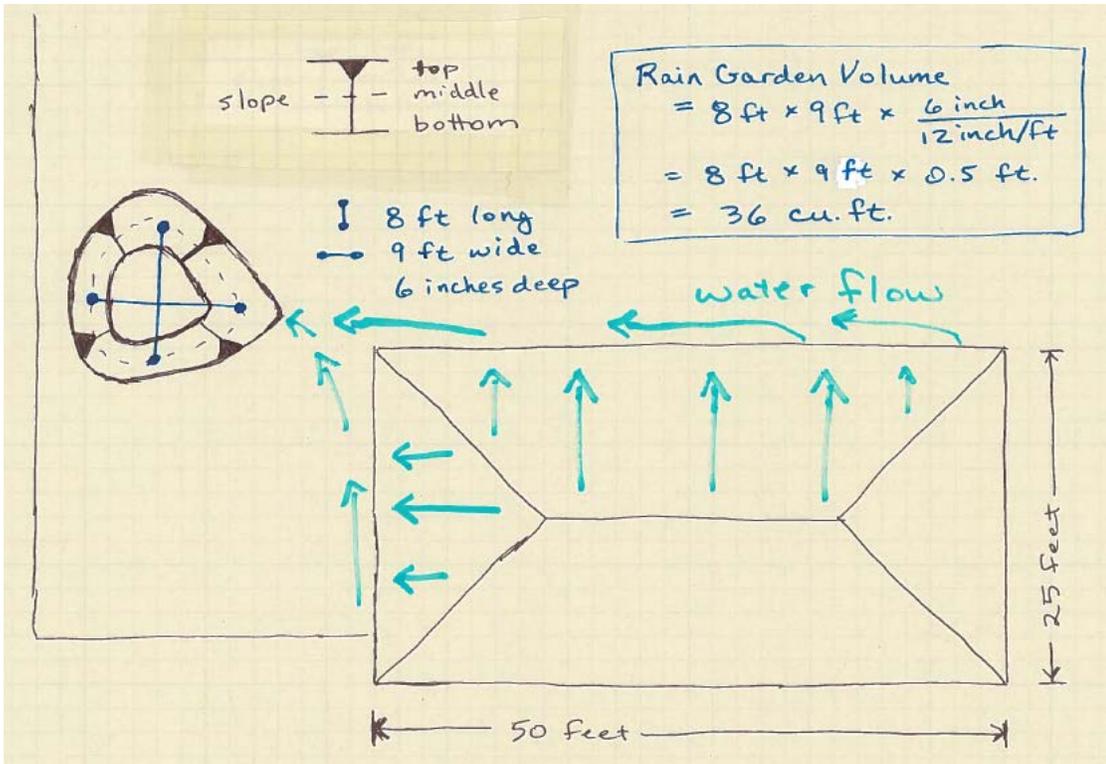
10. Was the rain garden part of a site development plan or development agreement for the property?
a. YES NO N/A
11. If yes, provide permit or site plan/subdivision number: . N/A

Required Documentation

- Photo(s) showing each rain garden
 Site map (sketch or drawing) including rain garden's location, dimensions and depth, rainwater flow, and dimensions of the impervious cover draining to it.
 Calculations used to determine the volume of the rain garden.

Maintenance Plan

- YES I agree to maintain this rain garden by following the guidelines in Appendix D.



Example 4: Commercial customer who has excess-volume pond and a rainwater harvesting system (two tanks)

**CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Application Form**

Use this form to apply for a Stormwater Management Discount, renew an existing discount or transfer a discount to a different utility account. You will also need to submit the pertinent worksheet(s), photo(s) of your stormwater control measure, and any other documentation indicated on the worksheet. For renewals or transfers, you do not need to re-submit the worksheet(s) unless there are changes to the location or size of the stormwater control measures.

Mail your completed application package to: City of Austin - WPD
Attn: Stormwater Management Discount
P.O. Box 1088
Austin, TX 78767

Save your stamp! Fill out this form online at: www.austintexas.gov/DrainageDiscount

List of Stormwater Control Measures

Please list each type of stormwater control measure for which you are applying. You must submit a worksheet and photo(s) for each type of stormwater control measure listed.

