

WATER CONSERVATION PLAN CHECKLIST REVIEW

Entity: *Georgetown*

Date: *4/30/14*

Utility Profile

5- and 10- yr targets and goals: Total

Residential

Water loss

	<i>5yr</i>	<i>10yr</i>
Total	<i>180</i>	<i>160</i>
Residential	<i>120</i>	<i>100</i>
Water loss	<i>27/15%</i>	<i>19/12%</i>

Implementation schedule for targets and goals

Master meter

Universal metering program

Water loss measures

Leak detection program

Public education program

Conservation water rate structure

Enforcement of plan

Wholesale contract *n/a*

Coordination with regional water planning group

Variances/ordinances

Measures to educate the public

Plan adoption

Reporting party requirements

Drought Plan

City of Georgetown

**Georgetown Utility Systems
Water Conservation Plan**

2014



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2014 Water Conservation Plan

1. INTRODUCTION

This Water Conservation Plan was developed to maintain and extend the available water supply to the City's certified service area and to protect the integrity of water supply facilities, with a focus on domestic water use, sanitation and fire prevention; to protect and preserve public health, welfare and safety; and to minimize the adverse impacts of water supply shortages or other water supply emergency conditions. This comprehensive plan includes the adoption and implementation of recognized water conservation best management practices. Additionally, Georgetown Utility Systems (GUS,) as a water supplier, is also required to have its Plan comply with Title 30 of the Texas Administrative Code (TAC) Chapter 288 (30 TAC § 288.) This Plan contains all of the provisions required in 30 TAC § 288, including a utility profile, conservation plans for municipal users, program metrics, implementation schedule and a drought contingency plan.

The Water Conservation Plan was adopted by City Council action and approved by the Texas Commission on Environmental Quality (TCEQ) and the Texas Water Development Board (TWDB.) The plan will be updated every five years, or more often, as necessary to reflect any amendments and updates to the plan, as directed by the TCEQ.

2. BACKGROUND OF WATER CONSERVATION EFFORTS

2.1 History. The Conservation Services department was created in 2009, but with no budget or dedicated revenue stream, projects were limited to those that could be grant funded. Water audits and water conservation programs were funded through the Water Services department and implemented through the Utility Billing Office. In October 2011, the Conservation Department was officially established, with its own budget and a staff of three.

2.2 Purpose. The Conservation Services Department is dedicated to the responsible use and management of our natural resources through the application of environmentally sound practices; the development of a strong foundation of leadership and education; and the promotion of programs and projects that provide opportunities, fund incentives and assist citizens in the management of their own resources.

Conservation Services integrates technology and information to provide a range of educational, financial, and practical tools that can support conservation and efficiency activities, making them more cost-effective and giving customers more options to satisfy their specific needs.

2.3 Public Participation. A proposed water conservation plan was first presented to the city council as a public workshop in January 2013, after which public comment was accepted. In April 2013, a request for volunteers to participate in a residential focus group to discuss the proposed water conservation plan was published in the local paper as well as on the City website. The volume of responses from citizens wanting to participate allowed the City to populate 4 residential focus groups. There were also 2 group meetings between City staff and local irrigators and 3 meetings between City staff and local builders and developers. The option of several different meeting times were offered (during business hours and after business hours) to provide flexibility, but the non-residential participation rate remained low in these groups.

The original plan was then amended to incorporate the input received from the public and was again presented to the city council in August 2013. The presentation for the amended plan was made available on line as both a recorded version and a PDF of the Power Point. Additional presentations were also made to several HOAs and civic organizations by conservation staff. The final water conservation plan was adopted by city council on April 8, 2014.

3. UTILITY PROFILE

3.1 Physical Area. The City of Georgetown water services area includes the City and portions of its Extra Territorial Jurisdiction (ETJ,) which encompass approximately 71 square miles of privately owned land and portions of major watersheds that include the San Gabriel River, Berry Creek, Pecan Branch, Smith Branch, and Mankin's Branch. Another topographical feature in the City water service area that is worth noting because of its effect on water usage and water conservation efforts, is the different soil qualities within the single service area. Not only does Interstate Hwy 35 bisect Georgetown, it is the dividing line between the Edwards Plateau, with its shallow soil covering impervious rock and the Blackland Prairie, with its deep clay-like soil, dictating a need for two different landscaping and irrigation requirements and different educational programs within one service area.

3.2 Population and Usage. The current service area population is estimated at 60,596 and includes 23,081 meters serving 26,219 connections. The remaining water services in the area are provided by one of two water supply corporations or private on-site wells. Georgetown's average daily water pumpage was 13.2 million gallons per day (MGD) in 2013. The peak pumpage for this period was 28 MGD. Of the total water pumped during 2013, only water loss due to leakage, hydrant testing, and theft of service was not metered. The percentage of water that was pumped, but lost through leakage, theft of service, metering inaccuracy, and hydrant flushing averaged 17 % annually between 2008 and 2012. Over the past year, water loss has increased to 21%. The most recent water demand study projects average demand for the year 2018, with a population of 76,571 at 17.25 MGD and a peak demand of 35.8 MGD.

3.3 Supply. The City is currently supplied via two ground water treatment plants and a surface water treatment plant. The groundwater water treatment plants are served by wells that have an average daily capacity of about 9.5 MGD under non-drought conditions. The surface water treatment plant at Lake Georgetown can provide 28.0 MGD with 18.1 MGD dedicated to the City and 9.9 MGD dedicated to Chisholm Trails SUD. At this time, Chisholm Trail SUD owns the water rights to the 9.9 MGD treated by the City, and pays the City only for the process of treating their water. The City's total treatment capacity is 37.5 MGD.

3.4 Wastewater System. The City of Georgetown wastewater system is the primary provider of wastewater treatment in the service area. The balance of the area is served by on-site disposal system (septic systems). The City's five wastewater treatment plants are permitted to discharge an average daily effluent flow of up to 7.0 MGD. The average discharge for 2013 was 3.3 MGD.

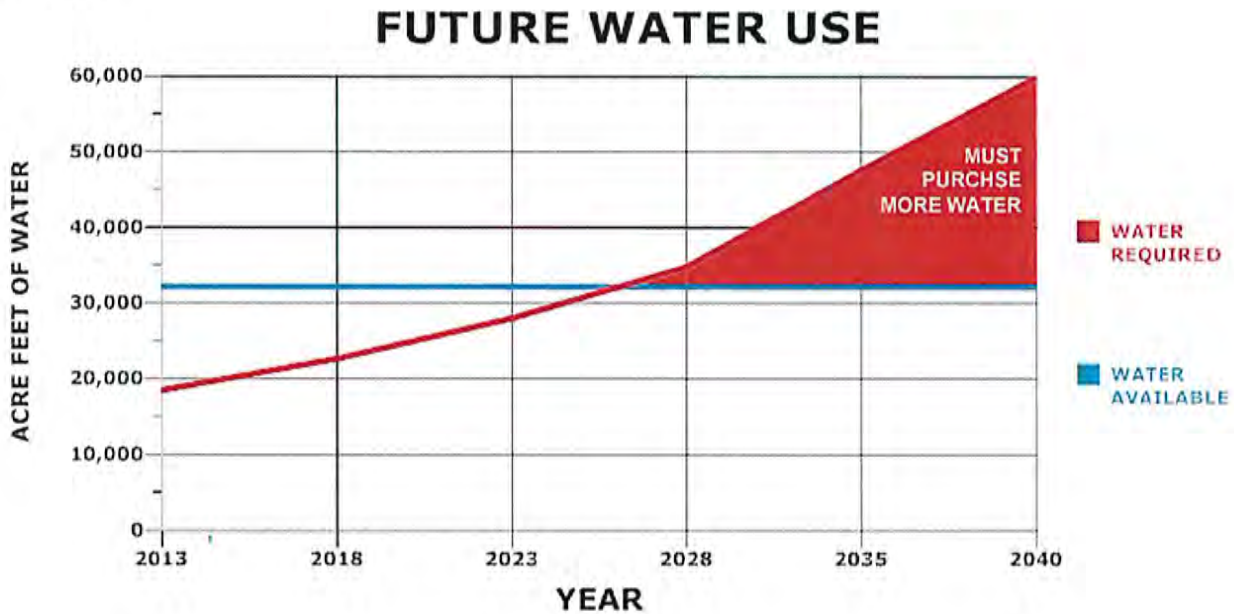
3.5 Reuse. The City also operates a reuse irrigation system that utilizes wastewater effluent to provide water for irrigation. The system currently provides effluent from four of its five wastewater treatment plants to five golf courses in the Georgetown area. Effluent irrigation water is also provided to Southwestern University's athletic fields and the City's parks.

3.6 Additional Information. More granular information and metrics can be found in the Utility Profile – Form 1965R, attached as Appendix A, at the end of this document.

4. GOALS

4.1 Causal Factor: Weather and Growth. The City currently has water rights equaling 32,168 acre feet of water. With a 4% projected annual growth rate, this is enough water to supply the City's total water service area through the year 2040. The issue is that this calculation is based on a GPCD of 160. At the current consumption rate, the City will surpass its contracted volume in 2027; thirteen years early. It has already exceeded its treatment capacity of 28 MGD on several occasions. In August of 2013, the peak demand was 31.9 MGD. The demand overage was covered with water from overhead storage. Without mitigation, the City will be in the position of having to obtain additional water rights and treatment capacity within a few years; both long and expensive processes. And this is assuming that drought conditions do not worsen, and water is available. Prolonged or worsening drought conditions will only accelerate depletion of the currently held water rights. It is the City's opinion that the most efficient and effective source of new water is conservation and efficient use.

Table 4.1.1



4.2 Water Loss Goal. The City has experienced water loss (expressed as the percentage of the difference between water usage billed and water pumped to the total water pumped) averaging 17% over the past five years. The average water loss for 2013 was 21%. The increase in loss has been due, in part, to a failing meter reading system that had reached the end of its useful life. The obsolete metering system was replaced over 10 months in 2013 with a new Advanced Metering Infrastructure (AMI) and new water meters. The City projects to reduce loss by 3% with the AMI system. In addition to the new, more accurate meters, the City will use selected conservation practices and programs to reduce the average water loss to 15% by 2018 and to 12% by 2023.

4.3 Per Capital Usage Goal. Historically, average water usage has been measured, expressed and comparatively provided in Gallons Per Capita Per Day (GPCD,) to reflect the City’s total residential and non-residential water usage. And while this metric may provide a complete picture of total daily usage per person, as businesses are part of everyday life, it also makes it difficult to identify and quantify the impact that conservation and changes in residential usage patterns have on the GPCD. For this reason, we are now calculating the Residential GPCD, and will provide both numbers for comparative analysis.

4.3.1. The City has averaged 218 GPCD over the past year. This is a 5.6% reduction from the previous 5-year average GPCD of 231, which can be attributed, in part, to a 24% increase in local rainfall. The City will use selected conservation practices listed in Section 7 of this plan to achieve additional reductions, with a 5-year goal of reaching 180 GPCD by 2018 and a 10-year goal of 160 GPCD by 2023.

4.3.2. The City has averaged a Residential GPCD of 141 over the last five years. The reduction goals are as follows: 5-year goal to reach 120 Residential GPCD by 2018 and to reach 100 Residential GPCD by 2023, as illustrated in the graph below.

TABLE 4.3.1.

2013 Water Conservation Plan: 5-Year and 10-Year Goals				
	Historic 5-yr Avg	Baseline	5-yr Goal for year 2018	10-yr Goal for year 2023
Total GPCD	231	218	180	160
Residential GPCD	141	131	120	100
Water Loss (GPCD)	39	45	27	19
Water Loss (%)	17%	21%	15%	12%

4.3.3. Both the Total GPCD and the Residential GPCD are tracked and monitored on a monthly basis to better identify usage patterns and work to mitigate unnecessary monthly usage peaks.

5. **METERING**

5.1 Metering at point of diversion. The City has meters installed at each of its water treatment plants to accurately measure the amount of water diverted from each water source. The meters are accurate to within 5% and are calibrated at least annually.

5.2. Universal Metering. The City requires the metering of all connections to the water system, including municipal use. The City completed the replacement of 99% of all water meters in 2013, as a component of the meter technology upgrade from an Automated Meter Reading (AMR) System to an Advanced Metering Infrastructure (AMI.) The new AMI system has the ability to record hourly meter readings, although only one meter reading is stored on a daily basis for customer access.

In addition to providing usage information for billing, the AMI system can be used to identify unusual usage patterns and detect meter malfunctions, which can then be handled as needed.

6. WATER AUDITS

6.1. Metering. The City maintains a Customer Information System (CIS) that includes record management and account billing. The CIS tracks water delivered and water billed, as well as compares these metrics against the amount of water pumped, to determine the amount of water losses. The system allows for the division of sales into residential, commercial, public/institutional, and industrial uses. It can also isolate water usage by neighborhood, as well as provide reporting that is sortable by multiple fields, including customer class, meter size, rate table and date. Access to reporting in this granular format makes water leak detection much more efficient. The City conducts a monthly audit to determine the amount of unaccounted for usage.

6.2 System Inspections. The City conducts an annual inspection of 10% of all distribution lines, including the service connections to the meter. Therefore, in a 10-year period, the entire system is inspected. The inspection uses ultrasonic equipment to identify leaks not visible on the ground surface. Once identified, the leaks are repaired.

6.3 Customer Information System (CIS.) Although the current CIS adequately performs the minimum calculations necessary to comply with 30 TAC § 288, the City has grown to a size for which a more advanced billing system is required to fully utilize the large volume of more granular data that is being collected and analyzed through the new AMI system and Meter Data Management (MDM) System. The City has included the acquisition of a new CIS in the 2014-2015 budget year, with a Request for Proposal (RFP) to be released before the end of calendar year 2014.

7. WATER CONSERVATION AND EFFICIENCY PLAN ELEMENTS

7.1 Commitment. The City of Georgetown has a long standing commitment to water conservation and the efficient use of our natural resources. One of the lessons learned over the years of this commitment is that no one program or strategy, by itself, can be successful in adequately reducing water usage. As a result, the City has developed a comprehensive water conservation plan that employs a number of different strategies and programs that impact water usage through a variety of methods, including education, incentives, regulations and enforcement.

