



**City of Arlington
101 W Abram St
Arlington, Texas 76010**

Water Conservation Plan

May 2019
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Water Conservation Plan For the City of Arlington, Texas

1. INTRODUCTION AND OBJECTIVES

Having a dependable water supply has always been a key issue in the development of Texas. The growing population and economic expansion occurring in North Central Texas are placing increased demands on our water supplies. In order to meet the challenge of providing for our current and future needs we must use the water we already have more efficiently. By stretching our existing supplies, we can delay the need for new supplies, minimize the environmental impacts associated with developing new water resources, and postpone the high cost of building the infrastructure (dams, treatment facilities, and pipelines) necessary to capture, treat, and transport the additional water into our homes and businesses.

Recognizing the need for efficient use of existing water supplies, the Texas Commission on Environmental Quality (TCEQ) has developed guidelines and requirements governing the development of water conservation plans for public water suppliers. TCEQ guidelines and requirements are included in Appendix B. Resources used in the development of the water conservation plan include the Texas Water Development Board (TWDB) Water Conservation Best Management Practices for Municipal Water Users November 2013 Guide, the American Water Works Association Water Conservation Program Operation and Management July 2013 Standard, and the City of Arlington Citizens Environmental Committee 2008 Report and Recommendations on Water Conservation and Efficiency.

The objectives of this water conservation plan are as follows:

- To reduce water consumption from the levels that would prevail without conservation efforts.
- To reduce the loss and waste of water.
- To improve efficiency in the use of water.
- To document the level of recycling and reuse in the water supply.
- To extend the life of current water supplies by reducing the rate of growth in demand.

This conservation plan includes all of the elements required by TCEQ. Some elements of this plan go beyond TCEQ requirements. Final adopted versions of the plan will be provided to the TRWD, Region C Water Planning Group, TCEQ and the TWDB.

2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES

The TCEQ rules governing development of water conservation plans for public water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code, which is included in Appendix A. For the purpose of these rules, a water conservation plan is defined as, “A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water.” The elements in the TCEQ water conservation rules covered in this conservation plan are listed below.

Minimum Conservation Plan Requirements

The minimum requirements in the Texas Administrative Code for Water Conservation Plans for Public Water Suppliers are covered in this report as follows:

- 288.2(a)(1)(A) – Utility Profile – Appendix B
- 288.2(a)(1)(B) – Record Management System – Section 4.3
- 288.2(a)(1)(C) – Specification of Goals – Section 3
- 288.2(a)(1)(D) – Accurate Metering – Sections 4.1 and 4.2
- 288.2(a)(1)(E) – Universal Metering – Section 4.2
- 288.2(a)(1)(F) – Determination and Control of Unaccounted Water – Section 4.4
- 288.2(a)(1)(G) – Public Education and Information Program – Section 5
- 288.2(a)(1)(H) – Non-Promotional Water Rate Structure – Section 6
- 288.2(a)(1)(I) – Reservoir System Operation Plan – Section 7.1
- 288.2(a)(1)(J) – Means of Implementation and Enforcement – Section 8
- 288.2(a)(1)(K) – Coordination with Regional Water Planning Group – Section 7.7 and Appendix D

Conservation Additional Requirements (Population over 5,000)

The Texas Administrative Code includes additional requirements for water conservation plans for cities with a population over 5,000:

- 288.2(a)(2)(A) – Leak Detection, Repair, and Water Loss Accounting – Sections 4.4, 4.5, and 4.6
- 288.2(a)(2)(B) – Requirement for Water Conservation Plans by Wholesale Customers – Section 7.6

Additional Conservation Strategies

TCEQ rules also list additional optional but not required conservation strategies, which may be adopted by suppliers. The following optional strategies are included in this plan:

- 288.2(a)(3)(A) – Conservation Oriented Water Rates – Section 6
- 288.2(a)(3)(B) – Ordinances, Plumbing Codes or Rules on Water-Conserving Fixtures – Section 7.3
- 288.2(a)(3)(C) – Replacement or Retrofit of Water-Conserving Plumbing Fixtures – Section 7.5
- 288.2(a)(3)(D) – Reuse and Recycling of Wastewater – Section 7.2
- 288.2(a)(3)(E) – Pressure Control and/or Reduction in the Distribution System and/or for Customer Connections – Section 7.5
- 288.2(a)(3)(F) – Considerations for Landscape Water Management Regulations – Section 7.4 and Appendix D
- 288.2(a)(3)(G) – Monitoring Method – Section 4.6

3. SPECIFICATION OF WATER CONSERVATION GOALS

TCEQ rules require the adoption of specific water conservation goals for a water conservation plan. As part of plan adoption, the City of Arlington has developed 5-year and 10-year water conservation goals. The goals for this water conservation plan include the following:

- Maintain the total per capita municipal water use below the specified amount in gallons per capita per day as shown in Table 4-1.
- Maintain the level of unaccounted water in the system below 12% annually in 2019 and subsequent years and the five-year average below 10%, as discussed in Section 4.4.
- Implement and maintain a program of universal metering and meter replacement and repair, as discussed in Section 4.2.
- Increase efficient water usage through a water conservation resolution as discussed in Section 8 and Appendix E.
- Decrease waste in lawn irrigation by implementation and enforcement of landscape water management regulations, as discussed in Section 7.4 and Appendix C.
- Raise public awareness of water conservation and encourage responsible public behavior by a public education and information program, as discussed in Section 5.

Table 4.1 - Five-Year and Ten-Year Water Conservation Goals

Water Conservation Goals	Current Average (gpcd)	5-Year Goal (gpcd)	10-Year Goal (gpcd)
Total* GPCD	139	132	126
Single-Family Residential* GPCD	91	87	82
Water Loss GPCD	13	12	1

*Total and single-family residential water conservation goals include 1% reduction each year in gpcd.

4. METERING, WATER USE RECORDS, CONTROL OF UNACCOUNTED WATER, AND LEAK DETECTION AND REPAIR

One of the key elements in water conservation is careful tracking of water use and control of losses through illegal diversions and leaks. Careful metering of water deliveries and water use, detection and repair of leaks in the distribution system and regular monitoring of unaccounted water are important in controlling losses.

4.1 Accurate Metering of Raw Water Supplies and Treated Water Deliveries

The City of Arlington meters all raw water diversions from Lake Arlington and the raw water pipeline from TRWD. All treated water deliveries to the distribution system from the water treatment plants is also metered. Each meter has an accuracy of plus or minus two percent. The meters are calibrated on an annual basis to maintain the required accuracy and are repaired and/or replaced as needed.

