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1.0 INTRODUCTION AND OBJECTIVE

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. The City of Hurst has developed this water conservation plan in accordance with TCEQ guidelines and requirements. To develop a regional approach, Tarrant Regional Water District's Water Conservation and Drought Contingency Plan were included. This plan replaces the previous plan dated March 2009. The City of Hurst also recognizes that in order to achieve its goals of maximizing water conservation and efficiency, it is necessary to develop and implement a water conservation plan that meets compliance with TCEQ guidelines and requirements.

This document outlines the City of Hurst Water Conservation Plan, and the Emergency Water Demand Management Drought Contingency Plan. The Emergency Water Demand Management Drought Contingency Plan provides procedures for voluntary and mandatory actions to be implemented to temporarily reduce the demand placed upon the City's water supply system during a water shortage emergency. Emergency Water Demand Management procedures include conservation, but may also include prohibition of certain uses. Both programs are tools that the City of Hurst will have available to operate effectively in all situations.

The objective of this Water Conservation Plan is to reduce the per capita consumption of water, a finite resource. Many communities throughout the United States have used conservation measures to successfully cope with various water and wastewater problems. Reductions in water use of as much as 25 percent have been achieved, but the normal range is from 5 to 15 percent. As a result of reduced water use, wastewater flows have also been reduced by 5 to 10 percent. It is anticipated that implementation of this Plan will result in a reduction in per capita water consumption. The City of Hurst goal is to reduce per capita water consumption by 1 percent each year with an ultimate goal of 145 gallons per capita per day.



2.0 TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES

2.1 TCEQ RULES GOVERNING CONSERVATION PLANS

The TCEQ rules governing development of water conservation plans for public water supplies are contained in Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code, which is included in Appendix B. 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 below.

- 288.2(a)(1)(A) – Utility Profiles – Section 3.0 and Appendix C
- 288.2(a)(1)(B) – Record Management System – Section 5.2
- 288.2(a)(1)(C) – Specific, Quantified Goals – Section 4.0
- 288.2(a)(1)(D) – Accurate Metering – Section 5.2
- 288.2(a)(1)(E) – Universal Metering – Section 5.2
- 288.2(a)(1)(F) – Determination and Control of Water Loss – Section 5.2 and 5.3
- 288.2(a)(1)(G) – Public Education and Information Program – Section 6.1
- 288.2(a)(1)(H) – Non-Promotional Water Rate Structure – Section 6.2
- 288.2(a)(1)(I) – Means of Implementation and Enforcement – Section 6.4
- 288.2(a)(1)(J) – Coordination with Regional Water Planning Groups – Section 6.6 & App D
- 288.2(c) – Review and Update of Plan – Section 8.0

Conservation Additional Requirements (Population over 5,000)

The Texas Administrative Code includes additional requirements for water conservation plans for drinking water supplies serving a population over 5,000:

- 288.2(a)(2)(A) – Leak Detection, Repair, and Water Loss Accounting – Section 5.3

Additional Conservation Strategies

The Texas Administrative Code lists additional conservation strategies, which may be adopted by suppliers but are not required. Additional strategies adopted by the City of Hurst include the following:

- 288.2(a)(3)(A) – Consideration for Landscape Water Management Regulations – Section 7.3



2.2 GUIDANCE AND METHODOLOGY FOR REPORTING ON WATER CONSERVATION AND WATER USE

In addition to TCEQ rules regarding water conservation, this plan also incorporates elements of the Guidance and Methodology for Reporting on Water Conservation and Water Use Developed by TWDB and TCEQ, in consultation with the Water Conservation Advisory Council (the “Guidance”). The Guidance was developed in response to a charge by the 82nd Texas Legislature to develop water use and calculation methodology and guidance for preparation of water use reports and water conservation plans in accordance with TCEQ rules. The City of Hurst has considered elements of this guidance in preparation of this plan.

3.0 DESCRIPTION OF SERVICE AREA AND UTILITY PROFILE

As of January 2014 the City of Hurst provides retail water and sewer service to approximately 35,939 residents. The City’s service area is the total area within the city limits of Hurst, which is approximately 10 square miles.