7.2 Creating a Conservation Culture. The first step in creating a successful water conservation program is developing a local culture that embraces conservation. The City is taking a leadership position in creating an environment that supports this effort by providing the following assets and tools:

7.2.1 Conservation Services Department Staff. The Conservation Services department was officially established in October 2011, with its own budget and staff dedicated to water conservation programs. Additional positions include the following:

- a. Conservation Education Coordinator: Added in March 2013.
- b. Landscape Inspector: Add in the 2014-2015 fiscal year
- c. Conservation Program Analysis: Add in the 2014-2015 fiscal year
- d. Landscape Plan Reviewer: Add in the 2015-2016 fiscal year

7.2.2 Resolution for Landscaping of City Facilities. In an effort to lead by example, on August 27, 2013 the Georgetown city council adopted a resolution directing the exclusive use, by the City, of native and drought resistant landscaping at all newly constructed or rehabilitated city facilities.

7.2.3 Dedicated Conservation facility. The City is in the process of designing and constructing a facility dedicated, in part, to community conservation. The community conservation facility will be a one-stop shop for conservation programs and information; issues can be discussed by interested and concerned citizens, organizations, stakeholders and city staff. Demonstrations and displays are available for viewing and citizens can actively participate in programs. In this environment, the local users of the utilities have a chance to consider and influence the conservation practices being proposed, and the City receives the benefits of the various viewpoints, skills and experiences represented. It has been proven time and again that this kind of collaborative interaction can be successful when the participants have local interests, input into the projects, and take ownership of the process. The goals to be accomplished through the Community Conservation Center are as follows:

- a. Provide knowledge, resources and opportunities in the conservation and efficient use of water, energy and solid waste in a manner that stimulates interest, influences behavior and provides the tools to take responsible action.
- b. Increase involvement, participation and volunteerism in conservation and efficiency activities through programs and projects that capture the interest and imagination of our citizens
- c. Develop community partnerships and strong collaborative alliances in order to increase resources and provide diverse approaches to conservation issues and education strategies
- d. Monitor and track current statistics and regularly updated information on conservation offerings in order to evaluate activities and identify successful conservation efforts.
- e. Achieve conservation goals through innovative education, city-wide communication, targeted marketing to specific customer segments, and community involvement strategies.

7.2.4 Conservation Program Tracking Software. The City has authorized the purchase of software to use in the tracking and analysis of the conservation programs. The monitoring and evaluation of a program should be conducted throughout the life of a project. It provides a yardstick to measure forward progress; to identify needed changes to the program earlier instead of later; to monitor the use of resources for efficiency; and to assess productivity. An RFP for the software has been completed, with acquisition and implementation scheduled for the first quarter of 2015.

7.3 Education. Other than a small faction in Georgetown, there is a severe lack of awareness concerning water conservation in general, how the current programs work and why they are necessary. It is the intention of the conservation department to fill this informational void by introducing a comprehensive education program to our customers. By providing classes and other educational resources, we hope to influence the behavior and consumption habits of our consumers. These educational programs and projects are listed as follows:

public on topics such as how to correctly operate an irrigation controller, differences in warm-weather grasses and the water requirements for each, the impact of soil depth, etc.

- 7.3.2 Kids Conservation Classes. Short, ten to twenty minute classes are provided for children of all ages at the Conservation Services booth during local events. Age-appropriate topics are presented on different aspects of water use and water conservation.
- 7.3.3 “How to...” hands on classes. These classes are similar to, and may be considered part of, the monthly classes listed in 7.3.1, but focus specifically on “how to do things,” such as how to irrigate for your specific soil depth, setting your irrigation controller, building your own rain barrel, and making simple repairs to your irrigation system (replacing heads, etc.)
- 7.3.4 Distribution of Promotional Conservation Information. The City distributes water conservation material annually as a bill stuffer and in its annual Water Quality Report. Additional conservation literature and information is made available to the public in the following ways:
 - a. Website
 - b. Articles in the local paper
 - c. Distribution from the Customer Care Department
- 7.3.5 Demonstration Gardens. The City is in the process of planning and developing a variety of gardens on City properties that can serve as demonstration gardens to show people the diversity of textures, colors, and sizes that native landscaping can provide. There will also be sample landscapes that provide plant suggestions and placement, as well as, permeable hardscapes.
- 7.3.6 Presentations to local civic and social organization and HOAs. Providing informational materials to residents is not enough to address the education goals of the City, so presentations have been and will continue to be given to local organizations to address specific and timely topics and water issues. This will also help the City reach diverse sectors of the community.
- 7.3.7 Class to public school classes. The City will be more aggressive in their educational campaign by reaching out to local schools to present information on water conservation to classes of all grade levels. The Conservation Department has already contacted GISD in order to determine and identify the sections of their scheduled curriculum for the 2014-2015 school year that can be addressed through water resource and conservation programs sponsored by the City.
- 7.3.8 Local event booths. The Conservation Services Department will continue its on-going participation in local events, which allow the City to be grounded in the community and speak one-on-one with residents about conservation, as well as, provide informational material and children’s classes.

7.4 Incentives

7.4.1 Rebate Programs

a. Landscape Conversions. Following the Texas Water Development Board's Water Wise Landscape Design and Conversion Programs Best Management Practices, the City is developing a rebate program that incentivizes the conversion of turf areas to drought-tolerant landscaping and/or permeable hardscape. To qualify for the rebate, the customer must also cap off or change the irrigation in the conversion zone to drip or bubblers.

b. Irrigation Incentives. The City will provide three incentive programs addressing automatic irrigation:

- i. An irrigation upgrade rebate that will provide financial incentives for capping off entire zones or converting spray/rotors to drip and/or bubblers.
- ii. A sensor rebate that will all be provided to add/upgrade rain and moisture sensors.
- iii. A voucher system that will help cover the cost of an annual irrigation "check-up" to keep an irrigation system running as efficiently as possible.

7.4.2 Recognition Programs

a. **GO Native, Georgetown!** This program provides residents an opportunity to share pictures of their drought-tolerant landscapes by sending pictures to the Conservation Services Department for inclusion on the **GO Native, Georgetown!** web page. This also allows anyone who visits the website to see how interesting, beautiful, and diverse native plants can be, dispelling the notion of native landscaping as simply rocks and cactus.

b. Yard of the Month Award. In an attempt to change peoples' aesthetic view of yards and landscaping, the City is planning a Yard of the Month award for people who make the best use of drought-tolerant plants, permeable hardscapes, and reduce their overall water use. This program will be established by August 2014, when water usage and irrigation, historically, are at a peak.

7.4.3 Discount Rain Barrel Sales. Twice a year, the City offers fifty gallon rain barrels at a discounted price. Additionally, City utility customers can receive a rebate as a credit on their utility bill for purchasing a rain barrel. This program provides an opportunity for residents to learn about and utilize an alternative water source for their flower beds and gardens, and in many cases, reduces the use of automatic irrigation system.

7.5 Partnerships

7.5.1 Master Gardeners. Master Gardeners volunteer in their local communities to help spread horticultural knowledge through workshops, classes, presentations, and demonstrations. Since the Master Gardeners follow recommendations made from the Texas AgriLife Extension Service, they have a firm foundation in research-based information that can be beneficial to the City in both educational literature, classes offered, and development of demonstration gardens. They are currently advising the City on class curriculum and the establishment of the demonstration gardens.

7.5.2 Native Plant Society of Texas (NPSOT.) Native Plant Society members promote the conservation of native plants in Texas. Similar to Master Gardeners, NPSOT engages the community through education and outreach and a partnership with them would yield similar benefits as those received from the Master Gardeners, but with a focus entirely on

native landscaping. NPSOT is currently helping the City identify native plants in our natural garden areas.

- 7.5.3 Georgetown Independent School District. Partnering with the school district allows the City the ability to establish a relationship that would provide teaching opportunities in the classrooms, the potential for demonstration garden sites built and/or maintained by the students, and a possible research project source for students through the City.
- 7.5.4 Williamson County. Partnership with Williamson County is an on-going collaboration in which information and resources are shared for our common customers and goals.
- 7.5.5 Irrigators. Local irrigators are in the community on a daily basis and have direct contact with residents. Partnering with irrigators will provide an opportunity for the City to stay abreast of current irrigation standards, as well as, provide another method of distributing information on City requirements and recommendations to the public. Irrigators will also be able to shed insight on the types of issues or misunderstandings that their customers express, so the City can then address those problems, either individually or through organized classes.
- 7.5.6 Volunteers. Volunteers can be the heart of an organization, especially when those volunteers are passionate about the intended agenda. Water conservation is a topic that many people embrace and this can be a major resource for spreading important and informative conservation information.
- 7.5.7 Interns. Interns provide a fresh and sometimes different perspective, as well as, knowledge of current technology that staff may not have been exposed to. In return, the City can provide these knowledgeable and passionate students with something that is hard to simulate in the academic setting in which they are currently living: experience in a “real world” environment using actual data and with “real world” applications and roadblocks.
- 7.5.8 Home Builders Association (HBA) of Greater Austin. The City is currently working with the HBA and other cities to aid in the establishment of standards for this organization concerning water conservation and efficiency methods of construction and landscape installation.
- 7.5.9 Texas A&M (TAMU) AgriLife. The City is currently partnered with AgriLife to conduct a research project into the effect of AMI on water conservation and to establish best practices for its use. The City will also be participating with AgriLife in their Drought study by providing test beds for different grasses at the new Conservation facility to be completed in 2015.

7.6 Regulations (Effective June 1, 2014)

- 7.6.1 Landscape Ordinances. The City has implemented a landscape ordinance that requires the following in the construction of new residential sites:
 - a. New or retrofitted landscape plans to follow the Approved Plant List found in the City’s Unified Development Code (UDC.)

- b. All turf varieties must have summer dormancy capabilities.
- c. At least a 6" soil depth beneath all irrigated turf areas.
- d. Installation of turf area is limited to 2.5 x the foundation footprint, up to a maximum area of 10,000 square feet.

7.6.2 Irrigation Ordinances. The City has implemented an irrigation ordinance that requires the following in the construction of new residential sites or in the installation of a new irrigation system at an existing residence that has never had a system before:

- a. Designed and installed by hydrozones.
- b. Include rain and moisture sensors that are programmed to the City's required irrigation settings, with written instructions provided.
- c. Limits the area that can be irrigated with spray or rotor heads to a size that does not exceed 2.5 x the foundation footprint. This does not, however, limit the area that can be irrigated with drip or bubblers.

7.6.3 Inspections

The City is requiring developers and builders to provide a landscape design plan, created by a landscape professional, as part of their plot plan to be reviewed and approved by the City's Development Services. Once the landscaping has been installed, an on-site landscape inspection will be conducted as part of the final inspection process.

7.6.4 Water Rates. In addition to the ascending block rates, the City has set the monthly service charge for all classes of water customers to recover the cost of all fixed costs associated with the water utility, so that a successful water conservation program will not have a negative effect on the operation or revenue generating ability of the utility. Please see Appendix B for the current water rate schedule.

7.6.5 Irrigation Schedule In March 2013, the city council adopted an ordinance that limits irrigation with automatic irrigation systems or hose-end sprinklers to a year around, standard 3-day maximum weekly watering schedule.

7.6.6 Wasting Water. Water waste; water use that serves no purpose, is prohibited. Examples of wasting water include, but are not limited to, failure to repair a leak within a reasonable period of time or operating an irrigation system that results in run-off or accumulation in the street or on other impervious areas.

7.7 Enforcement (Effective June 1, 2014)

7.7.1 Administrative Penalties. Administrative penalties will be assessed for violations of the Water Conservation Plan and/or Drought Contingency Plan. These penalties will be billed on the violator's City utility bill. After the third violation, enforcement responsibilities will be returned to the Police / Municipal Court systems.

7.7.2 Variances. Residents can apply for a variance from the standard irrigation schedule, and upon determination of the special circumstances, a variance can be granted which will

7.7.3 Required Classes. The administrative penalty for the first violation of any water usage or conservation ordinance may be waived, at the customer's discretion, by the attendance of one of the City's water conservation classes.

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

Fill out this form as completely as possible.
If a field does not apply to your entity, leave it blank.

CONTACT INFORMATION

Name of Utility: GEORGETOWN UTILITY SYSTEMS

Public Water Supply Identification Number (PWS ID): 246001

Certificate of Convenience and Necessity (CCN) Number: 12369

Surface Water Right ID Number: 12104 2360 2361

Wastewater ID Number: WQ 0010489

Completed By: Kathy Ragsdale Title: Conservation Serv. Mngr

Address: 300 Industrial Ave City: Georgetown Zip Code: 78626

Email: kathy.ragsdale@georgetown.org Telephone Number: 512-930-2577

Date: 4/10/2014

Regional Water Planning Group: G [Map](#)

Groundwater Conservation District: _____ [Map](#)

Check all that apply:

- Received financial assistance of \$500,000 or more from TWDB
- Have 3,300 or more retail connections
- Have a surface water right with TCEQ

Section I: Utility Data

A. Population and Service Area Data

1. Current service area size in square miles: 71
 (Attach or email a copy of the service area map.)

2. Provide historical service area population for the previous five years, starting with the most current year.

Year	Historical Population Served By Retail Water Service	Historical Population Served By Wholesale Water Service	Historical Population Served By Wastewater Service
2013	60,596		59,918
2012	57,495		56,563
2011	55,977		55,344
2010	53,925		53,481
2009	52,797		52,546

3. Provide the projected service area population for the following decades.

Year	Projected Population Served By Retail Water Service	Projected Population Served By Wholesale Water Service	Projected Population Served By Wastewater Service
2020	81,234		79,984
2030	108,262		107,549
2040	136,374		136,374
2050	162,204		162,204
2060	188,245		188,245

4. Describe the source(s)/method(s) for estimating current and projected populations.

The population inside the city limits is provided monthly by the City Planning & Development Dept.

The population that is within the water service area, but outside the city limits, is calculated by taking the number of water accounts outside the city limits, and multiplying that number by the Federal Census Bureau's calculation of 'people per household in Williamson County, TX.'

The populations inside and outside the city limits are then added together to provide the total permanent population within the Water Service Area.

The service area for Wastewater is the same as for water, so the calculation is the same, less the number of accounts on personal septic systems.

B. System Input

Provide system input data for the previous five years.