1. TYPE: Tanks - 2
2. TYPE: Pond - 1
3. TYPE: _____
4. TYPE: _____

Eligible Stormwater Control Measure Types

- A. Rainwater Harvesting System (tanks)
- B. Rain Garden
- C. Ponds (including detention, water quality and retention/irrigation)
- D. Green Roof

Applicant Information

Utility Account Number (if known): see below

Last name: Doe First name: Jodi

Telephone: 512-555-0181 Email: Jodi.Doe@Library.KKCKK.KKX

Site Information

Address where the stormwater control measure is physically located:

Street: 1234 Library St.

Austin, TX, Zip: 78752

Address where the drainage charge is billed, if different.

(Example: Homeowners association pays the drainage charge, but homeowner has a tank.)

Street: 1236 Library St.

Austin, TX, Zip: 78752

Utility Account Name: Americana Library Account No. (if known): 97643 16316

Application Type

Is this application for a new discount, a renewal, or a transfer to a different utility account?

- NEW RENEWAL TRANSFER

If renewal or transfer, have there been any changes to the original stormwater control measures that were approved for a discount? If yes, please provide information in the box on the next page.

YES NO N/A

If renewal or transfer, has the person responsible for the stormwater control measure changed? For example, there is a new tenant or owner. If yes, please provide information in the box on the next page.

YES NO N/A

If renewal or transfer, has the physical location of the stormwater control measure changed? For example, a tank has been moved to a new location. If yes, please provide information in the box below.

YES NO N/A

Please provide additional information here.

Pond was required for development
but built with excess volume.
Tanks were not required for development.

Optional: Do you give permission for the City of Austin to use any photo(s) you submit for promoting the Stormwater Management Discount or other initiatives?

YES NO

Disclaimer and Signature

- I certify that the information provided is accurate to the best of my knowledge and that I have the authority to make such a request for this property.
- I certify that the stormwater control measure volume for which I am requesting a discount is voluntarily built and exceeds the applicable requirements of City Code, state law, development agreement, or variance.
- I agree to provide the City of Austin with corrected information should there be any changes made to the information provided herein.
- I agree to provide the City of Austin with reasonable access to the property in order to conduct inspections.
- I understand that I am responsible for ongoing maintenance of the stormwater control measure(s), and that failure to do so may result in discontinuation of the discount and possible back charges by removing the discount of prior months.
- I understand that the discount, if approved, will expire 24 months after it begins. I understand I must reapply showing evidence of proper maintenance to obtain another 24 months of discount.

Name (printed): Jodi Doe Date: 8.21.2017

Signature: Jodi Doe

**CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Worksheet: Rainwater Harvesting System**

Site Information

1. Property Address: 1234 Library St.
 2. Utility Account Number: 97643 16316

Required Information

3. Complete the table, using one line for each size of tank.

Size of Tank (gallons)	Number of Tanks	Combined Volume (gallons)
2,500	2	5,000

4. Total number of tanks: 2 Total combined volume (gallons): 5,000
5. What impervious cover areas drain to your tank(s)? Check all that apply.
 ROOF DRIVEWAY PATIO/DECK STREET PARKING OTHER _____
6. For tanks that each hold 250 gallons or more:
 How much impervious cover drains into all the tanks? 5,150 square feet
7. Does each tank have an outflow device (spigot, hose, etc.)? YES NO
8. Does each tank have a screen at the inlet to prevent mosquito larvae? YES NO
9. If your tank stores more than 500 gallons, have you installed a back flow prevention device as required by the Plumbing Code for the City of Austin? YES NO N/A

Commercial Properties Only

10. Was the rainwater harvesting system part of a site development plan, development requirements or development agreement for the property? YES NO N/A
11. If yes, provide permit or site plan/subdivision number: SP-2014-0123C