4.2 Metering of Customer and Public Uses and Meter Testing, Repair, and Replacement

Water usage for all customers of the City of Arlington, including public and governmental users, is metered. Customer billing relies on data provided by retail meters for accurate billing. The Arlington Water Utilities (AWU) Department has a comprehensive program for universal metering, meter testing, meter repair and periodic meter replacement which has been developed using American Water Works Association (AWWA) standards. The City of Arlington's meter replacement program annually replaces meters that do not register the correct consumption due to the age of the meter. Replacing aged meters will result in accurate revenues and water accountability for the utility.

Although there may be an industry recommendation to replace customer meters every 15 years, AWU has found that a replacement program for customer meters every 20 years is more reflective of the water delivery system in the City of Arlington. AWU will replace meters as needed before this timeframe when water usage or meter accuracy degradation warrant. Reasons AWU has chosen a 20 year replacement program include: 1) the high quality of water being delivered does not damage the meters as fast as other areas might and 2) current evaluations show that the average AWU meter is 97% accurate.

AWU implemented an advanced metering infrastructure (AMI) pilot program in 2012 and replaced over 18,000 meters. In 2014, AWU began an in-house replacement program to replace the remaining meters over an 8 year timeframe. AWU has installed approximately 65,000 meters and is currently on track to have an all AMI system within the 5 years. A key benefit of AMI for our customers will be having access to more detail about their water use. This information can be used to monitor water consumption volume and frequency for faster leak detection and repair to minimize water loss and potential damage to property.

4.3 Record Management System

As required by TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(1)(B), the record management system for the City of Arlington records water pumped, water delivered, and water sold; estimates water losses; and allows for the separation of water sales and uses into residential, commercial, public/institutional, and industrial categories. This information is included in all annual reports required by the TWDB and TCEQ.

4.4 Determination and Control of Unaccounted Water

Unaccounted water is the difference between raw water diverted from Lake Arlington as well as delivered by the TRWD and metered deliveries to customers. (This includes authorized but unmetered uses such as firefighting and releases for flushing of lines.) Unaccounted water can include several categories:

- Inaccuracies in customer meters (customer meters tend to run more slowly as they age and under-report actual use).
- Losses due to water main breaks and leaks in the water distribution system.
- Losses due to illegal connections.
- Losses due to fire fighting and fire line flushing.
- Inaccurate Treatment Plant meter readings at the high service pumps.
- Line flushing due to construction, maintenance, repair or water quality needs.

The City of Arlington conducts annual water audits. Accounting for apparent losses increases the city's utility revenue but does not reduce water usage. Apparent losses include water losses resulting from meter errors, billing errors, illegal use and other unbilled uses such as firefighting flows and flushing of lines for water quality requirements. Real losses include infrastructure leakage. Identifying and preventing real losses decreases a utility's costs and decreases water usage. The City will target real losses under this water conservation strategy.

As shown in Appendix B, unaccounted water for the City of Arlington has varied from 8 to 12.75 percent with an average under 10 percent in the last five years, which resulted in over a 3 percent improvement from 2014. With the measures described in this plan, the City of Arlington intends to maintain the unaccounted water loss five-year average below 12% annually.

4.5 Leak Detection and Repair

Measures to control unaccounted water are part of the routine operations of the City of Arlington. In order to maintain water delivery service and reduce unaccounted water losses, Arlington Water Utilities and other city department crews report evidence of leaks and pipeline breaks within the distribution system. Once identified, leaks and breaks are quickly repaired. Also, meter readers watch for and report signs of illegal connections so they can be addressed quickly. In 2013, Field Operations initiated an ongoing program for locating,

repairing and operating all valves in the distribution system to minimize water loss due to inoperable or malfunctioning valves.

In 2014, a full-time leak detection program was implemented. The program's aim is to proactively detect and locate distribution system leaks to reduce unaccounted water. To date, AWU has proactively identified 32 leaks, saving an estimated 23,598,000 gallons of water. The entire distribution system of water lines is rated using a computer application that utilizes work order history, pipe material, age of pipe, and soil condition. This allows Arlington Water Utilities to identify waterlines most in need of replacement. This ranking system allows water lines in which numerous leaks and line breaks occur to be prioritized and scheduled for replacement as funds are available. Once the full-time leak detection program is fully implemented, the identification process for water line replacement will be updated accordingly as a result of any new information. In 2018, AWU implemented a dedicated pipe-bursting crew to replace the water lines with the highest number of water breaks to decrease interruptions to customers and decrease water loss. To date, AWU has replaced 5,486 linear feet of pipe with this program, resulting in approximately 8 fewer water main breaks in the City.

4.6 Monitoring of Effectiveness and Efficiency – Utility Profile and Annual Water Conservation Report

Appendix B contains the water utility profile. The utility profile is used in the development of the annual water conservation plan report, and both documents are required by the TWDB to be submitted by May 1 of the following year. The reports are used to monitor the effectiveness and efficiency of the water conservation program and help plan conservation-related activities for the next year. The water utility profile records water use by category, total per capita water use in gallons per day, and unaccounted water for the current year and compares them to historical values. The water utility profile and annual water conservation report will also be sent to TRWD, which will monitor regional water conservation trends.

5. CONTINUING PUBLIC EDUCATION AND INFORMATION CAMPAIGN

The public education and information campaign will guide water users toward using water-efficient plumbing fixtures and appliances, to utilize drought tolerant and native and adaptive plants which require less water and pesticides for landscaping, to find and repair plumbing leaks, and to take advantage of water conservation incentives where available. The continuing public education and information campaign on water conservation includes the following elements:

- Promote the City's water conservation measures.
- Include billing inserts on water conservation at least once a year. Inserts will include material developed by City of Arlington staff as well as material obtained from the TWDB, the TCEQ, and other sources.
- Encourage local media coverage of water conservation issues and the importance of water conservation.
- Provide presentations to local organizations, schools, and civic groups on the importance of water conservation and ways to use water more efficiently.
- Make information on *Texas Smartscape* principles, water conservation brochures, and other water conservation materials available to the public at the City of Arlington Water Utilities Department and other public places.
- Make information on water conservation available online at www.SaveArlingtonWater.com and include links to the *Texas Smartscape* and *EPA WaterSense* websites and to information on water conservation on TRWD, TWDB, and TCEQ Web sites.
- Promote the U.S. Environmental Protection Agency's WaterSense partnership program by encouraging citizens to purchase WaterSense labeled products and fix leaks during the annual Fix a Leak Week promotion.
- Promote regional and local conservation, education events and literature through traditional and social media.