Total System Input = Self-supplied + Imported – Exported

Year	Self-supplied Water in Gallons	Purchased/Imported Water in Gallons	Exported Water in Gallons	Total System Input	Total GPCD
2013	1,702,919,000	3,117,883,000		4,820,802,000	218
2012	1,850,322,000	3,083,046,000		4,933,368,000	235
2011	2,133,925,000	2,961,596,000		5,095,521,000	249
2010	1,931,963,000	2,064,862,000		3,996,825,000	203
2009	1,786,710,000	2,420,742,000		4,207,452,000	218
Historic 5-year Average	1,881,167,800	2,729,625,800	0	4,610,793,600	225

C. Water Supply System (Attach description of water system)

1. Designed daily capacity of system _____ 37,500,000 gallons per day.

2. Storage Capacity:
 Elevated _____ 4,400,000 gallons
 Ground _____ 14,000,000 gallons

3. List all current water supply sources in gallons.

Water Supply Source	Source Type*	Total Gallons
EDWARDS AQUAFER	Ground	1,466,340,227
LAKE GEORGETOWN	Surface	2,183,217,671
LAKE STILLHOUSE	Surface	5,033,783,071
BRAZOS RIVER AUTH.	Surface	3,258,533,837
	Choose One	
	Choose One	

*Select one of the following source types: *Surface water, Groundwater, or Contract*

4. If surface water is a source type, do you recycle backwash to the head of the plant?
 Yes 250,000 estimated gallons per day
 No

D. Projected Demands

1. Estimate the water supply requirements for the next ten years using population trends, historical water use, economic growth, etc.

Year	Population	Water Demands (gallons)
2014	66,545	4,731,362,793
2015	69,207	4,889,074,886
2016	71,975	5,052,326,453
2017	74,854	5,221,117,495
2018	76,571	5,441,067,212
2019	78,868	5,570,104,379
2020	81,234	5,702,074,209
2021	83,671	5,836,650,850
2022	86,181	5,974,486,006
2023	88,767	6,115,579,676

2. Describe sources of data and how projected water demands were determined. Attach additional sheets if necessary.

The source of projected population and water demand is the City of Georgetown Water Services Master Plans, developed and completed by Camp, Dresser and McKee, Inc.

Criteria used in the calculation of projected population growth include the following:

- *Current population within the current CCN (Based on growth since Federal Census)
- *City's Future Land Use Plan densities(as applied to the CCN)
- *City's Growth Management Framework
- *Historical residential growth patterns

Criteria used in the calculation of projected water demand include the following:

- *Current Population and Non-residential unit demand represent the provide the basic info
- *Historical utility billing records
- *Land use characteristics as defined in the City's Future Land Use Plan

E. High Volume Customers

1. List the annual water use, in gallons, for the five highest volume **RETAIL customers**. Select one of the following water use categories to describe the customer; choose Residential, Industrial, Commercial, Institutional, or Agricultural.

Retail Customer	Water Use Category*	Annual Water Use	Treated or Raw
CITY OF GEORGETOWN	Institutional	120,569,000	Treated
SUN CITY TEXAS	Commercial	79,982,000	Treated
SOUTHWEST MATERIALS	Industrial	72,913,000	Treated
SOUTHWESTERN UNIVERSITY	Institutional	57,875,000	Treated
CITICORP OF NORTH AMERICA	Commercial	34,864,000	Treated

*For definitions on recommended customer categories for classifying customer water use, refer to the online [Guidance and Methodology for Reporting on Water Conservation and Water Use](#).

2. If applicable, list the annual water use for the five highest volume **WHOLESALE customers**. Select one of the following water use categories to describe the customer; choose Municipal, Industrial, Commercial, Institutional, or Agricultural.

Wholesale Customer	Water Use Category*	Annual Water Use	Treated or Raw
	Choose One		Choose One
	Choose One		Choose One
	Choose One		Choose One
	Choose One		Choose One
	Choose One		Choose One

*For definitions on recommended customer categories for classifying customer water use, refer to the online [Guidance and Methodology for Reporting on Water Conservation and Water Use](#).

F. Utility Data Comment Section

Provide additional comments about utility data below.

Georgetown Utility Systems (GUS) and Chisholm Trail Special Utility District (CTSUD) started the discussion of potential regionalization in the fall of 2011. Both parties engaged the services of multiple consultants to investigate the potential benefit of forming a regional utility. Various governance models were reviewed and evaluated. The final contract represents work by both parties and is based on the existing GUS governance model. It provides for the purchase of all CTSUD assets by the City, in an amount necessary to disburse the existing debt.

Under the terms of the contract, the asset transaction will occur after the assignment of existing contracts and regulatory approvals. The City will manage CTSUD from the point of execution of the contract until the asset transaction has been approved. Once approved, the City will purchase the assets, offer employment to the existing CTSUD employees, and accept existing CTSUD customers as "Out of City" customers. Funds for the purchase will come from existing CTSUD cash balance, City Water Operations Fund, and the issuance of debt. The GUS assumed management of the CTSUD on November 1, 2013, with Jim Briggs, General Manager of GUS, as acting General Manager of CTSUD, as well. The CTSUD remains the policy and oversight board for the district. The same day, TCEQ received the application for the transfer of the CTSUD service area. In December, the TCEQ declared the application to be complete and required the CTSUD to notify its customers, local municipalities, and local water supply corporations of the pending service area transfer. In April, the City of Georgetown was notified by TCEQ that it received 32 written protests concerning the proposed consolidation of CTSUD and the City's water utility and referred the case to the Texas Office of Administrative Hearings.

Section II: System Data

A. Retail Connections

- List the active retail connections by major water use category.

Water Use Category*	Active Retail Connections			
	Metered	Unmetered	Total Connections	Percent of Total Connections
Residential – Single Family	21,184		21,184	81%
Residential – Multi-family (units)	3,138		3,138	12%
Industrial	33		33	0%
Commercial	1,416		1,416	5%
Institutional	448		448	2%
Agricultural	0		0	0%
TOTAL	26,219	0	26,219	

*For definitions on recommended customer categories for classifying customer water use, refer to the online [Guidance and Methodology for Reporting on Water Conservation and Water Use](#).

- List the net number of new retail connections by water use category for the previous five years.

Water Use Category*	Net Number of New Retail Connections				
	2013	2012	2011	2010	2009
Residential – Single Family	894	735	473	479	322
Residential – Multi-family (units)	0	0	0	0	0
Industrial	7	0	1	0	0
Commercial	2	36	70	70	62
Institutional	7	4	7	10	2
Agricultural			0	0	0
TOTAL	910	775	551	559	386

*For definitions on recommended customer categories for classifying customer water use, refer to the online [Guidance and Methodology for Reporting on Water Conservation and Water Use](#).

B. Accounting Data

For the previous five years, enter the number of gallons of RETAIL water provided in each major water use category.

Water Use Category*	Total Gallons of Retail Water				
	2013	2012	2011	2010	2009
Residential - Single Family	2,686,369,000	2,975,514,000	3,299,685,000	2,444,200,000	2,479,165,000
Residential – Multi-family	179,257,000	162,339,000	166,122,000	158,228,000	168,769,000
Industrial	37,804,000	26,600,000	26,620,000	27,144,000	26,232,000
Commercial	697,192,000	661,681,000	812,709,000	533,218,000	614,727,000
Institutional	224,596,000	161,864,000	157,421,000	144,626,000	194,153,000
Agricultural	0	0	0	0	0
TOTAL	3,825,218,000	3,987,998,000	4,462,557,000	3,307,416,000	3,483,046,000

*For definitions on recommended customer categories for classifying customer water use, refer to the online [Guidance and Methodology for Reporting on Water Conservation and Water Use](#).

C. Residential Water Use

For the previous five years, enter the residential GPCD for single family and multi-family units.

Water Use Category*	Residential GPCD				
	2013	2012	2011	2010	2009
Residential - Single Family	121	142	161	124	129
Residential – Multi-family	157	153			
TOTAL	278	295	161	124	129

D. Annual and Seasonal Water Use

1. For the previous five years, enter the gallons of treated water provided to RETAIL customers.

Month	Total Gallons of Treated Retail Water				
	2013	2012	2011	2010	2009
January	276,752,000	241,616,000	206,384,000	196,427,000	261,155,000
February	284,664,000	210,474,000	192,857,000	171,746,000	251,560,000
March	375,216,000	263,383,000	344,596,000	215,174,000	310,657,000
April	361,369,000	418,909,000	442,339,000	287,543,000	306,260,000
May	407,786,000	401,314,000	480,812,000	411,951,000	385,719,000
June	530,098,000	596,680,000	592,946,000	440,219,000	568,320,000
July	523,320,000	540,425,000	645,348,000	393,902,000	630,179,000
August	576,110,000	598,336,000	659,865,000	544,410,000	529,860,000
September	495,978,000	471,874,000	628,959,000	362,596,000	274,975,000
October	400,814,000	426,988,000	297,516,000	410,449,000	229,767,000
November	307,480,000	401,106,000	356,633,000	277,227,000	232,253,000
December	281,215,000	362,263,000	247,266,000	285,181,000	226,747,000
TOTAL	4,820,802,000	4,933,368,000	5,095,521,000	3,996,825,000	4,207,452,000

2. For the previous five years, enter the gallons of raw water provided to RETAIL customers.

Month	Total Gallons of Raw Retail Water				
	2013	2012	2011	2010	2009
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
TOTAL	0	0	0	0	0

3. Summary of seasonal and annual water use.

Water Use	Seasonal and Annual Water Use					Average in Gallons
	2013	2012	2011	2010	2009	
Summer Retail (Treated + Raw)	1,629,528,000	1,735,441,000	1,898,159,000	1,378,531,000	1,728,359,000	1,674,003,600 5yr Average
TOTAL Retail (Treated + Raw)	4,820,802,000	4,933,368,000	5,095,521,000	3,996,825,000	4,207,452,000	4,610,793,600 5yr Average

E. Water Loss

Provide Water Loss data for the previous five years.

$$\text{Water Loss GPCD} = [\text{Total Water Loss in Gallons} \div \text{Permanent Population Served}] \div 365$$

$$\text{Water Loss Percentage} = [\text{Total Water Loss} \div \text{Total System Input}] \times 100$$

Year	Total Water Loss in Gallons	Water Loss in GPCD	Water Loss as a Percentage
2013	995,584,000	45	21%
2012	916,857,000	44	19%
2011	632,964,000	31	12%
2010	689,409,000	35	17%
2009	724,406,000	38	17%
5-year average	791,844,000	39	17%

F. Peak Water Use

Provide the Average Daily Water Use and Peak Day Water Use for the previous five years.

Year	Average Daily Use (gal)	Peak Day Use (gal)	Ratio (peak/avg)
2013	13,208,677	28,018,000	2.12
2012	13,437,958	30,058,000	2.24
2011	13,960,331	27,746,000	1.99
2010	10,950,205	23,612,000	2.16
2009	11,527,266	25,867,000	2.24

G. Summary of Historic Water Use

Water Use Category	Historic 5-year Average	Percent of Connections	Percent of Water Use
Residential SF	2,776,986,600	81%	60%
Residential MF	166,943,000	12%	4%
Industrial	28,880,000	0%	1%
Commercial	663,905,400	5%	14%
Institutional	176,532,000	2%	4%
Agricultural	0	0%	0%

H. System Data Comment Section

Provide additional comments about system data below.

There will always be some discrepancies between the the operational services (pumping and treating of water) and the financial services (meter reading and billing.) This is because operational use is easily read and recorded on a calendar month, whereas meter reading and billing services are performed all through the month, in order to even out the workload.

An account with a "June Consumption" of 25,000 gallons is most likely a combination of June and May consumption (i.e. May 21 - June 21.) We hope to have the AMI and the MDMS running smoothly within the next few months, and can create a report the can pick up the daily reads from the billing function to match apples to apples with the operational functions.

Although we can isolate multi-family consumption through the master meters at each apartment complex for the last 5 years, we cannot go back and see how many active units each complex had before 2012, because the accounts were not coded to register this information before then.

Section III: Wastewater System Data

If you do not provide wastewater system services then you have completed the Utility Profile. Save and Print this form to submit with your Plan. Continue with the [Water Conservation Plan Checklist](#) to complete your Water Conservation Plan.

A. Wastewater System Data (Attach a description of your wastewater system.)

1. Design capacity of wastewater treatment plant(s): 7,700,000
gallons per day.
2. List the active wastewater connections by major water use category.

Water Use Category*	Active Wastewater Connections			
	Metered	Unmetered	Total Connections	Percent of Total Connections
Municipal		17,900	17,900	95%
Industrial		10	10	0%
Commercial		927	927	5%
Institutional		96	96	1%
Agricultural		0	0	0%
TOTAL	0	18,933	18,933	

2. What percent of water is serviced by the wastewater system? 91%
3. For the previous five years, enter the number of gallons of wastewater that was treated by the utility.

Month	Total Gallons of Treated Wastewater				
	2013	2012	2011	2010	2009
January	117,655	124,927	135,148	126,681	103,104
February	98,721	129,854	127,698	155,863	97,261
March	105,861	143,359	128,197	175,784	107,389
April	112,418	105,614	114,454	126,202	113,479
May	111,159	95,074	107,464	107,507	113,095
June	90,878	73,938	74,614	113,549	95,088
July	103,914	95,947	68,018	125,445	69,673
August	86,626	96,943	68,408	97,201	67,498
September	96,504	105,941	68,197	147,983	108,883
October	113,051	118,019	85,133	125,794	169,195
November	139,507	94,326	101,932	104,763	135,993
December	130,094	108,543	129,993	117,943	130,049
TOTAL	1,306,388	1,292,485	1,209,256	1,524,715	1,310,707

4. Can treated wastewater be substituted for potable water?

Yes No

B. Reuse Data

1. Provide data on the types of recycling and reuse activities implemented during the current reporting period.

Type of Reuse	Total Annual Volume (in gallons)
On-site irrigation	
Plant wash down	
Chlorination/de-chlorination	
Industrial	
Landscape irrigation (parks, golf courses)	200,422,000
Agricultural	
Discharge to surface water	
Evaporation pond	
Other	
TOTAL	200,422,000

C. Wastewater System Data Comment

Provide additional comments about wastewater system data below.

The Wastewater Department is responsible for the operation and maintenance of intracstructure that provides wastewater for 18,933 connections. Wastewater infrastructure includes 5 treatment plants: San Gabriel WWTP, Dove Springs WWTP, Pecan Branch WWTP, Cimarron Hills WWTP and Berry Creek WWTP; for a total of 7.7 MGD of capacity, 27 pumping stations, 6012 manholes, and 305 miles of wastewater collection mains. Department activities are regulated by the Texas Commission on Environmental Quality (TCEQ) and the Environmental Protection Agency (EPA.) Department activities include perodic operational checks and preventive maintenance of pumping facilities; jet cleaning and camera inspection of collection mains and manholes; acceptance of new facilities constructed by developers; repair and preventive maintenanceof collection mains; and troubleshooting and repair of system blockages. The operation and maintenace of treatment facilities is performed under a five-year contract the will end October 2018.