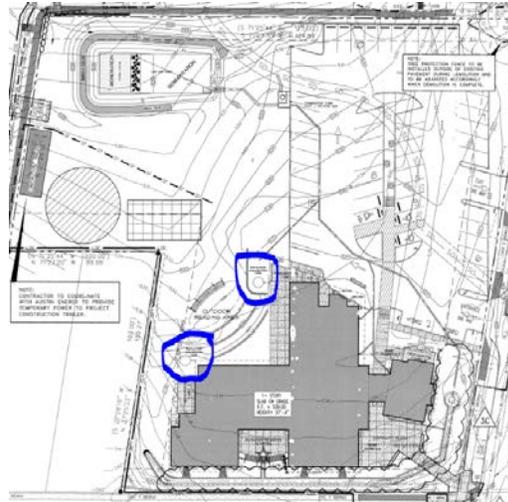
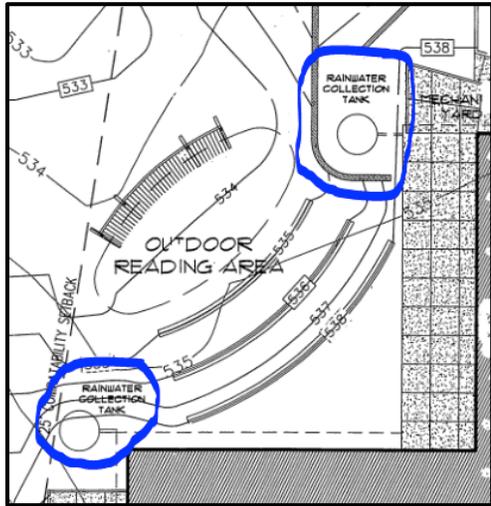
Required Documentation

- Photo(s) showing each tank. Photo(s) must show connection to downspout AND that it has an outflow device (hose, spigot, etc.).
- If any tank is over 250 gallons, provide a site map (sketch or drawing) including location of tanks, flow of rainwater to the tanks, and approximate dimensions of the impervious cover draining to the tanks.

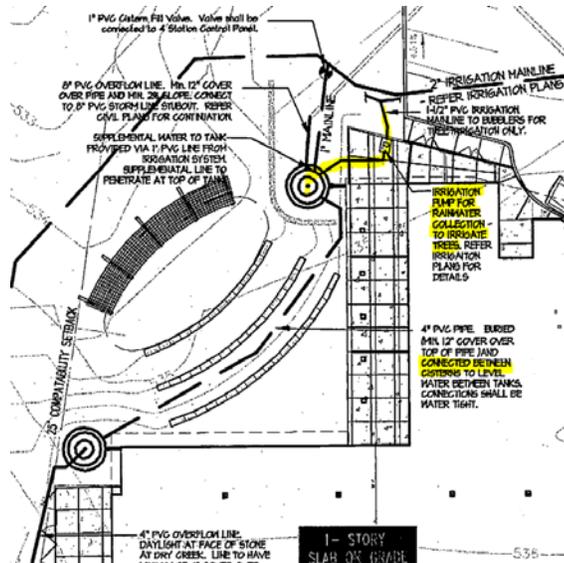
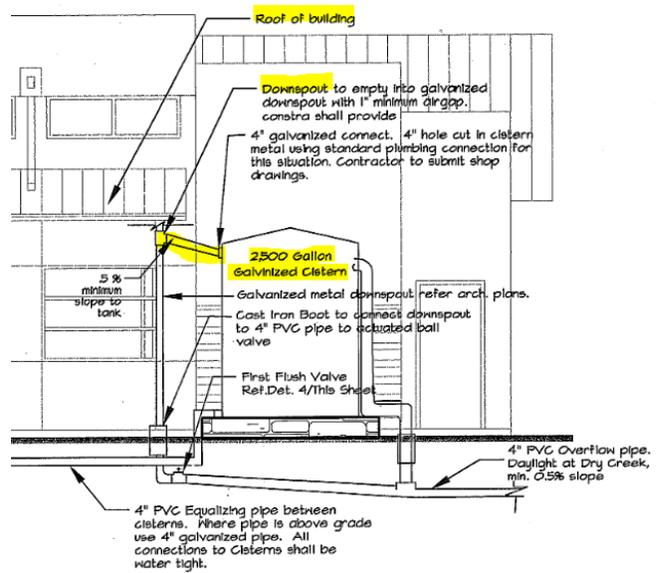
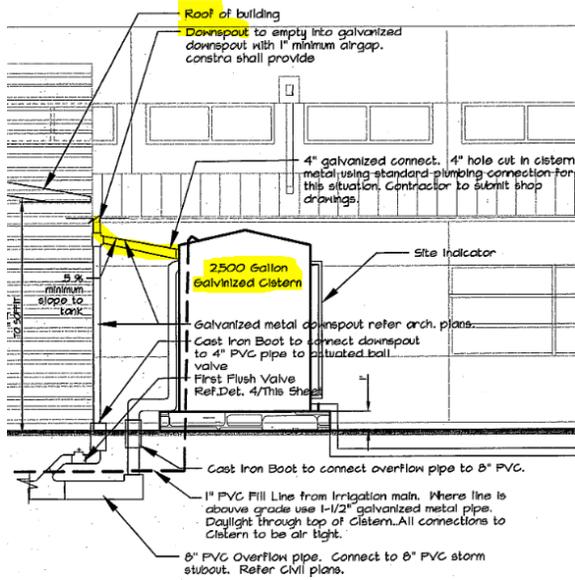
Maintenance Plan