3.1 UTILITY PROFILE

The City of Hurst as shown in Figure 3-1 has a current population of 35,939. The water supply is distributed through approximately 204 miles of water mains, ranging from 4” to 30” in diameter. The supply to the City is divided into two pressure plains, South and North. The dividing line is predominately at Hwy.183 with the North plain extending South into neighborhoods on each side of Precinct Line Road down to Pipeline Road.

The South Pressure Plain is supplied by purchase water from the City of Fort Worth through Metered Vault # 2 located at 405 W. Hurst Blvd. along with five water wells. All supplies are stabilized by one (1.0 mg) elevated water tank (Valentine tank). The total designed delivery capacity in the South Plain is 7 million gallons per day (mg/d) and the reliable delivery capacity is 6 million gallons per day (mg/d).

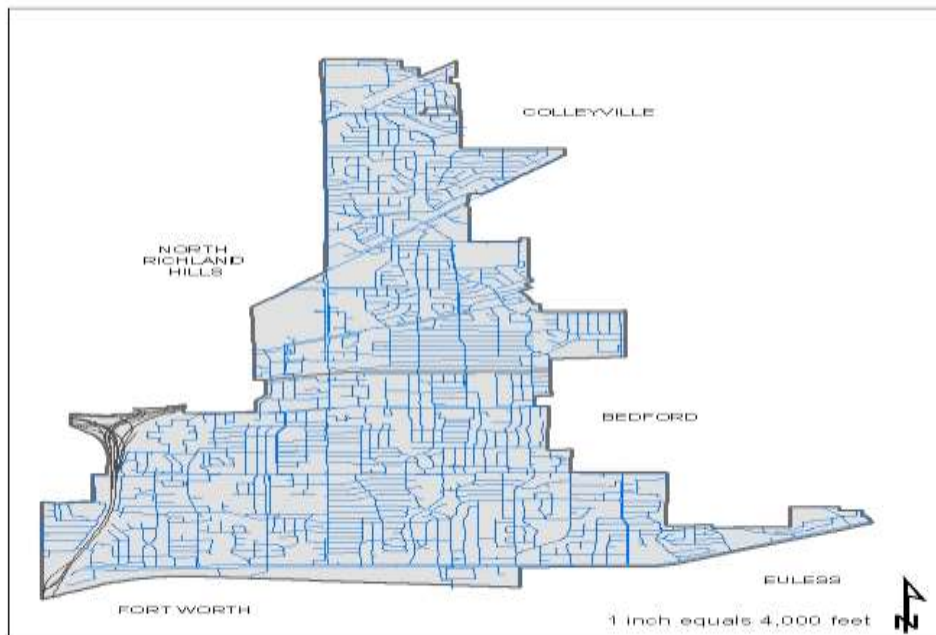


The North Pressure Plain is supplied by water purchased from the City of Fort Worth through Metered Vault # 1 located at 951 W. Hurst Blvd. in conjunction with one water well. Both water supplies flow into three ground storage tanks at Pump Station # 5 located at 2400 Norwood and is pumped into two elevated water tanks, Tarrant County College or (TCC) and North Precinct or (NP). Total designed delivery capacity in the North Plain is 8 million gallons per day (mg/d) and the reliable delivery capacity is 7.5 million gallons per day (mg/d.). The combined reliable capacity is 13.5 million gallons per day (mg/d) as shown in Table 3-1 below:

Table 3-1: 2014 City of Hurst Water System Delivery Capacity

Water Supply	Design Capacity(mgd)	Reliable Delivery Capacity (mgd)
Hurst South Pressure Plain	7.0	6.0
Hurst North Pressure Plain	8.0	7.5
Total	15	13.5

Figure 3-1





4.0 SPECIFICATION OF WATER CONSERVATION GOALS

TCEQ rules require the adoption of specific water conservation goals for a water conservation plan. The goals for the water conservation plan include the following.

- Maintain the 5-year moving average total per capita water use below specified amount in the Table 4-1.
- Maintain the level of water loss in the system below the specified amount in Table
- Increase efficient water usage and decrease waste in lawn irrigation by enforcement of landscape water management regulations as described in Section 7.3.

In the previous (2009) plan, total per capita use goals were 180 GPCD by 2015 and 170 GPCD by 2020 as outlined in table 4.1 below. As of 2014, the City of Hurst’s five year average per capita use 157 GPCD. This illustrates achieved conservation savings significantly ahead of the 2015 goal and also surpassing that of the 2020 goal.

