

Exhibit A

ARTICLE 18.11 WATER CONSERVATION PLAN

Sec. 18.11.001 Utility profile

(a) The city obtains its raw water supply from Lake Travis through a water supply agreement with the Lower Colorado River Authority (LCRA). The city's utility department is the managing municipal entity that owns and operates the surface water treatment facility that withdraws raw water from Lake Travis, treats and disinfects the utility's drinking water supply, and delivers the potable water to its retail and wholesale service area customers. In 2005, the cities of Cedar Park, Leander, and Round Rock established the Brushy Creek Regional Utility Authority ("BCRUA") to develop a three-phase regional water system for treatment and delivery of water from Lake Travis to their respective principal jurisdictions for the next 50 years. The city's water utility operates as Texas Commission on Environmental Quality ("TCEQ") Public Water Supply system 246009. (b) The service area of the city's water utility is bordered by Texas Highway 620 to the south and by the City of Leander to the north and lies to the north and northwest of the City of Austin. The city's water utility service area extends to the east past Parmer Lane (FM 734) to Sam Bass Road and to the west along Texas FM 1431 to its intersection with Trails End Road. The city's water utility service area covers more than 36 square miles and served an estimated 2018 population of 91,378 customers.

(c) The city's utility department estimates the year 2019 water service area population at 92,063 and estimates the year 2024 water service area population at 95,568. The city's water utility currently provides about 22,710 service connections (21,122 residential, 1,571 nonresidential, 13 wholesale, 3 reclaimed water and 1 raw water) for its estimated 91,378 water customers. The water utility supplies the following four treated wholesale customers: Williamson-Travis County Municipal Utility District ("MUD") No. 1 with 11 system connections, Blockhouse MUD with 1 system connection, and Indian Springs with 1 system connection. The 13 wholesale system connections account for 4,113 residential and commercial individual connections.

(d) Water system data compiled from 2018 indicated an average daily water use of 12.83 million gallons and a peak daily demand of 24.6 million gallons. The city's water treatment plant has a current capacity to treat 26 million gallons per day ("MGD") of raw surface water from Lake Travis while the BCRUA water plant has a capacity to treat 6.0 MGD. The city's water utility presently has 10.97 million gallons capacity of ground and elevated storage tanks, operates 2 booster pump stations, and has about 361 miles of transmission and distribution system delivery lines.

(e) The city-owned and operated water reclamation facility ("WRF") has a wastewater treatment capacity of 2.5 MGD. The city is also part of the Brushy Creek Wastewater System which has a capacity of 4.09 MGD. The city's wastewater service area includes 19 pump stations and about 329 miles of collection system service mains.

Sec. 18.11.002 Conservation goals

(a) The city's annual average water use over the past five years is 136 gpcd. The city's annual average water loss over the past five years is 14.7% of water delivered or 19.8 gpcd. The city's annual average residential water use over the past five years is 91 gpcd. Presented below are the city's five year and ten year goals for reducing the annual average water use and water loss.

(1) Five-year conservation goals.

(A) Reduce the average per capita day water usage by 1.0% by 2024 with a goal of achieving 134.6 gpcd.

Reduce the average residential per capita day water usage by 1.0% by 2024 with a goal of achieving 90.1 gpcd.

(B) Reduce water loss by 2.5% by 2024 so that water loss is no more than 14.3% of delivered water or 19.31 gpcd.

(2) Ten-year conservation goals.

(A) Reduce the average per capita day water usage by 1.0% between 2024 and 2029 with a goal of achieving 133.3 gpcd by 2029. Reduce the average residential per capita day water usage by 1.0% by 2029 with a goal of

achieving 89.2 gpcd.

(B) Reduce water loss by 2.0% between 2024 and 2029 so that water loss is no more than 14.1% of water delivered or 19.2 gpcd by 2029.

(b) The continuation of an on-going public education program, a leak detection monitoring program, a universal metering program, and the staffing of a water conservation coordinator position and other programs described below serve to ensure that the water treatment capacity and distribution system are capable of meeting the growing potable water demands that are expected within the service area, based on the city’s projected population growth. This water conservation plan has been adopted and established by the city to meet these objectives.