- YES I agree to maintain the rainwater harvesting system by following the guidelines in Appendix D.

Site map from Site Plan



Details from sheet L04 of Site Plan



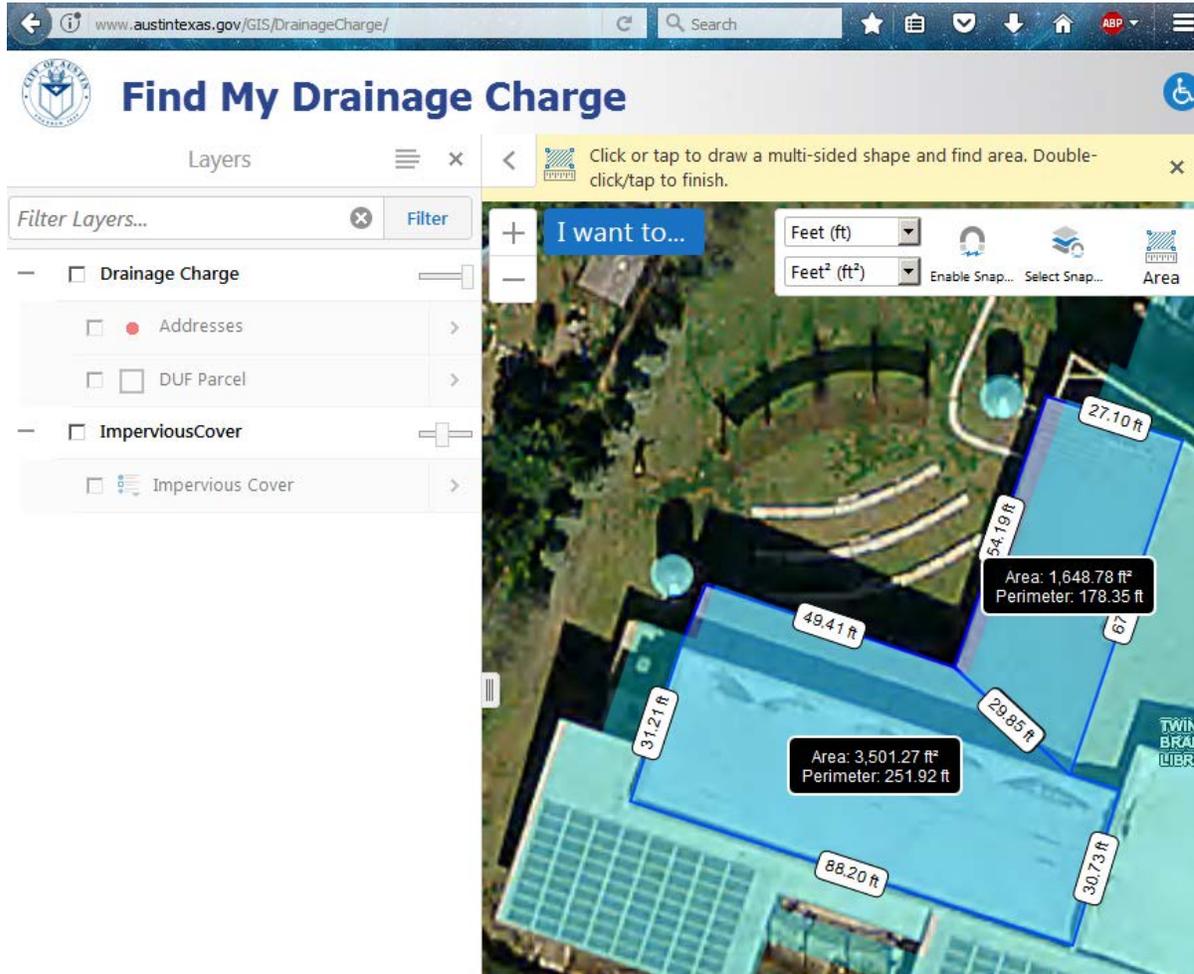
Photos showing installed tanks in reference to building and each other.