You have completed the Utility Profile. Save and Print this form to submit with your Plan. Continue with the [Water Conservation Plan Checklist](#) to complete your Water Conservation Plan.

Appendix B

Resolution adopting water conservation Plan

RESOLUTION NO. 040814-P

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GEORGETOWN, TEXAS, SUPPORTING THE PROPOSED 2014 WATER CONSERVATION PLAN TO BE SUBMITTED TO THE TEXAS WATER DEVELOPMENT BOARD (TWDB) AND THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) ON OR BEFORE MAY 1, 2014; PROVIDING A SEVERABILITY CLAUSE; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, the rules of the Texas Commission on Environmental Quality in the Texas Administrative Code, Title 30, Chapter 288 require Water Conservation Plans be updated every five (5) years to coincide with the regional water planning group; and

WHEREAS, the City's current Water Conservation Plan was last updated in May 2009; and

WHEREAS, the rules of the TCEQ in the Texas Administrative Code, Title 30, Chapter 288 require preparation and submittal of a water conservation plan for municipal water use by public water suppliers by May 1, 2014; and

WHEREAS, the required water conservation plan is to include the following plan elements: five-year and ten-year goals for water loss and gallons per capita daily water use, the completed TWDB Form 1965 Utility Profile, continuing education and outreach programs, an ordinance adopting non-promotional water rates, measures to determine and control water loss, a program of universal metering, the ordinance adopting an enforcement plan, the ordinance adopting the drought contingency plan, and a system of tracking and evaluating the effectiveness of the plan; and

WHEREAS, the attached Water Conservation Plan follows water conservation best practices and complies with the applicable rules of the TCEQ and the TWDB.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GEORGETOWN, TEXAS, THAT:

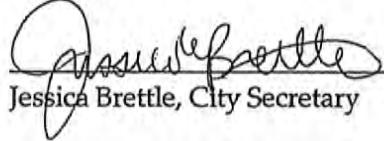
SECTION 1. The facts and recitations contained in the preamble of this resolution are hereby found and declared to be true and correct.

SECTION 2. The Water Conservation Plan attached hereto as Exhibit "A" is hereby adopted by the City Council of the City of Georgetown, Texas.

SECTION 3: This Resolution shall be effective upon approval by the City Council of the City of Georgetown. The Mayor is hereby authorized to execute, and the City Secretary to attest thereto this resolution on behalf of the City of Georgetown.

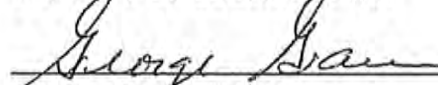
RESOLVED this 8th day of April, 2014

ATTEST:



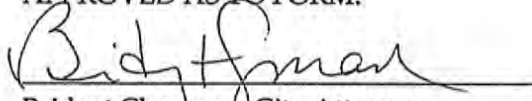
Jessica Brettle, City Secretary

THE CITY OF GEORGETOWN



George Garver, Mayor

APPROVED AS TO FORM:



Bridget Chapman, City Attorney

Appendix C

Ordinance adopting landscaping and irrigation restrictions and enforcement — authority and mechanisms

ORDINANCE NO. 2014-23

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF GEORGETOWN, TEXAS, AMENDING CHAPTER 13.15 ENTITLED "WATER UTILITY SERVICES" OF THE CODE OF ORDINANCES OF THE CITY OF GEORGETOWN TEXAS TO INCLUDE WATER CONSERVATION, LANDSCAPE AND IRRIGATION REQUIREMENTS AND PROVIDING ADDITIONAL ENFORCEMENT MECHANISMS; REPEALING CONFLICTING ORDINANCES AND RESOLUTIONS; INCLUDING A SEVERABILITY CLAUSE; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, The City of Georgetown values and supports water conservation as an effective resource to manage, sustain and protect the City's potable water supply; and

WHEREAS, The City of Georgetown wishes to adopt provisions for landscape and irrigation maintenance practices that discourage wasteful use of water and that foster long-term landscape water conservation, as directed by the Texas Administrative Code, Title 30, Chapter 288; and

WHEREAS, The City of Georgetown wishes to provide an effective enforcement strategy, including penalties, that encourages compliance with water conservation and water efficiency ordinances, as well as, fully recovers the cost of the enforcement program for the Utility; and

WHEREAS, The City of Georgetown wishes to identify water conservation and efficiency activities and integrate them into the water services provided to the City's water customers, and

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GEORGETOWN, TEXAS THAT:

Section 1. The meeting at which this ordinance was approved was in all things conducted in compliance with the Texas Open Meetings Act, Texas Government Code, Chapter 551.

Section 2. The facts and recitations contained in the preamble of this ordinance are hereby found and declared to be true and correct and are incorporated by reference herein and expressly made a part hereof, as if copied verbatim. The City Council hereby finds that this ordinance complies with the Vision Statement 4.0(G) of the City of Georgetown 2030 Comprehensive Plan relating to the conservation of water resources.

Section 3. Amendments to Chapter 13.15 are hereby adopted and shall provide as shown in EXHIBIT A.

Section 4. All ordinances that are in conflict with the provisions of this ordinance be and the same are hereby repealed and all other ordinances of the City not in conflict with the provisions of this ordinance shall remain in full force and effect.

Section 5. If any provision of this ordinance or application thereof to any person or circumstance shall be held invalid, such invalidity shall not affect the other provisions, or application thereof, of this ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this ordinance are hereby declared to be severable.

Section 6. The Mayor is hereby authorized to sign this ordinance and the City Secretary to attest. This Ordinance shall become effective in accordance with the provisions of the Charter of the City of Georgetown.

PASSED AND APPROVED on First Reading on the 8 day of APRIL, 2014.


PASSED AND APPROVED on Second Reading on the 22 day of APRIL 2014.

ATTEST:



Jessica Brettle, City Secretary

THE CITY OF GEORGETOWN:



George Garver, Mayor

APPROVED AS TO FORM:



Bridget Chapman, City Attorney

EXHIBIT A

CHAPTER 13.15 – WATER UTILITY SERVICES

Sec. 13.15.010. - Definitions.

For the purpose of this chapter only the following definitions shall apply unless the context clearly indicates or requires a different meaning.

"Commission" means the Texas Commission on Environmental Quality or its successor agency (TCEQ)

"Customer" means the person, company or entity contracting with the City utility to receive potable water service.

"Customer's potable water system" means that portion of the privately owned potable water system lying between the point of delivery and the point of use. This system will include all pipes, conduits, tanks, receptacles, fixtures, equipment and appurtenances used to produce, convey, store or utilize the potable water.

"Foundation Footprint" means the square footage of the structure that includes the house or facility and garage, but does not include driveways, sidewalks, patios or unenclosed parking areas.

"General Manager" means the Georgetown Utility Systems General Manager of the City of Georgetown, responsible for the operation of the Georgetown Utility Systems or his authorized representative or designee.

"Hydrozone" means grouping plants with similar water requirements together in an effort to conserve water.

"Landscape or Landscaping" means the soil, water, landscape materials and hardscape that affect the aesthetics and/or function of the land.

"Landscape site" means an area of the lot where landscaping is installed.

"Lawn or Turf grass" means a layer of a particular species of grass and roots used to grow or assemble a lawn, usually chosen for its uniformity of growth and ease of care.

"Lot" means a platted lot, parcel or tract.

"Irrigation System" means the pipes, tanks, backflow prevention device, valves, controllers, spray heads, and appurtenances installed after the point of delivery and used to irrigate landscape with Potable water.

“New Construction” means the building or installing of a new primary structure on an otherwise vacant property.

“New Installation” means the connection or set up of an irrigation system that was not previously existing at a specific location and requiring the contractor or installer to obtain a permit in order to perform the work. This includes a complete replace of a system or equipment, but not the repair of an existing system.

“Plant Materials” means living trees, shrubs, vines, ground covers, sod, and flowering annuals, biennials and perennials adapted to the Georgetown soil and climate.

"Potable water" means water that is satisfactory for drinking, culinary and domestic purposes and meets the requirements of the Commission.

"Public potable water system" means the publicly owned water system operated as a public utility under a permit to supply water for domestic purposes. This system will include all sources, facilities and appurtenances between the source and the point of delivery such as valves, pumps, pipes, conduits, tanks, receptacles, fixtures, equipment and appurtenances used to produce, convey, treat or store potable water for public consumption or use.

"Residential" means one or two dwelling unit structures intended to be occupied for domestic purposes.

“Seasonal irrigation schedule” means a watering schedule that changes appropriately when the local weather changes in order to efficiently irrigate landscaping and lawns and can be administered within the standard 3-day watering schedule.

"Service connection" means the terminal end of a service connection from the public potable water system, i.e., where the utility loses jurisdiction and sanitary control over the water at its point of delivery to the consumer's water system. If a meter is installed at the end of the service connection, then the service connection shall mean the downstream end of the meter.

“Soil Depth” means the vertical distance into the soil from the surface to a layer that essentially stops the downward growth of plant roots. The barrier layer may be rock, sand, gravel, heavy clay, or a cemented layer (e.g. caliche).

“Summer Dormancy Capabilities” means the ability of turf grass to survive without water for a period of sixty consecutive days between the months of May through September.

“UDC” refers to the Unified Development Code, which is the primary regulatory document governing development within the City of Georgetown. The UDC incorporates procedures, standards and regulations for development applications including, but not limited to, zoning, site plan, and subdivision applications.

“UDC Development Manual” refers to the companion document to the UDC, containing forms, templates, and other information relevant to development including, but not limited to,

templates for Tree Surveys, Tree Preservation Plans, landscape and tree calculations, and the Preferred Plant List.

"Utility" means Georgetown Utility Systems.

"Zonal Irrigation" means an automated irrigation system that can isolate and manage the irrigation needs of sections of landscape with similar watering requirements, allowing independent operation of each section of the system.

Sec. 13.15.020. - General Provisions.

- A. Declaration of policy. It is declared the policy of the City to preserve the public health, safety and welfare of the City's water supply, in adequate quantities, as stated in the Texas Health and Safety Code, Title 5, Section 341 by:
1. Implementing the rules for Drinking Water Standards governing drinking water quality and reporting requirements for Public Water Supply Systems, promulgated by the State and Federal Authorities; and
 2. Implementing potable water system connection and usage requirements for customers of the system; and
 3. Implementing requirements to permit the location and connection of private groundwater wells within the City's water service area; and
 4. Implementing landscaping and irrigation requirements that reflect the use of native and drought resistant plant species with low water requirements and the methods and schedule of irrigation used to conserve our potable water supply; and
 5. Achieving compliance of water conservation ordinances through several mechanisms, including customer contact, information, education, administrative penalties and municipal court action.
- B. Purposes. This chapter shall be construed so as to achieve the following objectives:
1. To preserve the public potable water supply of the City by promoting the efficient use of the City's water resources to provide for sustainable development and future growth; and
 2. To preserve the underground aquifers used by the City to provide a public water supply by identifying the use of the underground aquifers by private water users within the City's water service area; and
 3. To encourage the installation of landscaping with low-water requirements to provide for the efficient use of our natural resources and reduce dependence on irrigation in order to conserve the potable water supply
 4. To maximize the efficiency of landscape irrigation and avoid wasteful and unnecessary use of our potable water supply.
- C. Applicability. This chapter shall apply to all water utility customers and private well owners within the following parameters:
1. The corporate city limits of Georgetown, the extraterritorial jurisdiction (ETJ,) where potable water is provided by the City; and
 2. Any area outside the city limits of Georgetown and the ETJ where the City

provides retail water service.

- D. Rulemaking. The General Manager is authorized to promulgate regulations not in conflict with this chapter, the Plumbing Code, the City Charter, or the laws of the State of Texas. Texas Health and Safety, Section 341.031 et seq., as amended, and the Federal Safe Drinking Water Act, 42 U.S.C.A., Section 300F et seq., as amended.

Sec. 13.15.030. - Water System Requirements.

- A. An authorized utility connection is required. It is unlawful for any owner, lessee, tenant or other person in possession of any premises where any person lives or works, or occupies the same, to establish water service to such premises by any means other than those stated in Chapter 13.15 including:
1. Connection to an approved private well on the property in accordance with the requirements of this chapter; or
 2. Connection to an approved rainwater collection system on the property; or
 3. Connection to a public water supply system.
- B. Upon the development of the property, the provisions of Chapter 13 of the Unified Development Code shall govern the provision of water service to the property. For purposes of this Section, the term "development" shall have the same meaning as in Section 16.02 of the City's Unified Development Code.

Sec. 13.15.040 Water Use Requirements

- A. It is unlawful for any customer to waste water through use that serves no practical purpose. Such water waste includes the failure to repair a leak, either inside or outside a home, building, or facility, within a reasonable time, not to exceed sixty (60) days from the date notice of the leak that resulted in water runoff or accumulation in a street, gutter, or parking lot, was provided.
- B. The use of an automatic irrigation system and hose-end sprinklers is restricted to the following schedule:
1. Property with an address ending in an ODD number may be irrigated on Tuesday and/or Thursday and/or Saturday, but no other day of the week without an approved variance from the City.
 2. Property with an address ending in an EVEN number may be irrigated on Wednesday and/or Friday and/or Sunday, but no other day of the week without an approved variance from the City.
 3. There shall be NO irrigation, except by means of a handheld hose, drip irrigation, or soaker hoses on Monday.
- C. Landscape irrigation is allowed anytime, if it meets one or more of the following criteria:
1. Watering occurs by means of a hand-held hose, soaker hoses, or drip irrigation;
 2. Watering occurs within the first 14 days after installation of new landscaping, with a qualifying variance;
 3. Watering occurs at a commercial plant nursery; or
 4. Watering occurs during testing of new irrigation system installation or existing irrigation repair.
- D. Irrigation Variance.

1. Applications for a variance from the standard irrigation schedule shall be filed with the General Manager and shall be in effect for two weeks from the date of approval.
2. A customer may file an application for an irrigation variance, which may include, but is not limited to vacation absence, installation of new landscaping, and installation of new turf.
3. The General Manager may grant an irrigation variance upon his/her determination that special circumstances exist, which upon strict enforcement, will adversely affect the health, sanitation, or fire protection for the public or the applicant.
4. Irrigation Variances granted under this section will expire upon implementation of any phase of the Drought Contingency Plan.