Additional components of the education program include the following:

Public-Service Announcements: Arlington Water Utilities Department will continue to publicize and promote the importance of water conservation by placing public-service announcements on radio and television, and through articles in newspapers with general circulation in the service area on a regular basis through the Water Is Awesome campaign. Use of social media, such as Facebook, Twitter and NextDoor, will also be used to promote conservation information.

Regional Water Conservation Public Education Support: The City of Arlington contributes to TRWD's regional water conservation public education campaign. TRWD and the City of Dallas, large wholesale water providers for the region, share water conservation promotions aimed at providing a consistent, regional communication to customers with the ability to share advertising resources. The current cooperative conservation message promotes efficient outdoor watering through the Water Is Awesome

campaign using a variety of traditional and social media efforts. In addition, the Water Is Awesome website offers weekly watering advice sent to customers via email or text, using weather information from their general area. In the first year of the service, in 2018, more than 800 Arlington residents signed up. Additional promotion is expected.

Water-Conservation Literature: Arlington Water Utilities will continue to make water conservation literature available. The City offers a variety of water conservation brochures with information on saving water in and around the home. Water conservation brochures and pamphlets will continue to be distributed to the public through enclosures in water bills, public events and in response to customer telephone calls requesting the information.

WaterWise Program: The City of Arlington works with the TRWD to deploy the “Learning to Be Water Wise” program within the Arlington ISD. More than 650 Arlington ISD fifth graders received lessons and activities in ways to become more water efficient during the 2017-2018 school year, along with tools to make a difference in their homes. The WaterWise program is a multi-dimensional educational curriculum designed for 5th grade students. The program teaches students about water resources and, more specifically, how water is used on landscapes and in the home. The lessons encourage efficient water use habits and are often shared with the whole family. In addition to advocating water conservation at home, the student kit contains water saving devices, which the students are encouraged to install in their own residences. The resulting water savings are quantified by the program’s provider and summarized in an annual report. City of Arlington involvement with the WaterWise program builds strong relationships with our local community schools and has a positive influence on the next generation of water users.

Education Classes: The City of Arlington began the Water-Efficient Landscape Education Program in 2009 with free landscape classes. Since then, classes have been provided every spring and fall and are taught by local experts, Master Gardeners, Texas AgriLife extension agents and employees and city staff. Topics of the classes have included Landscape Basics, Vegetable Gardening, Drip Irrigation and Make a Rain Barrel.

Value of Water Coloring Contest: In the fall, Arlington Water Utilities holds a Value of Water Coloring Contest to coincide with the national Imagine a Day Without Water campaign. Other co-sponsors of the competition are Tarrant Regional Water District’s Water is Awesome campaign, River Legacy Living Science Center, and the Arlington Public Library. For the contest, Arlington students, from pre-kindergarten through 4th grade, are asked to create an illustration that completes the phrase “Because I have water, I can...” The goal is to get as many students as possible reflecting on and sharing with others the valuable role water plays in their lives. All winners and their teachers receive an Arlington Water Utilities tote bag with five water-themed books, a water bottle, and passes to the Discovery Room at River Legacy Living Science Center. More than 500 entries were received in 2018.

6. WATER RATE STRUCTURE

Arlington Water Utilities has a water rate structure that is conservation oriented and is cost of service based and does not promote or encourage excessive use of water. The City has a fixed monthly fee based on the meter size which increases as meter size increases. Additionally, there is a commodity charge per 1,000 gallons. The fixed monthly charge and commodity charge are updated annually. The commodity charge per 1000 gallons increases as the volume of water used increases. This rate structure promotes water conservation by encouraging efficient water use in order to reduce the meter size and therefore the fixed monthly fee.

Table 7-1: Monthly Fixed Charges for Water Service Only

Meter Size (in)	Total Charge	Meter Size (in)	Total Charge
¾<2,000 gal	\$7.07	3	\$190.35
¾>2,000 gal	\$10.30	4	\$303.75
1	\$20.30	6	\$707.40
1 1/2	\$46.31	8	\$1,107.00
2	\$81.00	10	\$1,663.20

With the intent of encouraging water conservation and discouraging waste and excessive use of water, the City of Arlington has adopted an increasing block rate water structure where the unit price of water increases with increasing monthly water use. Current (2019) water rates are shown in Table 7-2.

Table 7-2: Volume Unit Charges

Water User	Type/Volume	Charge (\$/1,000 gal)
Single-Family	0 - 2,000 gallons	\$2.02
	3,000 - 10,000 gallons	\$2.79
	11,000 - 15,000 gallons	\$4.02
	16,000 – 29,000 gallons	\$5.63
	≥ 30,000 gallons	\$6.78
Commercial	0 – 15,000 gallons	\$3.20
	> 16,000 gallons	\$3.38
Irrigation	0 - 29,000 gallons	\$5.63
	> 30,000 gallons	\$6.78
Construction	0 – 99,000 gallons	\$5.90
	> 99,000 gallons	\$7.44

7. OTHER WATER CONSERVATION MEASURES

7.1 City of Arlington Reservoir System Operation Plan

The City of Arlington completed construction of Lake Arlington in 1957. It is located on Village Creek in Tarrant County. Lake Arlington has a yield of approximately 6,000 acre-feet per year, and supplies water to the City of Arlington, the Trinity River Authority's Tarrant County Water Project, Exelon Handley Power Plant, and permitted gas drilling and fracturing operations. However, Lake Arlington's yield is not adequate to meet the needs of Arlington's customers and is supplemented with raw water purchased under a wholesale water contract with the TRWD.

Raw water supply in excess of the yield of Lake Arlington is delivered by the TRWD. Raw water is discharged by the TRWD into Village Creek upstream of Lake Arlington and is subsequently diverted by the City of Arlington from Lake Arlington to the Pierce-Burch Water Treatment Plant. In addition, TRWD delivers raw water via its transmission system (pipelines) directly to the City of Arlington's John F. Kubala Water Treatment Plant.

The manner in which water is delivered to Lake Arlington is specified by contract. The source and amount of pumpage from the District's pipeline is based on the time of year, customer demands and the elevations at Richland Chambers Reservoir, Cedar Creek Reservoir, Lake Benbrook and Lake Arlington. Pump operations must also take into consideration that Lake Benbrook and Lake Arlington must be close to conservation elevation (694' msl and 550' msl respectively) by June 1st of each year to maximize terminal storage; therefore, pumpage exceeding demands is diverted into Lake Benbrook and Lake Arlington during periods where each reservoir is below conservation elevation. If Lake Benbrook is above conservation elevation, raw water deliveries are from Lake Benbrook and pumping from East Texas ceases.

If the demands exceed the pumpage capabilities from Lake Benbrook, East Texas pumping will be initiated. The Lake Benbrook pipeline is used to supplement supply during the summer, reducing the pumping requirement from East Texas. Storage in Lake Arlington is also used during the summer to avoid peak pumping from East Texas.