Photos showing connection to roof downspout and outflow to below-ground irrigation system.



The following example of a site map was created by using the web map at <http://www.austintexas.gov/GIS/DrainageCharge/> using the Area button in Tools to estimate the rain garden and roof impervious areas. A tutorial on how to use the measuring tools may be found online at www.austintexas.gov/DrainageDiscount.



The north tank receives rainwater from approximately 1649 sq ft of roof.
The south tank receives rainwater from approximately 3501 sq ft of roof.

**CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Worksheet: Ponds**

**Includes Detention Ponds, Wet Ponds, Sedimentation & Filtration Systems or Retention/Irrigation Systems with
excess voluntary volume**

Site Information

1. Property Address: 1234 Library St.
2. Utility Account Number: 97643 16316

Required Information

3. Was a Professional Engineer (P.E.) seal required for construction? YES NO
4. Was this pond required for development or part of a development agreement? YES NO
If YES,
a. Provide site plan or subdivision plan number SP-2014-0123C and skip to question 5.
If NO, answer questions b. to d.
- b. Check the box that best characterizes this pond's purpose:
 STOCK POND LANDSCAPING POND FOUNTAIN OTHER _____
- c. What is the capacity of the pond to hold excess stormwater? _____ feet deep
(For example, if the pond is usually 2 feet deep, but can hold another 1 foot of water without overflowing, the answer is 1 foot)
- d. What is pond surface area? _____ square feet
5. Amount of excess voluntary storage volume: _____ gallons or 215 cubic feet
6. What impervious cover areas drain to this pond? Check all that apply.
 ROOF DRIVEWAY PATIO/DECK STREET PARKING OTHER _____
7. How much impervious cover drains into the pond? 31,819 square feet
8. How much of this impervious cover is from a neighboring property? 0 square feet

Required Attachments

- Photo(s) showing each pond
- Site map (sketch or drawing) showing pond location and dimensions, flow of water, and approximate dimensions of impervious cover
- Calculations showing excess volume. If an engineer seal was required for construction, the calculations must be sealed as well. In this case, a sealed statement from an engineer can substitute for sealing the calculations.

Maintenance Plan

- YES I agree to maintain this pond by following the guidelines listed in Appendix D.

Calculations of pond volume from site plan

WATER QUALITY POND

DRAINAGE AREA DATA

Drainage Area	1.23 ac.
Impervious Cover ¹	69.0 %
Capture Depth (0.5'+((IC-20)/100))	1.0 in.

WATER QUALITY CONTROL CALCULATIONS

Site Area Draining to Pond	1.23 ac.
Total Area Draining to Pond	1.23 ac.
Design Peak Flow Rate	12.10 cfs

	Required	Provided
Water Quality Pond Volume (CD*area)	4,437 cf.	4,652 cf.
Sedimentation Pond Area	sf.	sf.
Sedimentation Pond Volume (>= 20% WQV)	887 cf.	2,829 cf.
Filtration Pond Area (WQV/10)	444 sf.	525 sf.
Filtration Pond Volume	cf.	cf.

Pond Volume Calculations

Provided 4,652 cf

Required 4,437 cf

Excess 215 cf

Impervious Cover Area Draining To Pond According To Site Plan

Drainage Area x Impervious Cover Percent

$$= 1.23 \text{ acre} \times 43,560 \text{ sq.ft./acre} \times 0.69$$

$$= 36,969 \text{ sq. ft. impervious cover}$$

Note that pond calculations did not account for the 5,150 sq. ft. of roof that are treated by the tanks, so only $36,969 - 5,150 = 31,819$ sq. ft. drain to pond untreated.

I certify that the additional volume specified for the stormwater control measure(s) was built voluntarily and not part of a requirement or negotiated agreement for a development, development agreement, or variance.

