

# 2019 Water Conservation Plan



NORTH RICHLAND HILLS  
**NRH**  
THE CITY OF CHOICE

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## **1.0 INTRODUCTION AND OBJECTIVES**

This document outlines the City of North Richland Hills' Water Conservation Plan. The objective of the conservation plan is to reduce the quantity required for each water using activity, insofar as is practical, through implementation of efficient water use practices.

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 learn to 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 A. The City of North Richland Hills has developed this water conservation plan in response to TCEQ guidelines and requirements. This Water Conservation Plan replaces the previous plan dated 2014.

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.
- Encourage efficient outdoor water use.
- To extend the life of current water supplies by reducing the rate of growth in demand.
- To educate the citizens of North Richland Hills about the need for water conservation and the benefits of conserving our most valued natural resource.

## 2.0 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 (TAC), 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 water conservation plan are listed below.

### **Minimum Water Conservation Plan Requirements**

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

TAC	Plan	Page	Section
288.2(a)(1)(A)	Description of Service and Water Utility Profile	3	3.0
288.2(a)(1)(A)	City of North Richland Hills Utility Profile	24	Appendix B
288.2(a)(1)(A)	City of Watauga Utility Profile	33	Appendix C
288.2(a)(1)(C)	Specification of Water Conservation Goals	4	4.0
288.2(a)(1)(D)	Accurate Metering	5	5.1
288.2(a)(1)(D)	Metering of Customer and Public Uses and Meter Testing	6	5.2
288.2(a)(1)(E)	Universal Metering	6	5.2
288.2(a)(1)(F)	Determination and Control of Unaccounted Water	6	5.4
288.2(a)(1)(G)	Continuing Public Education and Information Program	8	6.0
288.2(a)(1)(H)	Water Rate Structure	9	7.0
288.2(a)(1)(I)	Reservoir System Operation Plan	9	8.1
288.2(a)(1)(J)	Implementation and Enforcement of the Water Conservation Plan	13	9.0
288.2(a)(1)(K)	Coordination with Regional Water Planning Organizations	11	8.6
288.2(a)(1)(K)	Coordination with Regional Water Planning Organizations	42	Appendix D

### **Conservation Additional Requirements (Population over 5,000)**

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

TAC	Plan	Page	Section
288.2(a)(2)(A)	Metering of Customer and Public Uses and Meter Testing	6	5.2
288.2(a)(2)(A)	Determination/Control of Unaccounted Water	6	5.4
288.2(a)(2)(A)	Leak Detection and Repair	7	5.5
288.2(a)(2)(B)	Record Management System	6	5.3
288.2(a)(2)(C)	Requirement for Water Conservation Plans by Wholesale Customers	11	8.5

### **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:

TAC	Plan	Page	Section
288.2(a)(3)(B)	Ordinances, Plumbing Codes or Rules	10	8.3
288.2(a)(3)(D)	Reuse and Recycling of Wastewater	10	8.2
288.2(a)(3)(F)	Water Waste Prohibition	10	8.4
288.2(a)(3)(G)	Monitoring of Effectiveness and Efficiency Annual Water Conservation Report	7	5.6

## **3.0 DESCRIPTION OF SERVICE AND UTILITY PROFILE**

The City of North Richland Hills provides retail water and sewer service to approximately 70,148 residents and wholesale water service to the City of Watauga. Service through wholesale customers accounts for approximately 24,900 additional residents.

Appendix B contains North Richland Hills' 2018 water utility profiles based on the formats recommended by TCEQ.

The City of Watauga is the City of North Richland Hills' only wholesale customer and is contractually obligated to develop and implement a conservation plan that meets applicable TCEQ Water Conservation Plan Requirements. Appendix C includes the City of Watauga's Water Utility Profile.