Sec. 18.11.003 Best management practices

During the 80th Texas Legislative Session, SB3, HB4 and HB3 were all passed and involve state water planning and conservation. TCEQ and the Texas Water Development Board (TWDB) jointly adopted these rules requiring the submission of a water conservation plan from public utilities that provide service to 3,300 or more connections. These utilities must also make annual progress reports to the TWDB, describing how they are implementing the conservation plans. Previously, TWDB-approved water conservation plans were only required from utilities making water rights applications or receiving funding from the TWDB. The TWDB Report 362 Water Conservation Best Management Practices Guide is the reference manual for water conservation practices discussed herein. The best management practices (BMPs) that the city currently utilizes and plans on utilizing to meet their annual water conservation goals are as follows:

BMP Category	BMP	Cedar Park Program Description
Utility practices	Water audit and loss	The city performs a detailed water audit annually to track unaccounted water (ref. section 18.11.006).
	Water conservation pricing	The city has a conservation-oriented (inclining block) water rate schedule with increasingly higher rates after consumption of 2,000 gallons (ref. section 18.11.008 and appendix A, article 8.000).
	Prohibition on wasting water	In the city’s drought contingency and water emergency plan (section 18.08.010), the city prohibits wasting of water under various drought response stages.
	Metering and retrofit	Raw water is metered along with all treated water connections. There is a program in place to monitor and replace meters (ref. sections 18.11.004 and 18.11.005).
	Advanced Metering Infrastructure	All meters transmit hourly readings, which assists in more timely water loss detection.
Rebates and incentive programs	Low-flow fixtures	The city offers replacement low-flow aerators and shower heads to residents
	Lower Colorado River Authority Rebates	Cedar Park residents are eligible to apply for rebates for various water saving component installations and activities.

Public outreach	Public information	Water conservation public education inserts are provided in utility billing, direct mailings, on the city website, pamphlets and in newspaper articles and advertisements (ref. section 18.11.007). The city works with local businesses, residents, and HOA's through individual meetings and other events to inform them of the city's watering schedule.
	Utility Customer Water Usage Portal	The city has implemented a customer portal in which each customer can register to view their individual hourly water usage and set alerts in an effort to monitor usage and control water waste.
	Public information	The city has created a dedicated website waterthriftycedarpark.org to provide residents with a single location to find watering schedules, current watering restrictions, rebates, and indoor and outdoor water-saving tips.
Outdoor programs	Water reuse	In 2018 the city delivered 138 million gallons of reclaimed water for Avery Ranch Golf Course (ref. section 18.11.013) and 9.7 million gallons of reclaimed water for the city's Brushy Creek Sports Park.
Other	Water conservation coordinator	Water conservation coordinator assesses conservation efforts, reports on an annual basis and monitors five-year conservation efforts (ref. sections 18.11.016 and 18.11.017).

Sec. 18.11.004 Source supply metering devices

The city meters Lake Travis raw water withdrawals from the LCRA through two (2) meters. These meters are calibrated and tested annually to an accuracy of plus or minus two percent (2%). The BCRUA has one (1) meter.

Sec. 18.11.005 Universal metering and meter maintenance

(a) All water customers of the city water utility, including city offices and public facilities are metered. The city has installed fixed-base metering throughout the service area.

(b) Meter replacement and maintenance program. Every residential meter shall be changed out approximately every ten years. Every meter that will be changed out is tested and, if possible, rebuilt. The city is equipped with a meter test bench where all meters two inches (2") and smaller are tested before being put into service. Meters are tested to ensure they meet the American Water Works Association (AWWA) criteria for accuracy. Meters two inches (2") and larger are scheduled to be tested once per year. At any time, a customer may request their meter to be tested. Guidelines for such requests are established in [article 18.01](#), water rates, charges, and service regulations, of this code.