Table 4-1: PREVIOUS PLAN GPCD GOALS (2009)

Description	Units	2009	2015	2020
Total GPCD	GPCD	190	180	170
Residential GPCD	GPCD	171	162	150

A. Total GPCD = (Total Gallons in System / Permanent Population) / 365

B. Residential GPCD = (Gallons Used for Residential Use / Residential Population) / 365

As such, the 202 and 2025 goals have been revised to reflect increased conservation as a result of measures including this plan. The City of Hurst has developed goals based on the recommendations of the Texas Water Conservation Implementation Task Force, which suggests a 1% reduction in gallons per capita per day per year. The current specific goals are outlined in Table 4-2. These goals were developed assuming a five year average per capita, and therefore some (dry) years will see higher per capita usage than these five year average goals. A series of dry years may lead to an average exceeding the goal. Figure 4-1 shows the total annual per capita since 2000, the five year average and the comparison between previous goal and current goal.



Table 4-2: GPCD GOALS (2014)

Description	Units	2013	2019	2024
Total GPCD	GPCD	157	152	147
Residential GPCD	GPCD	111	106	101

C. Total GPCD = (Total Gallons in System / Permanent Population) / 365

D. Residential GPCD = (Gallons Used for Residential Use / Residential Population) / 365

5.0 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. Programs for universal metering, meter testing, meter repair, and periodic meter replacement have been developed using the American Water Works Association (AWWA) standards and are important elements in the City of Hurst’s program to control losses.

5.1 MONITORING AND RECORD MANAGEMENT PROGRAM FOR DETERMINING DELIVERIES

The City of Hurst has an effective record management system in place. The record management system allows for the separation of water sales and use into residential, commercial, municipal and industrial categories. This information is included in the TCEQ required Water Conservation Implementation Report.

The City of Hurst meters all of the connections in the Distribution System. Meters range in size from 3/4” to 16”. The meter size distribution is included in Table 5-1 below. All meters met AWWA accuracy standards when installed. In 2013, there were a total of 12,273 active retail meters in the City.

Table 5-1: METER SIZE DISTRIBUTION

Meter Size	Total Number
5/8” x .75”	10,689
1”	1,068
1.5”	256
2”	200
3”	29
4”	21
6”	2
8”	6
16”	2



5.2 METER CALIBRATION AND REPLACEMENT

The City of Hurst currently has an implemented program for meter replacement based on each meter and transponder at least every ten (10) years. In addition to age replacement, the City of Hurst by an annual contract performs accuracy testing on approximately 125 each 2” and larger commercial meters. Meters found outside compliance with the AWWA standard are repaired or replaced. Meters reading unusually high or low, erratically or not reading any flow are investigated in a similar way each billing cycle. Accuracy testing and the repair or replacement helps the City of Hurst monitor and reduce unaccounted for water. In addition, all City owned facilities are metered to insure accuracy when comparing wholesale purchases vs. water distributed and sold.

5.3 LEAK DETECTION, REPAIR AND WATER LOSS ACCOUNTING

The system water audit is used annually to monitor the total level of non-revenue water. There are many variables which influence the revenue and non-revenue components of the City’s water system including meter inaccuracy, data discrepancies, unauthorized consumption, reported breaks and leaks and unreported losses.

The City of Hurst uses Water Loss expressed in GPCD as its preferred water loss metric as it is less variable than other metrics to climate conditions. In the previous years, water loss (GPCD) were variable but progress was made from the previous year as seen in Table 5.2.

Table 5-2: PREVIOUS WATER LOSS GPCD

Description	Units	2011	2012	2013
Water Loss	GPCD	7	14	11

The Texas Water Development Board has also asked that cities begin to include their water loss in gallons per capita day and as a percentage of the total water use in the system as seen in Table 5-3. These are additional performance indicators that can be used to determine the effectiveness of the water. The City will continue to reduce water losses throughout the system by analyzing and updating the targets and goals of this section annually in conjunction with the water audit.