7.2 Reuse and Recycling of Wastewater

The City of Arlington does not own and operate its own wastewater treatment plant. The City's wastewater is treated by the Trinity River Authority Central Wastewater Treatment Plant. However, the City of Arlington participates as a wholesale customer in the City of Fort Worth's reclaimed water project at the Village Creek Water Reclamation Facility. Reclaimed water is highly treated wastewater effluent that meets strict water quality standards as established by the TCEQ and is used for beneficial purposes such as outdoor irrigation. The direct reuse project serves a nearby golf course, sports complex, and landfill within the City of Arlington. The expected full-demand yearly usage of the reclaimed water of 58 million gallons from 2014 was exceeded and resulted in a total usage in 2018 of 73,475,000 gallons.

Wastewater Pretreatment Program: Through the wastewater pretreatment program, Arlington works with the large water-using industries to reduce water use and thereby reduce wastewater treatment costs.

City of Arlington Water Treatment Plant Operations: With respect to recycling and reuse, all water used to backwash filters at the water treatment plants is metered and returned to the mixing basins at the head of the plants and reprocessed along with raw water. Current proposed treatment updates include optimized recycled basins that allow for higher quality water withdrawal and variable speed pumps that are more energy efficient. Additional efficiency measures for treatment plant operations continue to be under evaluation and, if warranted, will be implemented to fully optimize water, energy and staff resources.

7.3 Ordinances, Plumbing Codes, or Rules on Water-Conserving Fixtures

The state has required water-conserving fixtures in new construction and renovations since 1992 and new standards were adopted in 2009 requiring full compliance by January 1, 2014. The state standards now call for flows of no more than 2.2 gallons per minute (gpm) for faucets, 2.5 gpm for showerheads, and 1.28 gallons per flush for toilets. The City of Arlington will continue to implement ordinances, plumbing codes, and rules on water conserving fixtures as they evolve through relevant building codes and State of Texas requirements. A plumbing fixture distribution program to encourage water conservation through replacement of older fixtures is offered in the City of Arlington and is discussed in Section 7.5.

7.4 Landscape Water Management Regulations

Appendix C contains City of Arlington adopted ordinances for landscape water management regulations. These ordinances support the objectives of this water conservation plan. These regulations are intended to minimize waste in landscape irrigation. The adopted regulations include the following elements:

- Prohibition of outdoor watering with sprinklers from 10:00 a.m. to 6:00 p.m. year round. Watering by hand and with soaker hoses is allowed.
- Requirement that customers are responsible for loss of water due to leakage in pipe or plumbing on the customer side of the meter or property.
- Requirement that customers are responsible for preventing avoidable waste of water including loss from a controllable leak or an irrigation system malfunction such as a broken sprinkler and/or overspray on impervious surfaces with runoff greater than 150 feet.
- Requirement that all new irrigation systems include operational rain and freeze sensors.
- Existing irrigation systems installed prior to January 1, 2007, must be retrofitted with a rain and freeze sensor. This requirement does not apply to single family residential or duplex property, or an individually metered townhome or condominium unit.

- Requirement that all new irrigation systems be in compliance with state (TAC Title 30, Part 1, Chapter 344) and City of Arlington (Ord. No. 08-108) design and installation regulations.
- Enforcement of the regulations is by a system of warnings followed by possible fines or suspended water services for continued or repeat violations.

7.5 Additional Water Conservation Measures

Additional water conservation incentive programs include:

- **High-efficiency showerhead exchange programs:** This measure is adopted in conjunction with the high-efficiency toilet replacement program. Showerheads rated at 2.0 gallons per minute (gpm) are offered to qualified residential toilet replacement program participants. A separate high-efficiency showerhead exchange program is currently offered each year city-wide during a week in May to celebrate National Drinking Water Week. The goal of this measure is to have 200 high-efficiency showerheads exchanged each year through the exchange program.
- **Residential irrigation system audits:** This measure was adopted to reduce outdoor water consumption for residents with an irrigation system. Residents with high average summer monthly usage will be identified and offered a free irrigation system audit. The audit will calculate the current consumption pattern of the irrigation system, identify broken, misdirected, or missing spray heads, and recommend modifications that will increase the efficiency of the system and save water. The goal of this measure is to conduct 100 residential irrigation system audits per year.
- **Minor Plumbing Repair Assistance Program** - A plumbing assistance program for low-income homeowners is recognized as a Best Management Practice, or BMP, for Municipal Water Services providers by the Texas Water Development Board. By estimating based on data that shows about 12 percent of household water use is wasted due to leaks, the average Arlington home is wasting about 8,640 gallons of water yearly because of needed repairs. The program, which will begin during FY 2022, will focus exclusively on the repair of faucets, showers, toilets, and leaks that do not occur inside walls or underground. In addition, the program will fund costs of clearing blockages to private sanitary sewer laterals (not structural repairs or replacements of sewer lines). Plumbing companies selected by Arlington Water Utilities will make repairs through the program to qualified owner-occupied homes. Repairs will be estimated and reported in yearly TCEQ water conservation reports by using estimates of water savings based on fixture-specific estimates by the EPA Leak Education Program and overall savings estimated by the Water Research Foundation's Residential End Use Study.

7.6 Institutional water efficiency programs: AWU sponsored water fountain installations at the Arlington Library's Woodland West branch. This resulted in the purchase of two bottle filler type water fountains to put in the Woodland West Branch of the Arlington Public Library as part of a remodel. The fountains will encourage patrons to use refillable water bottles, saving water and energy. It also features a water education sign that credits the AWU for the fountains and a water fact, such as information about source water in North Texas. AWU plans to sponsor additional fountains as opportunities are presented

Requirement for Water Conservation Plans by Wholesale Customers

The City of Arlington is a wholesale water supplier. Every contract for the wholesale sale of water by customers that is entered into, renewed, or extended after the adoption of this water conservation plan will include a requirement that the wholesale customer and any wholesale customers of that wholesale customer develop and implement a waterconservation plan meeting the requirements of Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code. The requirement will also extend to each successive wholesale customer in the resale of the water.

7.7 Coordination with Regional Water Planning Group and TRWD

Appendix D includes a letter sent to the Chair of the Region C Water Planning Group with this water conservation plan. The City of Arlington will also send a copy of this plan to TRWD.

8. IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN

Appendix E contains a copy of the ordinance adopted by the City Council on April 23, 2019, regarding this water conservation plan. Appendix C, the considerations for landscape water management regulations, also includes information about enforcement. Appendix F includes a copy of an ordinance, order, or resolution related to illegal connections and water theft.