Sec. 13.15.050. – Irrigation System Requirements for New Installations.

- A. Applicability. The requirements of this section shall apply to new installations on residential lots only.
- B. In addition to the requirements of Title 15 of the City of Georgetown Code of Ordinances, all in-ground irrigation systems shall be zonal irrigation systems and meet the following requirements:
 1. Irrigation systems must comply with all applicable regulations and standards required by Chapter 344, Title 30 of the Texas Administrative Code.
 2. Pop-up spray and rotor heads shall direct flow away from any impervious surface and be placed at least four (4) inches from an impervious surface;
 3. All automatic irrigation systems that are installed shall include an operational rain sensor and soil moisture sensor. These may be part of the original irrigation system or stand-alone products that are integrated with the irrigation system at the time of installation.
 4. Irrigation systems shall be programmed to meet the City's required watering schedule for both required day and time of irrigation.
 5. Automatic irrigation systems shall be programmed not to water during rain events or when soil moisture is higher than the programmed threshold of the installed soil moisture sensor.
 6. Irrigation systems installed on residential lots may not irrigate an area larger than 2.5 times the foundation footprint or 10,000 square feet, whichever is the smaller, with spray or rotor irrigation heads; and
 - a. The use of drip irrigation, bubblers and micro-sprayers may be used to expand the irrigation coverage area, without being included in the area calculation for spray or rotor irrigation heads.
- C. An irrigation permit shall only be given to irrigation systems meeting the above requirements. The application for an irrigation permit shall include a detailed irrigation system plan meeting the requirements above and including the appropriate prescribed settings for the rain sensor and the moisture sensor based on the water requirements of the plants and the soil depth at the site of installation.
- D. All irrigators installing irrigation systems shall provide to the irrigation system owner, in writing, the following:

1. A recommended seasonal irrigation schedule and instructions specifying how to use the irrigation system and set the controller;
2. A copy of the irrigation system design plan; and
3. The schedule and design plan shall be affixed to the irrigation controller or an adjacent wall, if the owner is not available at the time of installation.

Sec. 13.15.060. – Residential Landscaping Requirements.

- A. Applicability. The requirements of this section shall apply to new construction on residential lots only. This section shall not apply to new construction on residential lots that have a final recorded plat as of the effective date of this Ordinance.
- B. Residential Landscaping Requirements.
 1. Landscape sites shall have a soil depth of at least 6 inches prior to the installation of any landscaping.
 2. If it is necessary to add soil to achieve 6 inches of soil depth, the additional soil shall either be native soil from the site or non-native, or fertile, loose, easily broken into pieces and, blended sand / loam / compost topsoil containing at least 20% organic material.
 3. The soil depth requirement does not apply to areas unaffected by construction, uncultivated or remaining in their natural state.
 4. All new plant materials, not including lawn or turf grasses, shall be selected from the City of Georgetown Preferred Plant List and shall be bedded by hydrozone.
 5. Trees shall have at least one bubbler installed per newly installed tree if a new irrigation system is also installed.
 6. Installation of new lawn or turf grasses shall meet the following criteria:
 - a. the lawn or turf grass shall not cover an area larger than 2.5 times the foundation footprint or 10,000 square feet, whichever is the smaller square footage.
 - b. Any lawn or turf grass installed shall be fully sodded or seeded in a warm weather grass variety that has summer dormancy capabilities.
 - c. The installation of Saint Augustine turf grasses is allowed only in an area:
 - i. With at least 10 inches of soil depth; and
 - ii. With less than 6 or more hours of full sun a day.
- C. Irrigation Systems. The installation of an irrigation system is not mandatory. If an irrigation system is voluntarily installed, it must meet the requirements of Sec 13.15.050.
- D. Exemption.
 1. A residential lot that is allowed to remain in its unaltered, natural state or is landscaped 100% in plants native to its specific location within the Edwards Plateau or the Blackland Prairies, with no automatic irrigation system installed, is exempt from soil depth and turf area restrictions and is eligible to have a 5/8" water meter installed.
 2. In the event that an automatic irrigation system is installed on the residential lot at a later date, the following criteria must be met, in addition to the requirements of Section 13.15.050:
 - a. The 5/8" meter must be replaced with a 3/4" or larger meter;
 - b. The incremental cost of the corresponding impact fee for the installation of the

- larger meter must be paid;
 - c. Landscape requirements, including but not limited to soil depth and turf area restrictions, must be met; and
 - d. No landscaping or irrigation incentives shall be provided to sites installing automatic irrigation systems where there was not one previously.
3. Residential lots that are one acre or larger in size may be exempt from the turf area limitations and soil depth requirements on portions of the lot. Qualifications for the exemption are as follows:
- a. The exemption applies only to the areas of the lot *not* included in the 2.5 times the foundation footprint measurement for irrigable turf.
 - b. The additional turf on the lot is not irrigated with an automatic irrigation system.
 - c. The remaining landscaping, not including lawn and turf grasses, on the lot is native to the specific site location within the Edwards Plateau or the Blackland Prairies
4. In order to qualify for the above exemptions, the applicant must submit a Residential Landscape Plan pursuant to Section 13.15.070 demonstrating compliance with the above exemption requirements.

Sec. 13.15.070. -- Permitting Requirements for Residential Landscape Plan

- A. An application for a residential landscape plan shall be submitted prior to an application for a building permit.
- B. The application shall include the following information:
 - 1. Landscape Plan, designed by a professional landscaper indicating:
 - a. Location and type of proposed new plant materials;
 - b. Any undisturbed areas;
 - c. Soil depth in landscape sites;
 - d. Type of topsoil added if additional soil required; and
 - 2. Indication if a new irrigation system will be installed; and
 - 3. Any additional information requested by the City to complete its review.
- C. If the applicant is seeking one of the exemptions in Section 13.15.060, the application must establish compliance with the exemption requirements.
- D. Review of the Landscape Plan application shall follow the following procedures:
 - 1. The application shall be reviewed for completeness and the applicant shall be notified of any missing or required information.
 - 2. Staff shall review the completed application, considering any applicable criteria for approval and notify the applicant of any necessary corrections.
 - 3. Additional procedures may be established for administrative review to ensure compliance with this Code and State statutes.
 - 4. After completion of the review, the Landscape Plan shall be approved if it meets the following criteria:
 - a. A complete application has been submitted; and
 - b. The application and content of the application are consistent with provisions of this Chapter and any other applicable City regulations or ordinances.

Sec. 13.15.080. - Inspection and Approval of Installation.

At the time of final building inspection, the City shall inspect all landscaping to ensure compliance with the approved Landscaping Plan. All landscaping must be installed pursuant to the approved Landscaping Plan in order to pass final building inspection.

Sec. 13.15.090. – Postponement of Installation of Landscaping

In the case of weather restrictions, seasonal or inclement, the owner may post fiscal surety for the full cost of the materials and installation of any remaining landscaping approved in a Residential Landscape Plan. The owner will then have 30 days from either 1) the date of the start of the next planting season or 2) the last day of the inclement weather situation to complete the installation. The City may draw on the fiscal surety and pay to complete the planting if it is determined that the owner has breached the obligations secured by the fiscal surety.

Sec. 13.15.100. - Maintenance responsibility.

The customer is responsible for general maintenance and upkeep of their plumbing and irrigation system starting at the point of delivery. Where an owner of property leases or rents the same to any person as tenant or lessee, the owner or tenant or both may be held responsible by the GM for maintenance.

Sec. 13.15.110. – Private Wells.

- A. The use of a private well for potable water shall be in accordance with the requirements of this chapter and the Commission.
- B. Owners of private wells within the water service area of the City of Georgetown shall initially report the location and any other such information as may be determined to be necessary by the General Manager using a reporting method developed by the City. The deadline for making the initial report to the City shall be January 1, 2014.
- C. If a private well is in use on a property where a connection to the public water supply is in service, such well shall not be connected to the same plumbing system as that which is supplied by the public water supply, and the plumbing system must have a backflow prevention assembly to protect the public supply from contamination in the event of inadvertent connection of the private well to the same plumbing system served by the public water supply. Such backflow prevention assembly installation, maintenance, and testing shall be in accordance with Section 13.36.
- D. The owner of the private hydrants or private wells shall maintain records of maintenance that are available for inspection or viewing upon request by the water purveyor or his representative.
- E. Owners of private wells that are decommissioned in accordance with the requirements of the Commission shall report such decommissioning to the City. Upon proper decommissioning and reporting, the use of a backflow prevention assembly due to the existence of a private well on the property is no longer required and the backflow prevention assembly may be removed in accordance with Section 13.36.

Sec. 13.15.120. – Private Fire Hydrant Maintenance.

- A. All private hydrant barrels will be painted red with the bonnet painted using the Hydrant Flow Standard in paragraph C of this section to indicate flow. It will be the customer’s responsibility to test and maintain their private fire hydrant(s).
- B. All private fire hydrants should be tested annually and shall be color coded to indicate the expected fire flow from the hydrant during normal operation. Such color applied to the fire hydrant by painting the bonnet the appropriate color for the expected flow condition.
- C. Hydrant Flow Coding Standards:

FLOW	COLOR
Greater than 1500 GPM	BLUE
1000 to 1500 GPM	GREEN
500 to 999 GPM	ORANGE
Less than 500 GPM	RED
NOT WORKING	BLACK OR BAGGED

Section 13.15.130. - Inspections.

The General Manager shall be authorized, under this chapter, to inspect any premise, real property or building connected to the public potable water system. Inspections shall include, without limitation, a survey of such premise, real property or building for plumbing code violations, cross connections, and irrigation system controller settings.

Sec. 13.15.140. - Violations.

It shall be a violation of this ordinance for any person to intentionally, knowingly, recklessly or with criminal negligence disregard any provisions, specifications or requirements of this ordinance.

Sec. 13.15.150. – Enforcement .

- A. Enforcement Authority. The General Manager and the City Attorney of the City of Georgetown and each of them are authorized to enforce the provisions of this chapter by any one or more of the enforcement mechanisms set forth in this chapter.
- B. The General Manager is hereby granted the authority to designate specific City staff to act as his/her agents, and assign the designated staff administrative authority to address violations of this ordinance.
- C. Inspection and Enforcement a Governmental Function. The General Manager and his designees that are charged with enforcement of this chapter shall be deemed to be performing a governmental function for the benefit of the general public and neither the City, the General Manager, nor the designee engaged in inspection or enforcement activities under this chapter when acting in good faith and without malice, shall ever be held liable for any loss or damage, whether real or asserted, caused or alleged to have been caused as a result of the performance of such governmental function.

- D. Right of Entry. As a condition of the City providing water service directly or indirectly to property, whether within or outside the corporate limits and as a condition of connection to the public potable water system by customers under this chapter, any authorized officer or employee of the City may enter, inspect, monitor or conduct enforcement activities with respect to any part of the public or private potable water system servicing such premises, and shall have a right to enter without delay to, upon or through any premises to gain access to inspect any customer's potable water system, or piping, or records pertinent thereto, required under this chapter and/or the cross connection control ordinance, rules or regulations of any governmental entity with whom the City may have an inter-local agreement for the provision of wholesale water services. This right of entry shall extend to public streets, easements and private property within which any portion of the public or private potable water system servicing such premises may be located.
- E. Arrangement for Access. The customer connected to the public potable water system shall make all necessary arrangements, at its sole expense, to remove without delay security barriers or other obstacles to access by the General Manager.
- F. Obstruction of Access, Unreasonable Delays Prohibited. Obstruction or unreasonable delay security barriers or other obstacles are prohibited to access by the General Manager.
- G. Administrative Search Warrants. If the General Manager has been refused access to a building, structure or property or any private potable system connected to the public potable water system, and if the General Manager has demonstrated probable cause to believe that a violation of this chapter, a plumbing permit or other order issued hereunder exists, or that there is a need to inspect as part of the City's routine inspection program designed to verify compliance with this chapter or any permit or order issued hereunder, or to protect the overall health, safety and welfare of the community then, upon application by the General Manager, a judge of the Municipal Court shall issue a search and/or seizure warrant describing therein the specific location subject to search and the property or items subject to seizure. Such warrant shall be served at reasonable hours in the company of a uniformed police officer. In the event of an emergency affecting public health and safety, such inspection shall be made without the necessity of a warrant.
- H. Administrative Penalties. Administrative penalties may be assessed for violations of this Chapter pursuant to Section 13.15.160 in order to recover the cost of notification and administration of violations of this Chapter, including the cost of water education classes. All revenue collected as administrative penalties shall be allocated to Conservation Services to fund the enforcement and education programs.
- I. Criminal Penalty. Notwithstanding any other provisions of this Chapter, a person who violates any provision of this chapter is violating a City ordinance that governs health and safety and shall be guilty of a class "C" misdemeanor for each day or portion thereof during which the violation is continued. Each such offense is punishable by a fine not to exceed \$2,000.00.
- J. Civil Actions. The City Attorney is authorized to enforce this chapter by civil court actions in accordance with the procedures therefor provided by State or Federal law, including, without limitation, actions for injunction, damages, declaratory, relief or other remedies that the City Attorney shall deem appropriate to pursue.
- K. Civil Penalties. Notwithstanding any other provisions of this chapter, if (1) a person has received actual notice of the provisions of this chapter; and (2) after the person received

notice of the provisions of this chapter, such person committed or continued acts in violation of this chapter or failed to take action necessary for compliance with this chapter; the City Attorney may initiate a suit against the owner, occupant or manager of premises that are in violation of this chapter to recover a civil penalty not to exceed \$1,000.00 per day for each such violation. Each day or fractional part thereof that such noncompliance continues shall constitute a separate violation for which civil penalties shall accrue under this chapter. Water service may be discontinued if violations are not corrected within five days of notification by the General Manager.

1. A suit for civil penalties hereunder shall not prevent nor be a prerequisite for taking any other action against a person in violation of this chapter. Such suit may also include therein a request for such other and further relief as the City Attorney shall deem advisable including, without limitation, an action for injunction or claim for damages to recover for expenses, loss or damage to City property occasioned by reason of such violation.
- L. Remedies Cumulative. All remedies authorized under this chapter are cumulative of all others unless otherwise expressly provided. Accordingly, the filing of a criminal action shall not preclude the pursuit of a civil or administrative action for violation of this chapter nor shall the filing of a civil action preclude the pursuit of any other action or remedy, administrative or criminal, and the administrative authority of the General Manager does not diminish the City Attorney's authority in regard to enforcement of this ordinance.
- M. Persons Responsible. A person is responsible for a violation of this chapter if:
1. The person commits or assists in the commission of a violation; or
 2. The person is the owner, occupant or manager of the property or facilities determined to be the source of a violation of this chapter.
- N. Tenant Responsibility. Where an owner of property leases or rents the same to any person as tenant or lessee, the owner or tenant, or both, may be held responsible by the General Manager for noncompliance with the provisions of this chapter.
- O. Expenses, Loss or Damage. Any person violating the provisions of this chapter shall be liable to the City for all expenses, loss or damage incurred by the City by reason of such violation.