Table 5-3: WATER LOSS GOALS (2014)

Description	Units	2013	2019	2024
Total GPCD	GPCD	7	6	5
Water Loss Percentage	%	5%	5%	4%
Water Loss Per Connection	GPCD			
Real Losses				

- A. Total GPCD = (Total Gallons in System / Permanent Population) / 365
- B. Residential GPCD = (Gallons Used for Residential Use / Residential Population) / 365
- C. Water Loss GPCD = (Total Water Loss / Permanent Population) / 365
- D. Water Loss Percentage = (Total Water Loss / Total Gallons in System) x 100; or (Water Loss GPCD / Total GPCD) x 100

6.0 PUBLIC EDUCATION AND INFORMATION

The City of Hurst currently provides water conservation tips through the City’s monthly newsletter distributed within customer water bills as well as on the City’s web page and through information provided at the initiation of service.

The City of Hurst also provides Notification to schools districts, home owners associations and social groups that the Water Utility Staff is available to make presentations on the importance of water conservation and ways to save water. The City of Hurst will work closely in the future with wholesale water providers and other regional agencies to develop cost-effective public education programs.

6.1 WATER RATE STRUCTURE

The City of Hurst utilizes a flat rate structure for all classes as shown in Table 6-1 below:

Table 6-1: Rate Structure

Water Rates	\$14.82 First 2,000 gallons, \$5.96 per 1,000 gallons after.
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As indicated in Table 2-5, this is a basic non-promotional rate plan and does not encourage excessive water use with reduced rates. The City of Hurst will continue consideration of various rate plans to insure cost-effectiveness and compliance with State regulations.

In addition, the City of Hurst charges a monthly meter charge to commercial accounts as is shown in Table 6-2 below:



Table 6-2: MONTHLY METER CHARGES

Meter Size	Service Charge
1" and Smaller	\$2.00
1.5" and Larger	\$9.00

6.2 RESERVOIR SYSTEM OPERATIONS

This requirement is not applicable to the City of Hurst.

6.3 IMPLEMENTATION AND ENFORCEMENT

The City of Hurst completes the TCEQ required Water Conservation Plan and Utility Profile annually as required. These reports include various water conservation strategies that have been implemented, including the date of implementation. Additionally, reports include progress made on the five and ten year per capita water use goals from this plan.

The City of Hurst has existing ordinances in place which prohibit the wasting of water such as year round no watering restrictions between the hours of 10am to 6pm, rain and freeze sensors and the disallowance of water to fall upon impervious surfaces. The City of Hurst has also adopted an ordinance regulating the design and installation of new irrigation systems and has a proposed Ordinance Amendment set to be presented to City Council for mandatory, year round 2 day per week watering restrictions.

The City of Hurst has amended the current Drought Contingency/Emergency Management Plan to match the City of Fort Worth's Plan which provides for escalated enforcement for each drought stage.

6.4 COORDINATION WITH REGIONAL WATER PLANNING GROUPS

As a wholesale customer of Fort Worth the City of Hurst participates in each entity's short term and long term planning. In addition, the City of Hurst consistently participates in Texas Water Development Board (TWDB) and Regional Water Planning Group (Region C) inquiries and reporting. In addition, a copy of the City of Hurst Plan has been submitted to the Wholesale provider.



7.0 ADDITIONAL CONSERVATION EFFORTS

7.1 WATER-CONSERVING PLUMBING FIXTURES

The City of Hurst complies with the U.S. Energy Policy Act of 1992 (Public Law 102-846, 106 Stat. 2776, 102D Congress, Oct. 24, 1992) which includes requirements for maximum water use allowed for toilets, urinals, showerheads and faucets.

The City of Hurst currently adheres to the 2009 International Plumbing Code (IPC) Section 604.4, Max Flow and Water Consumption and adopts table 604.4 which lists Water Closet Max Flow Rate at 1.6 gallons per flush cycle. The City routinely inspects new construction, remodeling, add-ons, etc., through building permits to ensure installation of fixtures adheres to the current codes and ordinances in place.

7.2 LANDSCAPE WATER MANAGEMENT

The City of Hurst has an existing Lawn and Landscape Irrigation Ordinance, adopted on July 11, 2006 which prohibits wasting water. This ordinance prohibits watering between the hours of 10 a.m. and 6 p.m. year round and disallows the wasting of water by allowing irrigation systems to spray onto impervious surfaces. In addition the Irrigation Installation Ordinance adopted in January 2009 requires that only licensed irrigators alter existing or install new irrigation systems within the City of Hurst and require all existing commercial systems to retrofit rain and freeze sensors.