Sec. 18.11.006 Control measures for unaccounted water

The city performs annual water system audits to track unaccounted for water using the following monthly data: billing data (gallons sold), treated water data (gallons pumped), number of repaired leaks (and estimated gallons lost through leakage), and estimated gallons used for line flushing and fire hydrant testing. Additionally, the city performs a detailed water system audit annually as required by the Texas Water Development Board.

Sec. 18.11.007 Public education

(a) Education materials. The city will make available water conservation education materials for its customers on an on-going basis. Such information shall be provided to customers through various mediums including but not limited to: utility bill inserts, pamphlets provided at public facilities, direct mailings, school presentations, and periodic articles published in a local newspaper. When appropriate, the city shall also coordinate education efforts with local water suppliers, agencies, and regulators to promote water conservation education. The city has also recently partnered with the water smart program to provide residents with detailed information regarding their household water use.

(b) New customers. Water conservation information will be available to new water customers when applying for service. This information is made available at city hall and at other designated public buildings.

Sec. 18.11.008 Water rate structure

(a) The city's water rate charges and service regulations are contained in [article 18.01](#), water rates, charges, and service regulations. The inclined user rate structure is contained in [appendix A, article 8.000](#), utility related fees. The residential user rate in place is a minimum monthly base rate for the first two thousand (2,000) gallons used. After residential consumption of the first 2,000 gallons per month, an inclined rate is applied for each of the following volumetric categories: 2,001 gallons to 10,000 gallons, 10,001 gallons to 15,000 gallons and greater than 15,000 gallons. The nonresidential user rate is a minimum base rate based on meter size for the first 2,000 gallons used. After nonresidential consumption of 2,000 gallons, the rate is based on a charge per each additional thousand (1,000) gallons. This rate structure is conservation-oriented as it charges a nominally higher water rate following a customer's consumption of the first 2,000 gallons.

(b) Service regulations that address the conservation of water include the following:

(1) Requirements that there be no free service.

(2) All city departments that use water service pay the same user rates set out in the ordinance.

(3) All usage through city fire hydrants shall be authorized by the city and that usage shall be charged for at a metered rate.

Sec. 18.11.009 Leak detection/repair program

The city investigates all reported leaks, performs periodic visual inspections, and schedules leak detection surveys of the water distribution lines. Reports are prepared and incorporated into the annual system audits; see [section 18.11.006](#) of this article. Work orders are generated and prioritized by this program.

Sec. 18.11.010 Record management system

(a) The city administers a comprehensive record management system that accounts for its water use characteristics. The record management system is maintained by the city's water utility and is configured to provide the following water use information:

(1) Water diversions;

(2) Water production;

(3) Water deliveries;

(4) Water sales; and

(5) Water losses.

(b) The city's record management system further allows for the separation of aggregate water sales and water

usage characteristics into four customer-specific categories that include:

- (1) Residential (single-family);
 - (2) Residential (multifamily);
 - (3) Commercial; and
 - (4) Other (wholesale).
- (c) The cities record management even further allows for the tracking and quantification of water conservation. The following water conservation programs are tracked or proposed for tracking:
- (1) Water audits;
 - (2) Metering of new connections and retrofit and replacement of existing connections;
 - (4) Annual water conservation reporting by water conservation coordinator.
- (d) The record management system will serve as the accounting and records repository for the city's water utility.

Sec. 18.11.011 Water wholesale agreements

This plan shall require that any future or amended wholesale water supply contract that the water utility negotiates with a wholesale customer shall contain a "pass-through" clause that requires direct compliance with [article 18.08](#), drought contingency and water emergency plan. In turn, should a wholesale customer sell water to another wholesale water entity, then the [article 18.08](#) rules will convey to any additional water utilities and their customers that are served, directly or indirectly, by the water utility.

Sec. 18.11.012 Retrofit/replacement program

The city shall continue to encourage the retrofit or replacement of water efficient plumbing fixtures with the following programs:

- (1) Providing water saving devices such as faucet aerators and shower heads to water customers free of charge.
- (2) Encouraging the use of water efficient devices through the availability of public education materials (see [section 18.11.007](#) of this article).