Sec 13.15.160: Administrative Penalties.

- B. Administrative Violation. Except as otherwise stated herein, each violation of this Chapter may be enforced as an administrative violation, pursuant to the following:

Violation	
First Violation within 12-month period	\$60 or Water Conservation Class
Second Violation within 12-month period from date of immediately preceding violation	\$75
Third and subsequent violations within 12-month	\$100

period from date of immediately preceding violation

1. First Violation. If the General Manager reasonably believes that a person or entity has violated this, he/she shall forward to the person or entity alleged to be in violation of this plan a notice of first violation. The notice of first violation shall be in writing, contain the name and address of the alleged violator (if known), provide a location and brief description of the alleged violation, inform him/her of the administrative fee that will be added to the alleged violator's next monthly utility bill, and notify the violator of the administrative fees and consequences for subsequent violations, and be forwarded to the alleged violator's utility billing address via first class mail.
 2. Second Violation. If the General Manager reasonably believes that a person or entity has violated this plan again subsequent to and within the 12-month period immediately following the date of the preceding violation, he/she shall forward to the person or entity alleged to be in violation of this plan a notice of second violation. The notice of second violation shall be in writing, contain the name and address of the alleged violator (if known), provide a location and brief description of the alleged violation, inform him/her of the administrative fee that will be added to the alleged violator's next monthly utility bill, and notify the violator of the administrative fees and consequences for subsequent violations, and be forwarded to the alleged violator's utility billing address via first class mail.
 3. Third and Subsequent Violations. If the General Manager reasonably believes that a person or entity has violated this plan a third or more time subsequent to and within the 12-month period immediately following the date of the preceding violations, he/she shall forward to the person or entity alleged to be in violation of this plan a notice of third or subsequent violation. The notice of third or subsequent violation shall be in writing, contain the name and address of the alleged violator (if known), provide a location and brief description of the alleged violation, inform him/her of the administrative fee that will be added to the alleged violator's next monthly utility bill, and notify the violator of the administrative fees and consequences for subsequent violations, and be forwarded to the alleged violator's utility billing address via first class mail..
- C. Penalties resulting from the use of a faulty or unrepaired irrigation system may be waived by providing documentation verifying a comprehensive irrigation system check-up is performed on the irrigation system within 30 days of the violation.
1. All issues identified on the check-up documentation must have been repaired or otherwise resolved.
 2. Only one waiver is allowed per 12 month period.
 3. Once the necessary repairs have been identified, they must be repaired within 30 calendar days, or penalties will be reassessed.
- D. Appeal of administrative violation; effect on payment; hearing procedure.

1. Any alleged violator shall be entitled to appeal an administrative violation under this article as set forth in this subsection. The request or pendency of an appeal under this subsection shall not suspend or delay an alleged violator's obligation to pay current outstanding utility fees and/or administrative fines assessed under this article. Upon successful appeal of an alleged administrative violation, the City shall refund all administrative fines paid by or on behalf of an alleged violator pursuant to this article.
2. At the alleged violator's discretion, any appeal or final review hearing hereunder this subsection may be conducted via scheduled telephone conference involving the alleged offender, hearing officer(s), General Manager, and any testifying witnesses. Prior to the commencement of any telephone conference under this subsection, each testifying witness' name, address, telephone number, and relationship to the alleged violator shall be submitted to the General Manager prior to commencement of such telephone conference, along with any documentary or physical evidence to be presented in such telephone conference. No unidentified witness or unsubmitted evidence shall be considered at the hearing.
3. If the alleged violator shall fail to attend a scheduled appeal or final review hearing for any reason, it shall be the alleged violator's responsibility to contact the General Manager to reschedule within three (3) working days of the unattended hearing; failure to do so, or failure to attend the rescheduled hearing for any reason shall constitute a default, render final the pending administrative violation and any assessed administrative fines, and waive the alleged violator's right to appeal.
4. Within fifteen (15) business days of the date of a notice of violation, an alleged violator may appeal the administrative violation and fee by submitting a written request to the General Manager. Within ten (10) business days of the General Manager's receipt of such request, the General Manager shall appoint one or more hearing officers and an appeal hearing ("appeal hearing") shall be held. At the appeal hearing, the alleged violator shall present relevant evidence and bear the burden of proof to show by the majority of the evidence why he/she should not be held in violation of the plan or the administrative fee should not be assessed. The hearing officer(s) shall consider all relevant evidence presented and render a decision in writing within five (5) business days of the conclusion of the appeal hearing ("appeal hearing decision"). A copy of the appeal hearing decision shall be forwarded to the alleged violator's utility billing address via first class mail.
5. A customer may appeal the appeal hearing decision by submitting a written request to the City Manager within five (5) business days of forwarding the appeal hearing decision. Within five (5) business days of receipt of the alleged violator's timely appeal of the appeal hearing decision, the City Manager or their designee shall conduct a final review hearing ("final review hearing"). At the final review hearing, the alleged violator shall present relevant evidence and bear the burden of proof to show by the majority of the evidence why he/she should not be held in violation of

the plan or the administrative fee should not be assessed. The City Manager or their designee shall consider all relevant evidence presented and render a decision in writing within five (5) business days of the conclusion of the final review hearing ("final review hearing decision"). A copy of the final review hearing decision shall be forwarded to the alleged violator's utility billing address via first class mail. The final review hearing decision by the City Manager or their designee is final and binding.

- E. Notices. All notices regarding alleged administrative violations under this article, including without limitation notices of violation, appeal hearing decisions, and final review hearing decisions, shall be in writing and forwarded to the alleged violator via first class mail and/or certified mail, return receipt requested, to the alleged violator's current billing address. All notices forwarded in such manner shall be deemed received by the alleged violator within three (3) days of the mailing's postmark. At an appeal hearing and/or final review hearing under this article, an alleged violator may present evidence that a required notice was not received.
- F. Termination of service. Upon a person or entity's third or subsequent violation within the 12-month period immediately following the date of the preceding violation and upon due notice to the person or entity as set forth herein, the City shall be authorized to discontinue water service to the premises where such violations occur. Services discontinued under such circumstances shall be restored only upon payment of a reconnection charge, hereby established at fifty dollars (\$50.00), and all other costs incurred by the City in discontinuing service. In addition, suitable assurance must be given to the City that the same action shall not be repeated while the plan is in effect. Compliance with this plan may also be sought through injunctive relief in a court of proper jurisdiction. This subsection shall not be construed to reduce, diminish, or in any manner restrict the City's right to terminate utility service for nonpayment of fees and fines.

Appendix D

Ordinance adopting drought contingency plan

ORDINANCE NO. 2013-13

AN ORDINANCE OF THE CITY OF GEORGETOWN, TEXAS AMENDING CHAPTER 13.16, ENTITLED "DROUGHT CONTINGENCY PLAN" OF THE CITY OF GEORGETOWN CODE OF ORDINANCES, REPEALING CONFLICTING ORDINANCES AND RESOLUTIONS; PROVIDING A SEVERABILITY CLAUSE AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, the City of Georgetown, Texas recognizes that the amount of water available to the City and its water utility customers is limited and subject to depletion during periods of extended drought; and

WHEREAS, Section 11.1272 of the Texas Water Code and Title 30, Chapter 288 of the Texas Administrative Code require all Texas public water supply systems providing service to 3,300 or more connections to prepare a drought contingency plan; and

WHEREAS, the City Council has determined that the existing Plan in Chapter 13.16 of the City of Georgetown Code of Ordinances needs to be updated and revised; and

WHEREAS, elements of the existing drought contingency plan are being incorporated into the City's water conservation plan; and

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GEORGETOWN, TEXAS, THAT:

Section 1. The meeting at which this ordinance was approved was in all things conducted in compliance with the Texas Open Meetings Act, Texas Government Code, Chapter 551.

Section 2. The facts and recitations contained in the preamble of this ordinance are hereby found and declared to be true and correct and are incorporated by reference herein and expressly made a part hereof, as if copied verbatim. The City Council hereby finds that this ordinance complies with the Vision Statement 4.0(G) of the City of Georgetown 2030 Comprehensive Plan relating to the conservation of water resources.

Section 3. Chapter 13.16 of the Code of Ordinances of the City of Georgetown, Texas is hereby repealed in its entirety.

Section 4. A new Chapter 13.16 is hereby adopted and shall provide as shown in EXHIBIT A.

Section 5. All ordinances that are in conflict with the provisions of this ordinance be, and the same are hereby, repealed and all other ordinances of the City not in conflict with the provisions of this ordinance shall remain in full force and effect.

Section 6. If any provision of this ordinance or application thereof to any person or circumstance shall be held invalid, such invalidity shall not affect the other provisions, or application thereof, of this ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this ordinance are hereby declared to be severable.


Section 7. The Mayor is hereby authorized to sign this ordinance and the City Secretary to attest. This Ordinance shall become effective and be in full force and effect on May 1, 2013 after publication and in accordance with the provisions of the Charter of the City of Georgetown.

PASSED AND APPROVED on First Reading on the 12th day of March, 2013

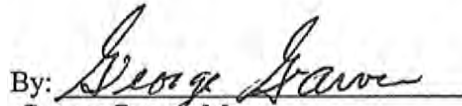
PASSED AND APPROVED on Second Reading on the 26th day of March, 2013

ATTEST:

THE CITY OF GEORGETOWN

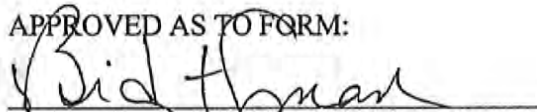


Jessica Brettle, City Secretary

By: 

George Garyer, Mayor

APPROVED AS TO FORM:



Bridget Chapman, Acting City Attorney

EXHIBIT A

Chapter 13.16

**DROUGHT CONTINGENCY PLAN
FOR THE
CITY OF GEORGETOWN**

13.16. 010 Purpose

The purpose of the Drought Contingency Plan ("Plan") is to conserve and protect the available water supply for domestic water use, sanitation, and fire protection, and to minimize the impact of water shortages during emergency conditions.

13.16. 020 Public Education

The City will provide the public with information about the Plan, including information about the conditions under which each stage of the Plan is initiated, the drought response measures to be implemented, and the conditions necessary for termination. The information will be provided through press release, direct mailings, utility bill inserts, water use classes and the City's website.

13.16. 030 Coordination

The service area of the City of Georgetown is located within the Brazos Region (G) and the City of Georgetown has provided a copy of this Plan to the Brazos River Authority.

13.16. 040 Authorization

The General Manager, or his/her designee, is hereby authorized and directed to implement the applicable provisions of the Plan upon his/her determination that such implementation is necessary to protect the public health, safety, and welfare.

13.16. 050 Application

The provisions of this Plan shall apply to all persons, customers, and property utilizing water provided by the City, except those wholesale water utility customers where a similar Plan exists for their retail customers.

13.16. 060 Definitions

- A. General Manager– General Manager of Utilities for the City of Georgetown, or the person otherwise authorized by the General Manager to have the duties and responsibilities under this Chapter.

- B. Conservation – those practices and techniques that reduce the consumption of water through increased efficiency, reduced losses, or reuse which results in conservation of the water supply for future use.
- C. Customer – any person, company, organization or entity that uses water supplied by the City, except customers that obtain water under a wholesale agreement and that have a Drought Contingency Plan for their customers.
- D. Notice – notification by press release or utility bill insert for the implementation of specific phases of this Plan by the City Manager through the news media (local newspaper and radio station) and the City’s official bulletin board and web site.
- E. Industrial Water Use – water used in a manufacturing process.
- F. Landscape Irrigation Use – potable water and all untreated water diverted from wells connected to the City’s water treatment plants intended for potable water use, excluding reclaimed water from wastewater treatment plant effluent, used for the irrigation and maintenance of landscaped areas, including residential and commercial lawns, gardens, golf courses, parks, rights-of-way, and medians.
- G. New Landscape – vegetation installed at the time of new building construction, governmental capital improvement project, or which alters more than half the area of an existing landscape.
- H. Non-Essential Water Use – water uses that are not required for the protection of the public health, safety, and welfare, including, but not limited to:
 - 1. Use of water to wash any motor vehicle, motorbike, boat, trailer, or airplane, or other vehicle.
 - 2. Use of water to wash sidewalks, walkways, driveways, parking lots, or other hard-surfaced areas.
 - 3. Flushing of gutters or permitting potable water to run or accumulate in any gutter, street, or drainage culvert.
 - 4. Use of water to add to an indoor or outdoor swimming pool, splash pad, or hot-tub
 - 5. Use of water in a fountain, or pond, except where necessary to support aquatic life.
- I. Water Waste – water use that serves no purpose including:
 - 1. Failure to repair a leak within a reasonable period after having been given Notice to repair such leak.

2. Operating an irrigation system that results in water runoff or accumulation in a street or parking lot.

13.16.070 Phase I –Water Conservation

A. Conditions for Implementation

The water level in the City’s No. 1 well drops to, or stabilizes below 50 feet above the pump suction for a period of more than five (5) consecutive days.

AND/OR

Lake Georgetown level drops to 770 feet (above mean sea level), and no rainfall or other inflow predicted, and the Williamson County Raw Water Line is unavailable or is not capable of maintaining Lake Georgetown level above 765 feet at the current level of demand.

AND/OR

An event occurs where water demand exceeds the supply and moderate conservation measures will maintain the ability to provide the proper level of service as determined by the GM, or designee.

B. Demand Reduction Target

Peak demand of 1.6 times the annual average daily usage (20% reduction).

C. Customer and City Actions

1. City will:

- Increase efforts to inform the public on water conservation strategies.
- Increase detection and repair of water leaks in the distribution system.
- Suspend hydrant testing.

2. Prohibit all Water Waste.

3. Restrict Landscape Irrigation Use to the use of automatic irrigation systems or hose-end sprinklers during the evening (7PM to midnight) and morning hours (midnight to noon) in accordance with an irrigation schedule that provides for no landscape irrigation on Monday with landscape irrigation permitted no more than two days per week with the day of week and irrigation start time specified based upon customer address.