#### 4.0 SPECIFICATION OF WATER CONSERVATION GOALS

Current TCEQ regulations require the adoption of specific water conservation goals for a water conservation plan. As part of the plan adoption, the City of North Richland Hills will develop 5-year and 10-year goals for per capita municipal use, following TCEQ procedures described in the water utility profile, Appendix B for the City of North Richland Hills. The goals for this water conservation plan include the following:

- Maintain the 5-year moving average total per capita and residential per capita water use below specified amount in **Table 4-2**
- Keep the level of unaccounted water in the system below 6% annually in 2019 and subsequent years, as discussed on page 5, Section 5.4.
- Maintain meter replacement and repair programs, as discussed on page 5, Section 5.2.
- Decrease waste in lawn irrigation by continuing enforcement of the landscape water management ordinance, as discussed on page 9, Section 8.4.
- Raise public awareness of water conservation and encourage responsible public behavior with a public education and information program, as discussed on page 7, Section 6.0.

In the previous (2014) Plan, total capita use goals were 173 gallons per capita per day (GPCD) by 2019 and 170 GPCD by 2024; also the water loss goals were 10 gallons per capita per day (GPCD) by 2019 and 10 GPCD by 2024 as outlined in **Table 4-1** below. North Richland Hills' five-year average per capita use (2014-2018) was 135 GPCD and water loss was 7 GPCD showing that actual usage has already achieved results in line with the 2014 Plan.

**TABLE 4-1: PREVIOUS PLAN GPCD GOALS (2014)**

Description	Units	2013	2019	2024
Total GPCD <sup>a</sup>	GPCD	175	173	170
Residential GPCD <sup>b</sup>	GPCD	102	100	97
Water Loss ( GPCD) <sup>c</sup>	GPCD	6	10	10
Water Loss Percentage <sup>d</sup>	%	4	6	6

a. Total GPCD = (Total Gallons in System ÷ Permanent Population) ÷ 365

b. Residential GPCD = (Gallons Used for Residential Use ÷ Permanent Population) ÷ 365

c. Water Loss GPCD = (Total Water Loss ÷ Permanent Population) ÷ 365

d. Water Loss Percentage = (Total Water Loss ÷ Total Gallon in System) x 100; or (Water Loss GPCD ÷ Total GPCD) x 100

The 2014 Water Conservation Plan works for our city therefore we will readopt this Plan for 2019. Going forward, the city has committed to achieving reductions in usage and water loss GPCD that are more progressive than the 2014 Plan, as shown in Table 4-2 below. The projected reduction for the city is 1/2 % per year due to elements in this Plan.

**TABLE 4-2: GPCD GOALS (2019)**

<b>Description</b>	<b>Units</b>	<b>2018</b>	<b>2024</b>	<b>2029</b>
Total GPCD <sup>a</sup>	GPCD	130	125	120
Residential GPCD <sup>b</sup>	GPCD	92	89	86
Water Loss ( GPCD) <sup>c</sup>	GPCD	5	6	5
Water Loss Percentage <sup>d</sup>	%	4	5	5

a. Total GPCD = (Total Gallons in System ÷ Permanent Population) ÷ 365

b. Residential GPCD = (Gallons Used for Residential Use ÷ Permanent Population) ÷ 365

c. Water Loss GPCD = (Total Water Loss ÷ Permanent Population) ÷ 365

d. Water Loss Percentage = (Total Water Loss ÷ Total Gallon in System) x 100; or (Water Loss GPCD ÷ Total GPCD) x 100

## **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 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.

### **5.1 Accurate Metering of Treated Water Deliveries**

North Richland Hills supplies all of the water used by its customers. Water deliveries are metered by the City of North Richland Hills using a meter accuracy of  $\pm 5\%$ . These meters are calibrated by the City's wholesale suppliers on an annual basis to maintain their level of accuracy.

North Richland Hills has four (4) main points of entry for treated water intake into the City. Three (3) entry points are from the City of Fort Worth and one (1) entry point from Trinity River Authority (TRA). Each point of entry contains a master meter that is the property of the wholesale provider (Fort Worth/TRA). By the wholesale contract, these entry point meters, are tested and calibrated to ensure accuracy at least once per year.

The City of North Richland Hills is the water supplier for the City of Watauga. The City of North Richland Hills has installed several meters at the main entry points into the

City of Watauga. The main entry point meters are tested, calibrated, and maintained by the City of North Richland Hills on a regular basis.