APPENDIX A

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES
ON MUNICIPAL WATER CONSERVATION PLANS**

**Texas Commission on Environmental Quality Rules on Water Conservation Plans
for Municipal Uses by Public Water Suppliers**

Texas Administrative Code

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER A</u>	WATER CONSERVATION PLANS
RULE §288.1	Definitions

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise.

- (1) Agricultural or Agriculture--Any of the following activities:
 - (A) cultivating the soil to produce crops for human food, animal feed, or planting seed or for the production of fibers;
 - (B) the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or non-soil media by a nursery grower;
 - (C) raising, feeding, or keeping animals for breeding purposes or for the production of food or fiber, leather, pelts, or other tangible products having a commercial value;
 - (D) raising or keeping equine animals;
 - (E) wildlife management; and
 - (F) planting cover crops, including cover crops cultivated for transplantation, or leaving land idle for the purpose of participating in any governmental program or normal crop or livestock rotation procedure.
- (2) Agricultural use--Any use or activity involving agriculture, including irrigation.
- (3) Best management practices--Voluntary efficiency measures that save a quantifiable amount of water, either directly or indirectly, and that can be implemented within a specific time frame.
- (4) Conservation--Those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.
- (5) Commercial use--The use of water by a place of business, such as a hotel, restaurant, or office building. This does not include multi-family residences or agricultural, industrial, or institutional users.
- (6) Drought contingency plan--A strategy or combination of strategies for temporary supply and demand management responses to temporary and potentially recurring

water supply shortages and other water supply emergencies. A drought contingency plan may be a separate document identified as such or may be contained within another water management document(s).

- (7) Industrial use--The use of water in processes designed to convert materials of a lower order of value into forms having greater usability and commercial value, and the development of power by means other than hydroelectric, but does not include agricultural use.
- (8) Institutional use--The use of water by an establishment dedicated to public service, such as a school, university, church, hospital, nursing home, prison or government facility. All facilities dedicated to public service are considered institutional regardless of ownership.
- (9) Irrigation--The agricultural use of water for the irrigation of crops, trees, and pastureland, including, but not limited to, golf courses and parks which do not receive water from a public water supplier.
- (10) Irrigation water use efficiency--The percentage of that amount of irrigation water which is beneficially used by agriculture crops or other vegetation relative to the amount of water diverted from the source(s) of supply. Beneficial uses of water for irrigation purposes include, but are not limited to, evapotranspiration needs for vegetative maintenance and growth, salinity management, and leaching requirements associated with irrigation.
- (11) Mining use--The use of water for mining processes including hydraulic use, drilling, washing sand and gravel, and oil field re-pressuring.
- (12) Municipal use--The use of potable water provided by a public water supplier as well as the use of sewage effluent for residential, commercial, industrial, agricultural, institutional, and wholesale uses.
- (13) Nursery grower--A person engaged in the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or nonsoil media, who grows more than 50% of the products that the person either sells or leases, regardless of the variety sold, leased, or grown. For the purpose of this definition, grow means the actual cultivation or propagation of the product beyond the mere holding or maintaining of the item prior to sale or lease, and typically includes activities associated with the production or multiplying of stock such as the development of new plants from cuttings, grafts, plugs, or seedlings.
- (14) Pollution--The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or to the public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.
- (15) Public water supplier--An individual or entity that supplies water to the public for human consumption.
- (16) Regional water planning group--A group established by the Texas Water Development Board to prepare a regional water plan under Texas Water Code..

- (17) Residential gallons per capita per day--The total gallons sold for residential use by a public water supplier divided by the residential population served and then divided by the number of days in the year.
- (18) Residential use--The use of water that is billed to single and multi-family residences, which applies to indoor and outdoor uses.
- (19) Retail public water supplier--An individual or entity that for compensation supplies water to the public for human consumption. The term does not include an individual or entity that supplies water to itself or its employees or tenants when that water is not resold to or used by others.
- (20) Reuse--The authorized use for one or more beneficial purposes of use of water that remains unconsumed after the water is used for the original purpose of use and before that water is either disposed of or discharged or otherwise allowed to flow into a watercourse, lake, or other body of state-owned water.
- (21) Total use--The volume of raw or potable water provided by a public water supplier to billed customer sectors or nonrevenue uses and the volume lost during conveyance, treatment, or transmission of that water.
- (22) Total gallons per capita per day (GPCD)--The total amount of water diverted and/or pumped for potable use divided by the total permanent population divided by the days of the year. Diversion volumes of reuse as defined in this chapter shall be credited against total diversion volumes for the purposes of calculating GPCD for targets and goals.
- (23) Water conservation plan--A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water. A water conservation plan may be a separate document identified as such or may be contained within another water management document(s).
- (24) Wholesale public water supplier--An individual or entity that for compensation supplies water to another for resale to the public for human consumption. The term does not include an individual or entity that supplies water to itself or its employees or tenants as an incident of that employee service or tenancy when that water is not resold to or used by others, or an individual or entity that conveys water to another individual or entity, but does not own the right to the water which is conveyed, whether or not for a delivery fee.
- (25) Wholesale use--Water sold from one entity or public water supplier to other retail water purveyors for resale to individual customers.
-

Texas Administrative Code

TITLE 30

PART 1

CHAPTER 288

SUBCHAPTER A

RULE §288.2

ENVIRONMENTAL QUALITY

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

WATER CONSERVATION PLANS, DROUGHT

CONTINGENCY PLANS, GUIDELINES AND

REQUIREMENTS

WATER CONSERVATION PLANS

**Water Conservation Plans for Municipal Uses by Public
Water Suppliers**

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- (a) A water conservation plan for municipal water use by public water suppliers must provide information in response to the following. If the plan does not provide information for each requirement, the public water supplier shall include in the plan an explanation of why the requirement is not applicable.
- (1) Minimum requirements. All water conservation plans for municipal uses by public water suppliers must include the following elements:
- (A) a utility profile in accordance with the Texas Water Use Methodology, including, but not limited to, information regarding population and customer data, water use data (including total gallons per capita per day (GPCD) and residential GPCD), water supply system data, and wastewater system data;
- (B) a record management system which allows for the classification of water sales and uses into the most detailed level of water use data currently available to it, including, if possible, the sectors listed in clauses (i) - (vi) of this subparagraph. Any new billing system purchased by a public water supplier must be capable of reporting detailed water use data as described in clauses (i) - (vi) of this subparagraph:
- (i) residential;
- (I) single family;
- (II) multi-family;
- (ii) commercial;
- (iii) institutional;
- (iv) industrial;
- (v) agricultural; and,
- (vi) wholesale.
- (C) specific, quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use in total GPCD and residential GPCD. The goals established by a public water supplier under this subparagraph are not enforceable;