4. Landscape Irrigation Use is permitted at any time, if it is used:

- by means of a hand-held hose, soaker hoses, or drip irrigation systems.
- at a commercial Plant nursery.
- during the testing of new irrigation system installation or existing irrigation system repair.

13.16.080 Phase II – Water Restrictions

A. Conditions for Implementation

The water level in the City's No. 1 well drops to, or stabilizes below 40 feet above the pump suction for a period of more than five (5) consecutive days.

AND/OR

Lake Georgetown level drops to 765 feet (above mean sea level), and no rainfall or other inflow predicted, and the Williamson County Raw Water Line is unavailable or is not capable of maintaining Lake Georgetown Level above 760 feet under the current demand.

AND/OR

An event occurs where water demand exceeds the supply and aggressive conservation measures will maintain the ability to provide the proper level of service as determined by the General Manager.

B. Demand Reduction Target

- Peak demand of 1.3 times the annual average daily usage (35% reduction).

C. Customer and City Actions

1. City will:

- Increase efforts to inform the public on water conservation strategies.
- Increase detection and repair of water leaks in the distribution system.
- Suspend hydrant testing.

2. Prohibit all Water Waste.

3. Suspend the use of potable water for the following City municipal operations:

- Vehicle washing
- Street cleaning

- Landscape Irrigation in City parks (does not include athletic fields) except by handheld hose or drip irrigation

4. Prohibit all Non-Essential Water Use except:

- the addition of water to a pool or splash pad where necessary to maintain the water purification system in service or to maintain structural integrity of the pool.
- the washing of vehicles or boats at a commercial car wash or service station.

5. Restrict Landscape Irrigation Use to the evening (7PM to midnight) and morning hours (midnight to noon) in accordance with an irrigation schedule that provides for no landscape irrigation on Monday with landscape irrigation permitted no more than one day per week with the day of week and irrigation start time specified based upon customer address.

13.16.090 Phase III – Water Emergency

A. Conditions for Implementation

An event occurs where water demand exceeds the supply and severe conservation measures are required to maintain the ability to provide the proper level of service as determined by the GM, or designee.

B. Demand Reduction Target

Peak demand equal to the annual average daily usage (50% reduction).

C. Customer and City Actions

1. City will:

- Increase efforts to inform the public on water conservation strategies.
- Increase detection and repair of water leaks in the distribution system.
- Suspend hydrant testing.

2. Prohibit all Water Waste.

3. Prohibit all Non-Essential Water Use.

4. Prohibit Landscape Irrigation Water Use.

5. Prohibit or limit as deemed necessary all Industrial Water Use.

6. The City shall arrange for the emergency purchase of water from utilities for which there exists proper agreements for such purchase.

13.16.095 Violations

Ordinance Number: 2013-13
 Description: Drought Contingency Plan Ordinance
 Date Approved: March 26, 2013

It shall be a violation of this ordinance for any person to intentionally, knowingly, recklessly or with criminal negligence disregard any provisions, specifications or requirements of this ordinance.

13.16.100 Enforcement

- A. Any person who violates this Plan is guilty of a misdemeanor and, upon conviction shall be punished by a fine of up to \$2,000 dollars for each day the violation continues, with each day constituting a separate and distinct offense.
- B. If a person is convicted of three or more violations of this Plan in a calendar year, the City Manager, or designee shall, upon due Notice to the customer, be authorized to discontinue water service to the premises where such violations occur. Services discontinued under such circumstances shall be restored only upon payment of a re-connection charge. In addition, suitable assurance must be given to the City Manager, or his/her designee, that the same action shall not be repeated while the Plan is in effect.
- C. Any City Code Enforcement Officer or Police Officer, may issue a warning or citation to a person that is reasonably believed to be in violation of this Plan. The warning or citation shall contain the name and address of the alleged violator, if known, the offense charged, and if a citation, shall direct him/her to appear in the municipal court on the date shown on the citation. The alleged violator shall be served a copy of the warning or citation, with service complete upon delivery of the citation by hand or by certified mail to the alleged violator, and agent or employee, or to a person over 14 years of age who is a family member or resident of the violator's residence.
- D. Any Citizen or City employee may initiate a complaint through the Municipal Court concerning violations of this Plan. The complaint shall contain the name and address of the alleged violator, if known, the complaint, and shall submit the complaint to Georgetown Utility Systems Administration. If the complaint is the first violation in the calendar year, then a warning shall be issued and such warning shall state the specific offense and provide a City contact for assistance with efforts to remediate the violation. If the complaint is the second or subsequent violation in the calendar year, the complaint shall be forwarded to Municipal Court for resolution.

13.16.120 Variances

- A. A customer may file an application for a variance from this Plan for the property receiving water service with the GM. The GM may determine the proper information and require that the applicant provide such information to evaluate the variance request.
- B. A customer may file an application for a variance from this Plan due to vacation absence and the variance shall remain in effect for the period of the vacation absence if the

customer complies with the requirements of Section 13.16.080 Phase I Water Conservation and a telephone contact number has been provided.

- C. The GM may issue written orders varying one or more actions required under a Phase of the Plan if necessary to target particular customers, water systems, or areas.
- D. The GM may grant a variance from the Plan upon his/her determination that special circumstances exist that upon strict enforcement of the Plan will adversely affect the health, sanitation, or fire protection for the public or the applicant.
- E. Variances granted under this section will expire upon escalation of the Plan to the next higher phase unless granted under paragraph 13.16.120 B. or termination of the Plan.

13.16.130 Termination

The City Manager, or his/her designee, is hereby authorized and directed to terminate the applicable provisions of the Plan upon his/her determination that the applicable provisions are no longer necessary to protect the public health, safety, and welfare.

Ordinance adopting current water rates

ORDINANCE NO. 2013-39

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF GEORGETOWN, TEXAS, AMENDING SECTION 13.04.120 ENTITLED "RATES AND CHARGES—WATER—SCHEDULE" OF THE CODE OF ORDINANCES OF THE CITY OF GEORGETOWN TEXAS; REPEALING CONFLICTING ORDINANCES AND RESOLUTIONS; INCLUDING A SEVERABILITY CLAUSE; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, The City of Georgetown implements a monthly meter charge and a standard volumetric water rate to recover the costs of providing water service; and

WHEREAS, City of Georgetown wishes to restructure the water rates to balance cost recoveries for fixed and variable cost; and

WHEREAS, The City of Georgetown wishes to implement a water rate structure that promotes water conservation and the reduction of peak water demand; and

WHEREAS, City of Georgetown wishes to implement water rates that fully recover the cost of water service for all customer classes; and

WHEREAS, The City Council of the City of Georgetown wishes to amend the current water rates and adopt proposed rates, effective on all utility billings after February 1, 2014;

NOW, THEREFORE, BE IT ORDAINED THAT THE CITY COUNCIL OF THE CITY OF GEORGETOWN, TEXAS THAT:

SECTION 1. The meeting at which this ordinance was approved was in all things conducted in compliance with the Texas Open Meetings Act, Texas Government Code, Chapter 551.

SECTION 2. The facts and recitations contained in the preamble of this ordinance are hereby found and declared to be true and correct, and are incorporated by reference herein and expressly made a part hereof, as if copied verbatim. The City Council hereby finds that this ordinance complies with the Vision Statement 4.0(G) of the City of Georgetown 2030 Comprehensive Plan relating to the conservation of water resources.

SECTION 3. Section 13.04.120 "Rates and Charges—Water—Schedule" of the Code of Ordinances of the City of Georgetown, Texas is hereby amended and adopted as shown in Exhibit A.:

SECTION 4. All ordinances and resolutions, or parts of ordinances and resolutions, in conflict with this Ordinance are hereby repealed, and are no longer of any force and effect.

SECTION 5. If any provision of this ordinance or application thereof to any person or circumstance, shall be held invalid, such invalidity shall not affect the other provisions, or application thereof, of this ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this ordinance are hereby declared to be severable.

SECTION 6. The Mayor is hereby authorized to sign this ordinance and the City Secretary to

Ordinance Number: 2013-39
Description: Water Rate Ordinance
Date Approved: SEPT. 24, 2013


attest. This ordinance shall become effective and be in full force after publication in accordance with the provisions of the Charter of the City of Georgetown.

PASSED AND APPROVED on the 1st reading at regular meeting of the City Council of Georgetown, Texas, on this the 10 day of September, 2013

PASSED AND APPROVED on the 2nd and final reading at a regular meeting of the City Council of Georgetown, Texas on this the 24 day of September, 2013.

ATTEST:

THE CITY OF GEORGETOWN:

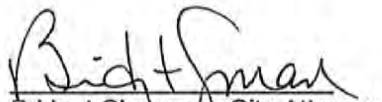


Jessica Brettle, City Secretary

By: 

George Garver, Mayor

APPROVED AS TO FORM:



Bridget Chapman, City Attorney

Ordinance Number: 2013-39
Description: Water Rate Ordinance
Date Approved: SEPT. 24, 2013

EXHIBIT A

Sec. 13.04.120- Rates and charges—Water—Schedule.

Rates and charges for water service are as follows:

A. Inside City Limits

1. Monthly Customer base charge:

5/8 inch meter,	\$ 15.50
3/4 inch meter,	\$ 23.00
1 inch meter,	\$ 38.50
1 1/2 inch meter,	\$ 76.50
2 inch meter,	\$ 122.50
3 inch meter,	\$ 245.50
4 inch meter,	\$ 383.50
6 inch meter,	\$ 766.50
8 inch meter,	\$1,226.50

2. Monthly Residential Customer volumetric charge, per 1,000 gallons:

Up to and including 10,000 gallons	\$1.75
Over 11,000 gallons, Up to and including 20,000 gallons:	\$2.40
Over 21,000 gallons Up to and including 40,000 gallons:	\$4.00
Over 41,000 gallons, Up to and including 60,000 gallons	\$6.50
Over 61,000 gallons	\$8.50

3. Monthly Nonresidential Customer volumetric charge:

Cost per 1,000 gallons	\$2.40
Irrigation Meter, cost per 1,000 gallons	\$4.00

B Outside City Limits.

1. Monthly Customer base charge:

5/8 inch meter,	\$18.50
3/4 inch meter,	\$27.50
1 inch meter,	\$46.00
1 1/2 inch meter,	\$91.50
2 inch meter,	\$146.50
3 inch meter,	\$293.50
4 inch meter,	\$458.50
6 inch meter,	\$916.50

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Description: Water Rate Ordinance
Date Approved: Sept. 24, 2013

8 inch meter, \$1,466.50

2. Monthly Residential Customer volumetric charge, per 1,000 gallons:

Up to and including 10,000 gallons \$1.75

Over 11,000 gallons,
Up to and including 20,000 gallons: \$2.40

Over 21,000 gallons
Up to and including 40,000 gallons: \$4.00

Over 41,000 gallons,
Up to and including 60,000 gallons \$6.50

Over 61,000 gallons \$8.50

3. Monthly Nonresidential Customer volumetric charge

Cost per 1,000 gallons \$2.40

Irrigation Meter, cost per 1,000 gallons \$4.00

C. Residential customers may request a low-income water discount that is 30 percent below the current base rate for the meter size that is applicable.

1. Request for low-income discount must be made in writing.
2. To qualify for the discount, customer or a permanent resident in the household must participate in the Medicaid Program and provide verifiable proof of that participation, such as an award letter or other official documentation.
3. Requests for the low-income discount must be renewed annually.
4. Customers qualifying for the sewer low-income discount, will automatically receive the water discount

D. Non-potable water: Cost per 1,000 gallons, \$1.05

E. Bulk Water: For water use from fire hydrant meters and all other miscellaneous water usage not regularly billed.

1. A \$150.00 deposit is required prior to use, unless water is prepaid.
2. Usage is read and billed monthly.
3. Rate used based on inside or outside city limits, as appropriate.
4. Customer is responsible for the meter and all parts and retrofits to the meter involved in the meter reading process.

F. Water rates are to be reviewed, by staff, and presented to City Council, every three years, on a schedule that coincides with the review of the water impact fees. Proposed amendments to the water rates will reflect changes in the Dallas regional CPI figure.

G. Establish and maintain a water funding reserve, to be known as the "Rainy Day" Fund, independent of the contingency reserve.

1. Year end, excess water reserves will be used to support the Rainy Day Fund.

Ordinance Number: 2013-39
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2. Rainy Day Funds will be used to offset weather related revenue impacts in subsequent years.

H. Exemption to the rates provided in this section may be requested by a customer, in writing, from the City Manager, or his assigned agent, for leaks that occur on the customer side of the meter.