The City of Hurst in conjunction with the City of Fort Worth have amended the ordinance to reflect the mandatory, year round twice per week watering schedule effective June 24, 2014 similar to Stage 1 of its drought plan. The schedule is included as Table 7-1 seen below:



Table 7-1: TWICE PER WEEK WATERING SCHEDULE

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
No outdoor watering	Non-residential	Residential addresses ending in (0,2,4,6,8)	Residential addresses ending in (1,3,5,7,9)	Non-Residential	Residential addresses ending in (0,2,4,6,8)	Residential addresses ending in (1,3,5,7,9)

The City of Hurst will continue to actively promote the use of native vegetation for landscaping for both public and private areas consistent with the Texas Smartscape Program.

8.0 ADOPTION OF WATER CONSERVATION PLAN; PERIODIC REVIEW AND UPDATE OF PLAN

TCEQ requires that water conservation plans be reviewed and updated every five years to coincide with the regional water planning process. This Water Conservation Plan will be updated as required by TCEQ and, in addition, will be continually reassessed for opportunities to improve water efficiency and conservation based on new or updated information.

8.1 COORDINATION WITH THE CITY OF FORT WORTH AND REGULATORY AGENCIES

Appendix D is a copy of the letters sent to the chair persons of the Region C Water Planning Group, City of Fort Worth Water Department, Tarrant Regional Water District and the Texas Commission on Environmental Quality. Appendix E is a copy of Ordinance No. 2111 amending Chapter 26 by adopting a new Water Conservation Plan.



APPENDIX A
LIST OF REFERENCES



APPENDIX A
LIST OF REFERENCES

1. Tarrant Regional Water District, “Water Conservation and Drought Contingency Plan”, prepared by the Tarrant Regional Water District, April 2009.
2. Water Conservation Implementation Task Force: “Texas Water Development Board Report 362, Water Conservation Best Management Practices Guide,” prepared for the Texas Water Development Board, Austin, November 2004.
3. Water Conservation Advisory Council: Guidance and Methodology for Reporting on Water Conservation and Water Use, December 2012.
4. Texas Commission on Environmental Quality Annual Report.
[http://www.tceq.texas.gov/permitting/water rights/conserve.html#imple](http://www.tceq.texas.gov/permitting/water_rights/conserve.html#imple)



APPENDIX B
TEXAS COMMISSION OF ENVIRONMENTAL QUALITY RULES ON MUNICIPAL
WATER CONSERVATION PLANS



APPENDIX B

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

<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 and 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 residence 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 supply.
- (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 users.



- (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 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 the 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 seeding.
- (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 of 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) Residential use—The use of water that is billed to single and multi-family residence, which applies to indoor and outdoor use.
- (17) Residential gallons per capita 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) Regional water planning group—A group established by the Texas Water Development Board to prepare a regional water plan under Texas Water Code, 16.053.
- (19) Retail public water supply—An individual or entity the for compensation supplies water to the public for human consumption. The term does not include an individual or entity that supplies water to it or its employees or tenants when the 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 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.



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- (22) Total gallons per capita 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 purpose 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 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 the 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 employees 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.

Source Note: The provisions of this 288.1 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective August 15, 2002, 27 TexReg 7146; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective January 10, 2008, 33 TexReg 193; amended to be effective December 6, 2012, 37 TexReg 9515.



<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 *288.2	Water Conservation Plans for Municipal Uses by Public Water Suppliers

(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 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.



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- 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 and 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; abandon services; etc.);
 - G. A program of continuing 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 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 region 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 necessary to achieve the goals of the water conservation plan:
- A. Conservation-orientated water rates and water rate structures such as uniform 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 fixture 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 and 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.

Source Note: The provisions of this 288.1 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective August 15, 2002, 27 TexReg 7146; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective January 10, 2008, 33 TexReg 193; amended to be effective December 6, 2012, 37 TexReg 9515.



APPENDIX C
CITY OF HURST UTILITY PROFILE BASED ON TCEQ FORMAT



APPENDIX D
LETTERS TO REGION C WATER PLANNING GROUP



APPENDIX E
ADOPTION OF WATER CONSERVATION PLAN



APPENDIX F
TARRANT REGIONAL WATER DISTRICT (TRWD)
WATER CONSERVATION AND DROUGHT CONTINGENCY PLAN