- (D) metering device(s), within an accuracy of plus or minus 5.0% in order to measure and account for the amount of water diverted from the source of supply;
 - (E) a program for universal metering of both customer and public uses of water, for meter testing and repair, and for periodic meter replacement;
 - (F) measures to determine and control water loss (for example, periodic visual inspections along distribution lines; annual or monthly audit of the water system to determine illegal connections; abandoned services; etc.);
 - (G) a program of continuing public education and information regarding water conservation;
 - (H) a water rate structure which is not "promotional," i.e., a rate structure which is cost-based and which does not encourage the excessive use of water;
 - (I) a reservoir systems operations plan, if applicable, providing for the coordinated operation of reservoirs owned by the applicant within a common watershed or river basin in order to optimize available water supplies; and
 - (J) a means of implementation and enforcement which shall be evidenced by:
 - (i) a copy of the ordinance, resolution, or tariff indicating official adoption of the water conservation plan by the water supplier; and
 - (ii) a description of the authority by which the water supplier will implement and enforce the conservation plan; and
 - (K) documentation of coordination with the regional water planning groups for the service area of the public water supplier in order to ensure consistency with the appropriate approved regional water plans.
- (2) Additional content requirements. Water conservation plans for municipal uses by public drinking water suppliers serving a current population of 5,000 or more and/or a projected population of 5,000 or more within the next ten years subsequent to the effective date of the plan must include the following elements:
- (A) a program of leak detection, repair, and water loss accounting for the water transmission, delivery, and distribution system;
 - (B) a requirement in every wholesale water supply contract entered into or renewed after official adoption of the plan (by either ordinance, resolution, or tariff), and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements in this chapter. If the customer intends to resell the water, the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with the provisions of this chapter.
- (3) Additional conservation strategies. Any combination of the following strategies shall be selected by the water supplier, in addition to the minimum requirements in paragraphs (1) and (2) of this subsection, if they are necessary to achieve the stated water conservation goals of the plan. The commission may require that any of the

following strategies be implemented by the water supplier if the commission determines that the strategy is necessary to achieve the goals of the water conservation plan:

- (A) conservation-oriented water rates and water rate structures such as uniform or increasing block rate schedules, and/or seasonal rates, but not flat rate or decreasing block rates;
 - (B) adoption of ordinances, plumbing codes, and/or rules requiring water-conserving plumbing fixtures to be installed in new structures and existing structures undergoing substantial modification or addition;
 - (C) a program for the replacement or retrofit of water-conserving plumbing fixtures in existing structures;
 - (D) reuse and/or recycling of wastewater and/or graywater;
 - (E) a program for pressure control and/or reduction in the distribution system and/or for customer connections;
 - (F) a program and/or ordinance(s) for landscape water management;
 - (G) a method for monitoring the effectiveness and efficiency of the water conservation plan; and
 - (H) any other water conservation practice, method, or technique which the water supplier shows to be appropriate for achieving the stated goal or goals of the water conservation plan.
- (b) A water conservation plan prepared in accordance with 31 TAC §363.15 (relating to Required Water Conservation Plan) of the Texas Water Development Board and substantially meeting the requirements of this section and other applicable commission rules may be submitted to meet application requirements in accordance with a memorandum of understanding between the commission and the Texas Water Development Board.
- (c) A public water supplier for municipal use shall review and update its water conservation plan, as appropriate, based on an assessment of previous five-year and ten-year targets and any other new or updated information. The public water supplier for municipal use shall review and update the next revision of its water conservation plan every five years to coincide with the regional water planning group.
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APPENDIX B
WATER UTILITY PROFILE

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

CONTACT INFORMATION

Name of Utility:		City of Arlington	
Public Water Supply Identification Number (PWS ID):		TX2200001	
Certificate of Convenience and Necessity (CCN) Number:		P0034	
Surface Water Right ID Number:		3391, 3947, 3948, 3949, 3950	
Wastewater ID Number:			
Contact:	First Name:	Darryl	Last Name:
	Title:	Assistant Director	Westbrook
Address:	101 W Abram Sst	City:	Arlington State: TX
Zip Code:	76010 Zip+4: 7102	Email:	darryl.westbrook@arlingtontx.gov
Telephone Number:	8174596601	Date:	
Is this person the designated Conservation Coordinator?		<input checked="" type="radio"/> Yes <input type="radio"/> No	

Regional Water Planning Group: C

Groundwater Conservation District:

Our records indicate that you:

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

A. Population and Service Area Data

1. Current service area size in square miles: 99

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

2. 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 Water Service
2018	374,992	2,389	374,392
2017	379,370	2,389	378,770
2016	379,370	2,336	378,770
2015	370,367	2	369,767
2014	369,308	0	368,708

3. 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 Water Service
2020	377,478	5,389	377,478
2030	395,124	35,764	395,124
2040	410,939	35,764	410,939
2050	421,431	35,764	421,431
2060	423,439	35,764	423,439

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

Historical population served for 2018 provided by City of Arlington Community Development and Planning Department. Historical population served is defaulted to previous water use surveys submitted to the state. Population projections for 2020-2060 are the draft results of population projections as part of our water master plan update that is currently underway by city planning staff.

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

B. System Input

System input data for the previous five years.

Total System Input = Self-supplied + Imported – Exported

Year	Water Produced in Gallons	Purchased/Imported Water in Gallons	Exported Water in Gallons	Total System Input	Total GPCD
2018	19,226,746,465	0	125,048,485	19,101,697,980	140
2017	18,694,949,495	0	106,586,369	18,588,363,126	134
2016	19,087,412,121	0	123,771,717	18,963,640,404	137
2015	19,652,853,596	0	449,495	19,652,404,101	145
2014	4,654,480,301	15,256,316,000	366,000	19,910,430,301	148
Historic Average	16,263,288,396	3,051,263,200	71,244,413	19,243,307,182	141

C. Water Supply System

Attached file(s):

File Name	File Description
System Description.docx	Arlington Water System Description

1. Designed daily capacity of system in gallons 172,500,000
2. Storage Capacity
 - 2a. Elevated storage in gallons: 17,500,000
 - 2b. Ground storage in gallons: 26,200,000

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

D. Projected Demands

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

Year	Population	Water Demand (gallons)
2020	375,787	23,310,706,354
2021	377,478	23,259,500,502
2022	379,176	23,223,042,406
2023	380,883	23,185,785,182
2024	382,552	23,145,027,796
2025	384,489	23,119,125,878
2026	386,471	23,094,431,008
2027	388,206	23,117,882,292
2028	389,943	23,140,672,928
2029	391,677	23,162,596,031

2. Description of source data and how projected water demands were determined.

Demand projections are from water demand projections developed by city staff based on per capita usage trend for past 15 years. Projection demands also include approximately 10% adjustment to account for process water used in the water treatment process. Does not include estimated water demand for wholesale customers.