I. A re-connection charge pursuant to 13.16.110 section D will be \$50 per occurrence.

J. All other provisions for City utility service shall apply, except as provided in this chapter.

Ordinance Number: 2013-39
Description: Water Rate Ordinance
Date Approved: SEPT. 24, 2013

SYNOPSIS OF
WATER CONSERVATION PLAN ELEMENTS

LANDSCAPE & IRRIGATION REQUIREMENTS Effective 6/1/2014	PURPOSE	UNIT	WATER SAVINGS	BLDR COST	CUSTOMER SAVINGS
<p>RESTRICTED IRRIGABLE AREA: No more than an area equal to 2.5 x the foundation footprint can be planted in turf (with a max turf area of 10,000 ft²)</p> <p>1 ACRE B = assumes 7,500 left natural</p>	<p>Reduces the amount of turf to be irrigated, which is the primary cause of increased or excessive irrigation. Although replacing large areas of turf with alternate plantings can increase the cost of a home, the water savings it facilitates, covers the additional cost.</p>	<p>1/4 ACRE 1/2 ACRE 1 ACRE A 1 ACRE B</p>	<p>34 GPCD 106 GPCD 250 GPCD 136 GPCD</p>	<p>\$ 1,187 \$ 3,699 \$ 8,723 \$ 4,747</p>	<p>\$ 6.66 / mo \$20.77 / mo \$49.98 / mo \$26.66 / mo</p>
<p>REQUIRED PLANT LIST: Plant choice for installed landscaping shall be native or adaptive species that are selected from the City's Preferred Plant List found in the UDC.</p>	<p>Native and adaptive plants require less water to survive and are more tolerant of our hot and dry climate, as well as, resistant to local pests and diseases.</p>	<p>100 ft² Beds 2,627k Beds</p>	<p>1 Acre Foot \$65</p>	<p>same</p>	<p>\$ 0.30 / water</p>
<p>LAWNS AND TURF GRASSES. Any lawn or turf grass located within an irrigable area shall be fully sodded or seeded in a warm weather grass variety that has summer dormancy capabilities.</p>	<p>Grasses with summer dormancy use less water while in their dormant state, which is triggered by excessive water deficiency, as is characteristic of our local summer climate. The following numbers apply if the lawn is allowed to go dormant.</p>	<p>1/4 ACRE 1/2 ACRE 1 ACRE A 1 ACRE B</p>	<p>25 GPCD 50 GPCD 100 GPCD 69 GPCD</p>	<p>same</p>	<p>\$ 59.73 / 4-mo \$ 119.48 / 4-mo \$ 238.96 / 4-mo \$ 164.15 / 4-mo</p>
<p>RESTRICTED SPRAY IRRIGATION: Spray and rotor irrigation systems can irrigate an area equal to 2.5 x the foundation's footprint, up to a maximum area of 10,000 ft².</p>	<p>Restricts the area of a lot that can be irrigated with less efficient equipment, but does not restrict the plants. The area can be supplemented with more efficient equipment, such as drip or bubblers or with manual irrigation.</p>	<p>1/4 ACRE 1/2 ACRE 1 ACRE A 1 ACRE B</p>	<p>34 GPCD 106 GPCD 250 GPCD 136 GPCD</p>	<p>\$ 1,187 \$ 3,699 \$ 8,722 \$ 4,747</p>	<p>\$ 6.66 / mo \$20.77 / mo \$48.98 / mo \$26.66 / mo</p>
<p>RAIN AND MOISTURE SENSORS: All automatic irrigation systems that are installed shall include an operational rain sensor and soil moisture sensor. These may be part of the original irrigation system or stand-alone products that are integrated with the irrigation system at the time of installation.</p>	<p>Ensures the installation of equipment that controls the irrigation system to restrict watering during rain events or when soil still retains moisture for the plants use. Once set, the sensors do not require any action on the part of the customer.</p>	<p>Rainfall 1.94" 1/4 ACRE 1/2 ACRE 1 ACRE</p>	<p>3.7 GPCD 8.7 GPCD 17.4 GPCD</p>	<p>NA</p>	<p>\$ 8.88 \$ 20.88 \$ 41.76</p>

SOIL REQUIREMENTS	PURPOSE	UNIT	COST
<p>Those landscaped areas with soil depth less than 6 inches shall be brought up to a 6 inch depth, through the addition of topsoil and soil amendments, before any landscaping can be installed. Areas of the site that are unaffected by construction or are uncultivated and remain in their natural state are exempt from soil depth requirement</p> <p>1 ACRE B = assumes 7,500 left natural</p>	<p>Soil is essentially the reservoir that retains water for the plant to use. In Clay/loam soils, 1" of irrigation will penetrate about 6" of soil. With a soil depth of 3", half of the 1" of irrigation is lost in run-off. A soil depth of less than 5" cannot sustain most plants, on a 3-day or less watering schedule. Plants requiring 1" or 2" of water cannot be maintained on standard irrigation schedules.</p>	<p>1/4 ACRE 1/2 ACRE 1 ACRE A 1 ACRE B</p>	<p>\$ 1,725 \$ 3,450 \$ 6,899 \$ 4,739</p>



The map above is from the USNRCS and USDA. It is representative of the distance from the ground's surface to the bedrock. The darker the brown color, the more shallow the soil depth. The blue balloons represent the 100 highest residential users in the water service area in 2013. You can also see that IH 35 is the dividing line between the Edwards Plateau region, with its shallow, clay soil, and the Blackland Prairies, with its deep, clay-loam soils.

The map above represents the water storage capacity of the soil. The darker the green color, the more water retention capacity the soil has. Two topographical features affect the ability of the soil to retain water; the type of soil and the depth of the soil. Both the Edwards Plateau and the Blackland Prairies have a type of clay soil that has a slow saturation rate but a long retention capacity.

1 cm = .4 inches

IRRIGATION REQUIREMENTS Effective 6/1/2014	PURPOSE	UNIT	COST
<p>LANDSCAPE INSPECTION: A landscape inspector will inspect all landscape projects to ensure compliance with the approved plan.</p>	<p>The final landscape inspection will ensure that the appropriate plants have been installed, as well as, ensure that no substandard plant material has been used or faulty work has been performed,</p>	<p>1 FTE</p>	<p>\$107,409 (first year) \$67,469 (on-going)</p>
<p>LANDSCAPE PLAN: A landscape plan, designed by a professional landscaper, identifying the required plantings must be provided on the plot plan for the building permit.</p>	<p>A landscape plan that is developed by a landscape professional will ensure that the customer has the appropriate drought tolerant landscaping installed and is not surprised, after purchasing the home, by the need for excessive irrigation.</p>		
<p>REQUIRED BY TCEQ OR THE TWDB Effective through City Ordinance 6/1/2014</p>			
<p>IRRIGATOR INSTALLATION REQUIREMENTS: (1) Automatic irrigation systems shall be programmed at the time of installation not to water during rain events or when soil moisture is higher than the programmed threshold of the installed soil moisture sensor; (2) Shall be programmed to meet the watering schedule of the water provider, as to both the required day and time of irrigation, at the time of installation. (3) Shall provide customer with written instructions as to how to operate the controller, the City's current irrigation schedule, and the design plan of the installed system.</p>	<p>This ordinance takes the responsibility of (initially) setting and monitoring the irrigation controller out of the customers' hands and assigns it to a professional. In 2013, there were 79 days of registered precipitation. 33 of those days produced over .5" of precipitation, alleviating the need to irrigate that day or the following day. In over half of those rain days, treatment plant water demand increased on the day of the rain or the day after.</p>		<p>Required by 30 TAC 344</p>
<p>ZONAL PLANTING: All plants must be bedded in Hydrozones by their water requirements</p>	<p>This conserves water and eliminates over-watering and run-off by confining plants with similar water needs to the same irrigation zone. It provides more control over the area being irrigated and the amount of water used</p>		<p>Required by 30 TAC 344</p>
<p>IRRIGATION SYSTEMS: Permanent residential landscape irrigation systems shall not be mandatory.</p>	<p>To prevent / address violations of SB 198 by management companies and HOAs</p>		
<p>ZONAL IRRIGATION: Conserves water by confining plants with similar water needs to the same irrigation zone in order to reduce irrigation run times by zone, to the lowest common denominator.</p>	<p>Zonal Irrigation reduce water losses due to overwatering and eliminate run-off created when larger plants in the same zone require more water through a longer irrigation cycle.</p>		<p>Required by 30 TAC 344</p>
<p>SPRAY HEADS: Shall direct flow away from any adjacent impervious surface and shall not be placed within four (4) inches of an impervious surface.</p>	<p>Avoids back-spray or overspray and waste and runoff from impervious surfaces, such as roads, driveways and sidewalks.</p>		<p>Required by 30 TAC 344</p>

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ENFORCEMENT Effective 6/1/2014	PURPOSE	UNIT	COST
<p>CONSERVATION STAFF MONITORING IRRIGATION SCHEDULES: A dedicated staff position will be assigned the duty of monitoring and managing violations of the 3-day watering schedule, water waste, and the oversight of the administrative penalty process.</p>	<p>Provides a reliable and consistent means of compliance with irrigation schedules; frees up time for the Police Dept. and municipal court; and provides a means of tracking violations. An example of need: once the 2-day watering schedule was put into effect last year (no watering on Mon, Thurs or Fri) there was an increase in water demand EVERY Thurs and Friday, thereafter.</p>	<p>1 FTE An average of 1,377 penalties will pay for this position</p>	<p>\$107,401 (First Year) \$67,469 (On-going)</p>
<p>ADMINISTRATIVE PENALTIES: Monetary penalties assigned for violations of the water conservation ordinance, the most common of which are violations of the watering schedule and wasting water (watering during a rain event, watering impervious cover, etc.) After the 3rd violation, enforcement reverts back to the law enforcement/municipal court systems. Monetary penalties assigned for violations of the water conservation ordinance, the most common of which are violations of the watering schedule and wasting water.</p>	<p>Provides an effective enforcement strategy, including penalties, that encourages compliance with water conservation and water efficiency ordinances, as well as, fully recovers the cost of the enforcement program for the Utility Provides an alternative to taking violators to court for the first 3 violations. The administrative fines will be used to cover the cost of the enforcement and conservation education programs for the City. First violation can be waived by attending a water conservation class that is sponsored by the City. After the 3rd violation, enforcement reverts back to the law enforcement/municipal court systems.</p>	<p>Penalty Structure 1st violation \$60 2nd violation \$75 3rd violation \$100</p>	

Here is an example that ties these ordinances together.

The last week of Oct 2013, the City registered the following:

DAY	DATE	RAINFALL	WATER DEMAND
Wed	10/30/2013	1.94"	11.275 MG pumped
Thurs	10/31/2013	0.00"	9.667 MG pumped
Friday	11/1/2013	0.00"	12.006 MG pumped

8.9 MG potable water pumped over the projected domestic need for those days.

8.9 MG = 27.3 acre feet

During the time period listed to the left, the City was under the Drought Contingency Plan and restricted to 2-Day per week irrigation. There is NO IRRIGATION allowed on Monday, Thursday or Friday. Additionally, there was almost 2" of rain on Wed., so there should not have been a need to irrigate on Thursday or Friday, even if it had been allowed. With a significant rain event on Wednesday, and the 2-day schedule in place, the demand for water should have been well below 9 MG on Wed., Thurs., and Friday. The number of households that must have been irrigating to generate this kind of demand is overwhelming. The requirement for installation and setting of rain sensors and moisture sensors will alleviate some of the irrigation during and after a rain event and conservation staff, dedicated to monitoring and managing violation of the irrigation schedule, will be able to handle the unscheduled irrigation.

REBATES AND INCENTIVES Available by 8/1/2014	PURPOSE	UNIT	WATER SAVINGS	REBATE	CUSTOMER COST	CUSTOMER SAVINGS
TURF REPLACEMENT Replace water intensive turf with native plants or permeable hardscape; to be used in conjunction with capping zones and/or upgrading irrigation system. Cost includes removal of existing turf.		Unit = 100 FT ²	124 GAL/MO Per unit	\$40.00 Per unit	\$300.00 Per unit	\$.30 / MO Per unit
IRRIGATION SYSTEM UPGRADE Replace spray or rotor irrigation with drip or bubblers to provide a more efficient method of irrigation.		ZONE	345 GAL/MO	\$75.00	\$250	\$.88 / MO
CAP OFF IRRIGATION ZONES Cap off entire zones / can be used in conjunction with turf replacement to reduce the need for irrigation		ZONE	2000 GAL/MO	\$100.00	\$ 150	\$4.80
ANNUAL IRRIGATION CHECKUP REBATE Provide a rebate to customers to supplement the cost of having an annual irrigation system checkup. Customer must also complete all upgrades that are suggested in the checkup.	Maintain an efficient irrigation system by catching problems and leaks before they become too costly.	ANNUALLY		\$50.00	\$89.00	

<p>RAIN BARREL SALE Provide discounted rain barrels to customers, as well as, a credit to their City utility account.</p>	<p>An incentive to begin water conservation / use water from barrel instead of turning on the irrigation system.</p>	<p>PER UTILITY ACCT /PER EVENT</p>	<p>\$15.00/ACCT \$40/BARREL</p>	<p>\$55.00</p>	
<p>Calculations based on a ¼ acre lot / 5,990 ft² irrigable area with Bermuda / 8 zones / 10 heads per zone</p>					
<p>EXAMPLE: Converts 4,000 ft² of Bermuda Grass to Hardscape and Beds (4000 ft² / 100 ft² = 40 units @ \$40/ea) Caps off the 3 Irrigation Zones where the hardscape is installed (3 Zones @ \$100/ ea) Changed 3 Zones from Spray to Bubblers and Drip for the beds and trees (3 Zones @ \$75/ ea)</p>					

Program	Units	Rebate	Available	Program Cost	Average Lot	Estimated Participation
Turf Replacement	100 ft ²	\$40.00	1,600 units	\$ 64,000	4,0000 ft ²	40
Irrigation System Upgrade	Zone	\$75.00	240 units	\$ 18,000	3 zones	80
Cap Off Zones	Zone	\$100.00	240 units	\$ 24,000	3 zones	80
Annual Irrigation Checkup	Each	\$50.00	1,000 units	\$ 50,000	1 annually	1,000
Rain Barrels	Each	\$15.00	500 units	\$ 7,500	1 annually	500
WATER CONSERVATION PLAN INCENTIVE PROGRAMS				\$ 163,500		

EDUCATION	PARTNERSHIPS / VOLUNTEERS / INTERNS
<p>Monthly Classes / Started January 2014 Presentations / Started January 2014 Demonstrations / Started March 2014 Sample Landscapes / June 2014 Sample Landscape Plans & Designs / March 2015 Community Conservation Facility / March 2015</p>	<p>Master Gardeners / Started January 2014 Native Plant Society / Started January 2014 Williamson County / School District / Started April 2013 (Rain Barrels) Boy Scouts / Started February 2014 Texas State University / Started March 2014 Southwestern University / Started October 2012 TAMU AgriLife / Started October 2013 Homebuilders Association of Greater Austin / Started April 2014</p>

Appendix G

Kathy Ragsdale

From: Trey Buzbee <Trey.Buzbee@brazos.org>
To: Kathy Ragsdale
Sent: Friday, April 25, 2014 2:42 PM
Subject: Read: City of Georgetown Water Conservation Plan

Your message

To:
Subject: City of Georgetown Water Conservation Plan
Sent: Friday, April 25, 2014 2:41:57 PM (UTC-06:00) Central Time (US & Canada)

was read on Friday, April 25, 2014 2:41:50 PM (UTC-06:00) Central Time (US & Canada).



April 25, 2014

Brazos River Authority
Attn: Administrative Agent
Regional Planning Group G
PO Box 7555
Waco, TX 76714

RE: 2014 Water Conservation Plan for the City of Georgetown

Dear Mr. Buzbee:

Attached please find a copy of the City of Georgetown's updated water conservation plan. The plan was adopted by Resolution on April 8, 2014, with the second reading of the ordinance adopted on April 22, 2014.

I am including the water conservation plan, the resolution adopting the plan and a synopsis of plan activities that provides the cost benefits of each element of the plan.

Please feel free to contact me if you have any questions or if you would prefer to receive a hardcopy of the plan.

Respectfully Submitted,

Kathy Ragsdale, Conservation Services Manager
City of Georgetown