Leslie H. Doe

Printed Name of Engineer

Leslie H. Doe

Signed Name of Engineer

Doe Engineering

Organization / Agency

8/25/2017

Date



Doe Engineering
F-98765

Photos showing the entire pond area.





Photo showing the pond working, after a rain.



Example 5: Commercial customer who has a green roof

CITY OF AUSTIN
STORMWATER MANAGEMENT DISCOUNT
Worksheet: Green Roof

Site Information

1. Property Address: 321 Main St.
2. Utility Account Number: 98765 43210

Required Information

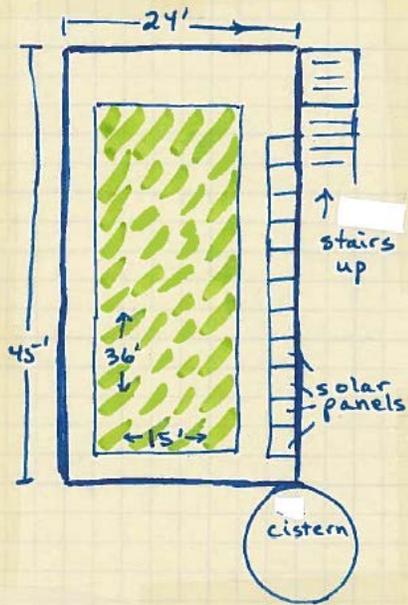
3. Was this green roof required for development or part of a development agreement?
 YES NO If yes, provide site plan or subdivision plan number: N/A
4. Was the green roof a voluntary installation (i.e. not part of meeting any development requirements such as mandatory participation in the Austin Energy Green Building Program)?
 YES NO
5. Were there any incentives received for the green roof?
 YES NO
If so, please describe N/A
6. Was the green roof built at the same time as the building?
 YES NO
If no, please list date of construction for building N/A and green roof N/A
7. Calculated storage volume: — gallons or 64.8 cubic feet
8. Including the footprint of the green roof, how much impervious area drains to the green roof?
1,080 square feet

Required Attachments

- Photo(s) of green roof
 Site map (sketch or drawing) including location and dimensions of the green roof, flow of water, and dimensions of impervious cover draining to green roof
 Calculations showing storage volume of the green roof.

Maintenance Plan

- YES I agree to maintain this green roof by following the guidelines listed in Appendix D.



Impervious Area
draining to green roof
= entire roof area,
 $45' \times 24' = 1,080 \text{ sq. ft.}$

Green roof measures
 $36' \text{ long} \times 15' \text{ wide}$

Growing medium soil
depth is 6"
and porosity is 0.24

$$\begin{aligned}
 \text{Green Roof Storage Volume cu. ft.} &= \text{length}_{\text{ft}} \times \text{width}_{\text{ft}} \times \left(\frac{\text{soil depth}_{\text{inches}} \times \text{soil porosity}}{12 \text{ inches/ft}} \right) \\
 &= 36 \text{ ft} \times 15 \text{ ft} \times \left(\frac{6 \text{ inches} \times 0.24}{12 \text{ inches/ft}} \right) \\
 &= 36 \text{ ft} \times 15 \text{ ft} \times \left(\frac{1.44 \text{ inches}}{12 \text{ inches/ft}} \right) \\
 &= 36 \text{ ft} \times 15 \text{ ft} \times 0.12 \text{ ft} \\
 &= 64.8 \text{ cu. ft.}
 \end{aligned}$$

APPENDIX C

Infiltration Test Procedure

From the Grow Green fact sheet:

Test the Soil

- When soil is saturated (after you've irrigated or it has rained), dig a hole six inches in diameter and no more than 12 inches deep in the area you'd like to put the rain garden. (Ideally, you want to be sure there is at least 12 inches of soil above bedrock.)
- Insert a ruler and fill the hole with water up to the 6 inch mark. Time how long it takes the water to be absorbed into the ground.
- The water should absorb in less than 24 hours. If there is still water in the hole after 24 hours, then the site is not suitable for a rain garden

APPENDIX D

Stormwater Control Measure Maintenance Guidelines

MAINTENANCE GUIDELINES

Rainwater Harvesting

After every rainfall:

1. Empty tank within five days so it is ready to catch the next rain.
2. Check for erosion in areas where irrigation system drains to. Move hoses as needed by plants and to minimize erosion.