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

E. High Volume Customers

1. The annual water use for the five highest volume
RETAIL customers.

Customer	Water Use Category	Annual Water Use	Treated or Raw
General Motors	Industrial	366,320,000	Treated
University of Texas at Arlington	Commercial	264,790,000	Treated
Arlington Independent School District	Commercial	226,661,000	Treated
City Of Arlington	Commercial	192,593,000	Treated
Hurricane Harbor	Commercial	85,400,000	Treated

2. The annual water use for the five highest volume
WHOLESALE customers.

Customer	Water Use Category	Annual Water Use	Treated or Raw
CITY OF DALWORTHINGTON GARDEN	Municipal	123,416,000	Treated
City of Mansfield	Municipal	382,000	Treated

F. Utility Data Comment Section

Additional comments about utility data.

Note that our method of calculating population has changed. Going forward we will use methodology utilized by the City of Arlington Community Development and Planning Department for determining population and is published on the City's website quarterly.

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

Section II: System Data

A. Retail Water Supplier Connections

1. List of active retail connections by major water use category.

Water Use Category Type	Total Retail Connections (Active + Inactive)	Percent of Total Connections
Residential - Single Family	96,454	64.59 %
Residential - Multi-Family	47,933	32.10 %
Industrial	43	0.03 %
Commercial	4,659	3.12 %
Institutional	236	0.16 %
Agricultural	0	0.00 %
Total	149,325	100.00 %

2. Net number of new retail connections by water use category for the previous five years.

Year	Net Number of New Retail Connections						Total
	Residential - Single Family	Residential - Multi-Family	Industrial	Commercial	Institutional	Agricultural	
2018	563	1	1	17	29	0	611
2017	562	0	0	11	11	0	584
2016	331	0	4	45	0	0	380
2015	558	0	2	56	0	0	616
2014	591	0	3	30	0	0	624

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

B. Accounting Data

The previous five years' gallons of RETAIL water provided in each major water use category.

Year	Residential - Single Family	Residential - Multi-Family	Industrial	Commercial	Institutional	Agricultural	Total
2018	9,379,921,000	3,045,430,000	629,271,000	3,241,766,000	796,042,000	0	17,092,430,000
2017	8,981,025,000	3,073,957,000	589,763,000	3,157,464,000	763,089,000	0	16,565,298,000
2016	8,827,122,000	3,111,127,000	691,273,000	3,255,316,000	753,227,000	0	16,638,065,000
2015	9,390,733,000	3,057,017,000	684,832,000	3,212,869,000	800,554,000	0	17,146,005,000
2014	9,400,716,000	3,007,204,000	654,904,000	3,115,681,000	811,396,000	0	16,989,901,000

C. Residential Water Use

The previous five years residential GPCD for single family and multi-family units.

Year	Residential - Single Family	Residential - Multi-Family	Total Residential
2018			91
2017			89
2016			88
2015			91
2014			92
Historic Average	0	0	90

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

D. Annual and Seasonal Water Use

1. The previous five years' gallons of treated water provided to RETAIL customers.

Month	Total Gallons of Treated Water				
	2018	2017	2016	2015	2014
January	1,139,746,000	1,120,647,000	1,096,162,000	1,103,839,000	1,154,096,000
February	948,801,000	960,169,000	1,042,597,000	1,033,165,000	1,003,936,000
March	979,737,000	1,062,660,000	1,097,989,000	950,205,000	1,003,754,000
April	1,205,331,000	1,215,360,000	1,210,539,000	1,035,919,000	1,124,229,000
May	1,235,693,000	1,333,243,000	1,127,412,000	1,119,326,000	1,449,860,000
June	1,784,460,000	1,468,487,000	1,256,888,000	1,240,937,000	1,535,894,000
July	2,146,127,000	1,607,943,000	1,659,159,000	1,588,395,000	1,723,401,000
August	2,212,620,000	1,745,541,000	1,953,121,000	2,218,857,000	1,886,395,000
September	2,031,216,000	1,668,792,000	1,852,480,000	2,260,029,000	1,871,151,000
October	1,286,073,000	1,680,778,000	1,723,564,000	1,925,799,000	1,707,496,000
November	1,145,495,000	1,466,752,000	1,364,827,000	1,533,943,000	1,408,666,000
December	977,131,000	1,234,926,000	1,172,290,000	1,135,591,000	1,121,023,000
Total	17,092,430,000	16,565,298,000	16,557,028,000	17,146,005,000	16,989,901,000

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

2. The previous five years' gallons of raw water provided to RETAIL customers.

Month	Total Gallons of Raw Water				
	2018	2017	2016	2015	2014
January	0	883	692,000	585,000	1,299,600
February	1,520,000	87	887,000	321,000	943,000
March	0	1,839,047	1,337,000	89,000	2,598,000
April	1,809,000	4,991,000	124,000	1,155,000	3,591,000
May	7,742,000	9,165,000	53,000	74,000	3,832,000
June	10,578,000	8,318,000	985,000	6,160,000	7,077,000
July	16,621,000	10,128,000	9,173,000	19,585,000	10,189,000
August	12,349,000	6,284,000	10,218,000	18,629,000	12,016,000
September	0	7,959,000	9,788,000	13,015,000	9,840,000
October	480,000	3,938,000	7,289,000	8,521,000	2,371,000
November	353,000	3,686,000	2,043,000	118,000	2,374,000
December	0	2,679,000	1,160,101	665,000	1,041,000
Total	51,452,000	58,988,017	43,749,101	68,917,000	57,171,600

3. Summary of seasonal and annual water use.

	Summer RETAIL (Treated + Raw)	Total RETAIL (Treated + Raw)
2018	6,182,755,000	17,143,882,000
2017	4,846,701,000	16,624,286,017
2016	4,889,544,000	16,600,777,101
2015	5,092,563,000	17,214,922,000
2014	5,174,972,000	17,047,072,600
Average in Gallons	5,237,307,000.00	16,926,187,943.60

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

E. Water Loss

Water Loss data for the previous five years.