Sec. 18.11.013 Water reuse program

- (a) The city's water reclamation facility ("WRF") currently provides treated effluent, up to 1.0 million gallons per day ("MGD"), for the irrigation of the Avery Ranch Golf Course. In 2012, the city completed two projects that use treated effluent and reclaimed water, in place of treated potable water, for irrigation.
- (b) With the expansion of the city's field operations center, an irrigation system was installed that uses reclaimed water for the irrigation of surrounding landscape and turf grass, which averages about 60,000 gallons per month. The city also installed an irrigation system that uses treated effluent for irrigation water at one of the city's largest parks, Brushy Creek Sports Park. This water is used to irrigate all of the athletic fields and other landscaping at the park and averages about 0.8 million gallons per month.
- (c) The city will continue to look for ways to replace treated potable water with reclaimed water for irrigation purposes. As part of a 2014 utility capital improvement project, the city is installing a pipeline that will be able to deliver reclaimed water for irrigation to other parks and landscaped areas within the city.

Sec. 18.11.014 Drought resistant landscape (xeriscape) program

The city shall encourage customers to utilize drought resistant landscaping techniques through education materials and landscape examples made available to the public (see [section 18.11.007](#) of this article). The city provides program examples and guidance by maintaining the drought resistant plant demonstration garden at city hall, by encouraging the use of drought resistant landscaping principals in the city's landscape and tree regulations ([chapter 15](#) of this code), by encouraging the use of drought tolerant landscaping principals at all city public

facilities, and by providing public information on efficient irrigation methods.

Sec. 18.11.015 Reservoir systems operations program

The city obtains its raw water from Lake Travis through a withdrawal contract with LCRA. The city uses floating dock pump stations that are able to withdraw surface water at various stage elevations as the lake’s conservation pool varies in response to flooding and drought conditions. The city, along with the BCRUA, is in the planning stages of a project that will allow for it to be prepared to establish a deeper stage intake than is currently capable that would provide it the ability to withdraw raw water at a lake elevation of about 570 feet (above mean sea level). Such action would provide the city with the ability to secure reservoir withdrawals based upon a lake elevation that is set to the historical extreme conditions caused by the 1950’s drought of record. This additional component to the city’s reservoir operations plan should allow the water utility to provide a reliable, long-term, raw water supply to the city even during the most serious drought conditions.

Sec. 18.11.016 Water conservation coordinator

The city has budgeted and staffed a water conservation coordinator position that is responsible for implementing and maintaining the city’s water conservation program since the late 1990’s. The city’s water conservation coordinator is an individual who is designated to oversee and coordinate water conservation efforts within the water utility’s service area. This position will further document the annual water conservation program implementation status report as it relates to the 30 TAC section 288 reporting requirements that indicate the performance of adopted best management practices (BMPs) described by this plan.

Sec. 18.11.017 Conservation assessment and proposed five-year efforts

Conservation efforts will be monitored and assessed annually over the next five years. The city is evaluating the following water conservation strategies and will implement additional water conservation programs by year 2024.

BMP Category	BMP	Cedar Park Program Description
Incentive programs	Rebates and incentives	The city will evaluate additional rebates for installation of low-flow devices.
Public outreach	School education	The city will evaluate making water conservation presentations to school age children.
	Water IQ	The city will evaluate growing its water IQ public awareness campaign through multi-media approaches.
Outdoor programs	Landscape irrigation conservation and incentives	The city will evaluate revising our landscape ordinance to emphasize the use of more drought tolerant landscaping.
	Irrigation system analysis	The city will evaluate requiring annual submittal of an annual irrigation system analysis for major irrigators and major water users.
	Water reuse	The city will evaluate installing a reuse system for irrigation of the city’s Lakeline Park, which is currently in the planning stages.

Utility Practices	Leak detection	The city will evaluate the implementation of district metering to assist in detecting possible water loss within the distribution system.
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