Every three months:

1. Inspect the tank(s) to confirm it is working as expected.
2. Make sure screens are in place over inlet and outlet pipes to prevent mosquito access.
3. Clean gutters, leaf guards, filter system, pipes and hoses to remove leaves and debris.
4. If the tank(s) links to a sprinkler system, test and inspect the sprinkler system to confirm it is working as intended, and replace any damaged sprinkler heads.

MAINTENANCE GUIDELINES

Rain Gardens

At all times:

1. Avoid using fertilizers, pesticides, or herbicides.
2. Minimize standing water time to reduce mosquito risk.
3. With recurring wildlife or pet problems, consider fencing or other exclusionary methods.

After storms:

1. Make sure the rain garden drains in a timely manner; less than 24 hours is ideal. To improve drainage time, lightly scarify with a hand cultivator.
2. If the rain garden takes longer than 96 hours (four days) to drain:
 - a. Remove top layer of sediment, mulch, and/or vegetation,
 - b. Decompact with a tiller, and
 - c. Replace soil, mulch, and/or vegetation.

Monthly:

1. Remove sediments as needed in order to maintain at least six inches of ponding depth.
2. Water plants as needed during dry periods to ensure survival.

Every three months:

1. Remove trash.
2. Make sure inlets and outlets aren't blocked by debris or vegetation.
3. Make sure any bare soil is covered by rocks or a three-inch layer of mulch or gravel.
4. Tend to plants as follows:
 - a) Replace dead plants as needed to maintain at least 80% coverage and survival.
 - b) Trim plants as needed to ensure they do not block or impair visibility of persons using roadways or walkways.
 - c) Mow turf grass, if any, to no shorter than four inches.
 - d) Trim bunch grasses to no lower than 18 inches from the ground in order to protect the growing tips.
 - e) Pull weeds as needed.
 - f) Remove all debris, plant clippings, and trimmings from the rain garden.

Late winter:

1. If desired, prune trees and shrubs before new growth begins.

Every two to three years in spring:

1. Apply new mulch layer at least three inches deep.

MAINTENANCE GUIDELINES

Ponds and Green Roofs

Sedimentation and Filtration Basins

Follow guidance in Environmental Criteria Manual [1.6.2.F](#) and [1.6.3](#).

Detention Ponds

Follow guidance in Environmental Criteria Manual [1.6.2.F](#) and [1.6.3](#).

Wet Ponds

Follow guidance in Environmental Criteria Manual [1.6.2.F](#) and [1.6.3](#).

Retention-Irrigation Systems

Follow guidance in Environmental Criteria Manual [1.6.2.F](#) and [1.6.3](#).

Green Roofs

Follow guidance in Environmental Criteria Manual, [1.6.2.F](#), [1.6.3](#), and [Appendix W](#).

Stock Pond, Landscaped Pond, or Fountain

At all times:

1. Make sure inlet and outlet drains are not blocked or clogged.
2. Monitor the basin structural integrity and repair immediately if you find:
 - a. Animal burrows, sinkholes, ruts, and/or wet areas in banks or structure.
 - b. Leaks, gullies, or other erosion of the pond's side slopes.
 - c. Erosion of downstream channel, bluff, or stream banks due to outfalls.
3. Look for sediment buildup and take the following actions:
 - a. If sediment buildup reduces basin storage by more than 10%, remove sediment and revegetate.
 - b. Remove accumulated sediment around any inflow and outflow areas if it exceeds six inches deep.
4. Avoid using fertilizers, pesticides, or herbicides.
5. Minimize stagnant water to reduce mosquito risk. With recurring wildlife and pet problems, consider fencing or other exclusionary methods.
6. Don't allow bare ground areas greater than 10 square feet – either cover them with mulch, rock, or sod or else replant or re-seed.
7. Control or remove woody vegetation to prevent basin leakage due to root growth. A permit may be needed to remove certain trees.
8. Trim plants in the irrigation area so that spray of water from irrigation heads is not impeded. Remove any tree or shrub trimmings from irrigation area.

Every three months:

1. Test or inspect pumps or irrigation system to confirm all work as intended. Replace damaged sprinkler heads as needed.
2. Remove any trash or debris, or more often if needed to maintain function.