Year	Total Water Loss in Gallons	Water Loss in GPCD	Water Loss as a Percentage
2018	1,770,496,755	13	9.27 %
2017	1,772,803,481	13	9.53 %
2016	2,067,644,600	15	10.90 %
2015	2,001,635,050	15	10.19 %
2014	2,538,342,301	19	12.75 %
Average	2,030,184,437	15	10.53 %

F. Peak Day Use

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)
2018	46,969,539	67203858	1.4308
2017	45,545,989	52681532	1.1567
2016	45,481,581	53147217	1.1685
2015	47,164,169	55353945	1.1736
2014	46,704,308	56249695	1.2044

G. Summary of Historic Water Use

Water Use Category	Historic Average	Percent of Connections	Percent of Water Use
Residential - Single Family	9,195,903,400	64.59 %	54.46 %
Residential - Multi-Family	3,058,947,000	32.10 %	18.11 %
Industrial	650,008,600	0.03 %	3.85 %
Commercial	3,196,619,200	3.12 %	18.93 %
Institutional	784,861,600	0.16 %	4.65 %
Agricultural	0	0.00 %	0.00 %

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

H. System Data Comment Section

Section III: Wastewater System Data

A. Wastewater System Data

1. Design capacity of wastewater treatment plant(s) in gallons per day: 162,000,000
2. List of active wastewater connections by major water use category.

Water Use Category	Metered	Unmetered	Total Connections	Percent of Total Connections
Municipal	0	96,893	96,893	95.39 %
Industrial	7	34	41	0.04 %
Commercial	2	4,404	4,406	4.34 %
Institutional	0	236	236	0.23 %
Agricultural	0	0	0	0.00 %
Total	9	101,567	101,576	100.00 %

3. Percentage of water serviced by the wastewater system: 100.00 %

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

4. Number of gallons of wastewater that was treated by the utility for the previous five years.

Month	Total Gallons of Treated Water				
	2018	2017	2016	2015	2014
January	1,033,090,500	1,125,569,700	1,211,681,500	1,085,117,800	1,041,197,000
February	1,082,456,900	1,018,793,200	1,080,383,400	984,550,000	952,224,000
March	1,130,650,600	1,076,196,000	1,319,914,900	1,199,712,400	1,050,084,700
April	1,039,926,000	1,065,918,000	1,288,728,000	1,120,455,000	1,015,491,000
May	1,067,884,900	1,056,455,200	1,241,264,800	1,548,214,400	1,047,865,100
June	1,037,766,000	1,131,300,000	1,182,966,000	1,208,322,000	1,057,644,000
July	1,016,679,100	1,095,871,700	1,108,662,300	1,091,327,100	1,054,226,300
August	1,042,158,000	1,085,601,400	1,081,159,100	1,053,745,800	1,048,742,400
September	1,168,209,000	999,237,000	1,023,585,000	1,032,537,000	998,787,000
October	1,516,919,900	1,034,767,600	1,090,217,300	1,185,517,500	1,040,205,000
November	1,184,247,000	989,577,000	1,049,886,000	1,284,780,000	1,022,154,000
December	1,231,242,500	1,050,590,000	1,062,370,000	1,269,859,200	1,030,477,200
Total	13,551,230,400	12,729,876,800	13,740,818,300	14,064,138,200	12,359,097,700

5. Could treated wastewater be substituted for potable water?

Yes
 No

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

B. Reuse Data

1. Data by type 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 (park,golf courses)	73,475,000
Agricultural	
Discharge to surface water	
Evaporation Pond	
Other	
Total	73,475,000

C. Wastewater System Data Comment

Additional comments and files to support or explain wastewater system data listed below.

The City of Arlington does not own and operate its own wastewater treatment plant. The City's wastewater is treated by the Trinity River Authority Central Wastewater Treatment Plant. However, the City of Arlington participates as a wholesale customer in the City of Fort Worth's reclaimed water project from the Village Creek Water Reclamation Facility.

APPENDIX C

LANDSCAPE WATER MANAGEMENT REGULATIONS

APPENDIX D
LETTER TO REGION C
WATER PLANNING GROUP

APPENDIX D
Letter to Region C Water Planning Group

April 30, 2019

Mr. Kevin Ward
Chair, Region C Water Planning Group
Trinity River Authority
P.O. Box 60
Arlington, TX 76004

Dear Mr. Ward,

A copy of the 2019 Water Conservation Plan for customers of the City of Arlington is enclosed. I am submitting a copy of this plan to the Region C Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules.

Sincerely,

Craig Cummings
Director of Water Utilities
City of Arlington

APPENDIX E

ADOPTION OF WATER CONSERVATION PLAN

APPENDIX F
ILLEGAL WATER CONNECTIONS
AND THEFT OF WATER

APPENDIX F
Illegal Water Connections and Theft of Water

**City of Arlington Code of Ordinances Governing Water and Sewer, Water Chapter,
Article IV**

A. Section 4.15 Diversion of Water from Metered Flow; Violations; Prima Facie Case

Whoever by any means or device prevents water from passing through any meter belonging to the Water Utilities Department, or prevents any meter used in connection with the supply of water to any customer by said Water Utilities Department from registering the amount of water passing through such meter, or prevents a meter from duly registering the quantity of water supplied or in any way interferes with its proper action or just registration, or, without the consent in writing of the Director of Utilities, diverts the water from any pipe or pipes of the Water Utilities Department, or otherwise uses, or cause to be used, without the consent of the Director of Utilities, any water produced or distributed by said Water Utilities Department, or retains possession of, or refuses to deliver, any meter or other appliance loaned to him by the Water Utilities Department for the purpose of furnishing water through same, shall be in violation of these rules and regulations and shall be guilty of a misdemeanor. The presence at any time on or about any such meter or pipe of any device or pipes resulting in the diversion of water or prevention of its free passage and registration by the meter, or resulting in the diversion from the meter as above defined, or resulting in the prevention of water reaching the meter, or resulting in the prevention of the just registration of the meter or meters or the taking of any water except through a meter as above set forth, shall constitute prima facie evidence on the part of the person owning or having custody and control of the room, building, place or premises where such device or pipe is, or knowledge of the existence thereof and knowledge of such existence to the person who would be benefited by the failure of the water to be properly metered, and shall further constitute prima facie evidence of intention on the part of such person or persons to defraud, and shall bring such person prima facie within the scope, meaning and penalties of this section and Ordinance.

B. Section 4.16 Water Used in Construction Without Appropriate Application for Service Being Made

Where water is used in the construction or repair of property without having been authorized or turned on by the Water Utilities Department, the Department may charge the property owner for costs, including charging for water. The Water Utilities Department shall have the right to estimate the amount of water used, and shall take action to prevent further unauthorized usage until such time as all appropriate applications for service have been made and charges are paid. Nothing in this Section shall be considered to limit prosecution of offenders for violations of City or State law.