## **5.2 Metering of Customer and Public Uses and Meter Testing, Repair, and Replacement**

All connections to the water system are metered connections. All meters are maintained within an acceptable operating accuracy range as defined by the manufacturer or American Water Works Association (AWWA) Standards for Meter Accuracy, whichever is more stringent. Non-functioning meters and meters that indicate reduced or high usage will be flagged during the electronic billing process. These meters will be checked, field tested, and replaced when found to be out of the manufacturer specifications or not meeting AWWA Standards.

The City of North Richland Hills has a Meter Replacement Program that is currently funded annually. The goal of the program is to replace approximately 1,200 customer water meters that are older than ten (10) years of age on an annual basis

The City also replaces water meters on an as needed basis. These meters are usually suspected of inaccurate readings, such as reading high or too low, erratic, or not reading any flow at all.

This aggressive water meter replacement program helps to ensure the meters are accurate and helps to reduce the unaccounted for water in the City.

## **5.3 Record Management System**

As required by TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(2)(B), the City of North Richland Hills record management system allows for the separation of water sales and uses into residential, commercial, public/institutional, and industrial categories. This information will be included in an annual water conservation report, as described on page 6, Section 5.6.

The City of North Richland Hills will continue to maintain a record management system that separates the monthly usage in the following customer categories; residential, commercial, public/institutional, wholesale, industrial usage and others.

## **5.4 Determination and Control of Unaccounted Water**

Unaccounted water is the difference between water purchased from the City of Fort Worth and TRA and metered deliveries to North Richland Hills' customers. Authorized but unmetered uses would include fire-fighting, flushing of water lines, and uses associated with new construction. Unaccounted water can include several categories:

- Inaccuracies in customer meters. Customer meters tend to run more slowly or become erratic 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 and theft.

Measures to control unaccounted water are part of the routine operations of the City. Maintenance crews and personnel are directed to look for and report evidence of leaks in the water distribution system. A leak detection and repair program is described in Section 5.5 below. Meter readers are directed to watch for and report signs of illegal connections so they can be addressed quickly.

As shown in the Water Utility Profile, unaccounted water has varied from 2.4% to 6.61% in the last five years. With the elements described in this plan, the City of North Richland Hills intends to maintain the unaccounted water below 6% in 2018 and subsequent years.

## **5.5 Leak Detection and Repair**

The City of North Richland Hills monitors the water distribution system and customer service connections for water leaks. This is done by City personnel who are in the field. Any water leaks found are reported immediately and repaired as quickly as possible.

The City also conducts regular inspections throughout the City for leaks on large water transmission lines. Areas along drainage streams and limited access areas are regularly investigated for potential water leaks.

The Public Works Department is responsible for repairing water line leaks. Typically all water leaks are repaired within 24 hours after they have been reported. Large main line water leaks require quick response and the department provides this quick response 24 hours a day.

The Public Works Department also has an annual program for replacing water lines that are old, deteriorated, and have had numerous water leaks. The department replaces approximately 10,000 linear feet of water lines in the City under this program. An asset management program is used to track all water line breaks. This asset management program helps the department to determine which water lines are in need of replacement.

## **5.6 Monitoring of Effectiveness and Efficiency Annual Water Conservation Report**

Appendix B is a water utility profile that will be submitted electronically to TWDB by May 1st of 2019 and will be used to monitor the effectiveness and efficiency of the water

conservation plan. This will help the City to plan conservation-related activities for the following years. The water utility profile form records the water use by category, per capita municipal use, and unaccounted water for the current year and compares them to historical values. The modified water utility profile and annual water conservation report will be sent to the City of Fort Worth and TRA who will work with Tarrant Regional Water District (TRWD) to monitor regional water conservation trends.

## **6.0 CONTINUING PUBLIC EDUCATION AND INFORMATION CAMPAIGN**

The City of North Richland Hills will continue to promote conservation through public education by:

- Participating in various conservation programs with TRWD.
- Making conservation information available at the public library and on the City of North Richland Hills' website. Links on the City's website will be provided to the *Texas Smartscape* website and to information on water conservation from TRWD, Texas Water Development Board (TWDB), and TCEQ websites.
- Include a water conservation message in the City's "News and Notes" publication on an annual basis. This publication is sent to North Richland Hills customers' and includes information about City activities, events, and advertisements.
- Insert water conservation information with water bills. Inserts will include material developed by North Richland Hills' staff and material obtained from TRWD, TWDB, TCEQ, and other sources.
- Encourage local media coverage of water conservation issues and the importance of water conservation.
- Make information on *Texas Smartscape* principles, water conservation brochures, and other water conservation materials available to the public at City Hall and other public places.
- In 2008 the City of North Richland Hills began a partnership with TRWD promoting an educational program called "Learning to Be Water Wise". The program is designed for educating elementary school students and their parents on water conservation. Activities include instructional manuals and activity books, supplying and installing low flow faucet fixtures, and surveys and input on water conservation techniques. The City along with TRWD funds the program annually. Presently, 5<sup>th</sup> grade students in the City's local elementary schools are targeted for this program. The City will continue this program providing funds are available on an annual basis.

## 7.0 WATER RATE STRUCTURE

The City of North Richland Hills' rate structure is provided in Table 7.0 below:

Table 7.0  
Rate Structure

Residential Water Rates						
Meter Size	3/4"	1"	1.5"	2"	3"	4"
Minimum Bill	\$12.00	\$20.00	\$40.00	\$64.00	\$120.00	\$128.00
Minimum Volume Gallons	2,000	3,340	6,650	10,644	19,971	21,311
Step 1 Volume	2,001-22,440	3,341-22,440	6,651-22,440	10,645-22,440		
Step 1 Rate per 1,000 gallons	\$4.65	\$4.65	\$4.65	\$4.65		
Step 2 Volume	>22,440	>22,440	>22,440	>22,440		
Step 2 Rate per 1,000 gallons	\$4.47	\$4.47	\$4.47	\$4.47		
Water Pass Through	\$2.53 per 1,000 gallons x total consumption					
Commercial/Industrial Water Rates						
Meter Size	3/4"	1"	1.5"	2"	3"	4"
Minimum Bill	\$12.00	\$20.00	\$40.00	\$64.00	\$120.00	\$128.00
Minimum Volume Gallons	2,000	3,340	6,650	10,644	19,971	21,311
Step 1 Volume	2,001-9,724	3,341-9,724	6,651-9,724	>10,645	>10,645	>10,645
Step 1 Rate per 1,000 gallons	\$4.65	\$4.65	\$4.65	\$4.74	\$4.74	\$4.74
Step 2 Volume	>9,725	>9,725	>9,725			
Step 2 Rate per 1,000 gallons	\$4.74	\$4.74	\$4.74			
Water Pass Through *	\$2.53 per 1,000 gallons x total consumption					

North Richland Hills will continue consideration of various rate plans to insure cost effectiveness and compliance with state regulations.

- \* The water pass through rate is the fee charged to North Richland Hills' customers for wastewater disposal. The amount is based on the rate charge that the City's wholesale provider (Fort Worth) sets for wastewater treatment and operation and maintenance cost.

## 8.0 OTHER WATER CONSERVATION MEASURES

### 8.1 Reservoir System Operation Plan

North Richland Hills purchases treated water from the City of Fort Worth and TRA Northern Region which purchases untreated surface water from TRWD. North Richland Hills does not purchase untreated surface water supplies and therefore does

not have a reservoir system operation plan.

## **8.2 Reuse and Recycling of Wastewater**

The City of North Richland Hills does not own and operate its own wastewater treatment plant. The City's wastewater is treated by TRA and the City of Fort Worth.

## **8.3 Ordinances, Plumbing Codes, or Rules on Water Conserving Fixtures**

The State of Texas has required water-conserving fixtures in new construction and renovations since 1992. The state standards call for flows of no more than 2.5 gallons per minute (gpm) for faucets, 3.0 gpm for showerheads, and 1.6 gallons per flush for toilets. Similar standards are now required nationally under federal law. These state and federal standards assure that all new construction and renovations will use water-conserving fixtures. The City of North Richland Hills follows these standards.

## **8.4 Water Waste Prohibition**

Landscape irrigation and outdoor watering are responsible for a large portion of the water wasted in the State of Texas. The City of North Richland Hills has adopted the following water conservation measures in an effort to reduce the amount of wasted water:

- Prohibition of outdoor watering with irrigation systems from 10:00 a.m. to 6:00 p.m. every day of the year. Watering with hand-held hoses, drip irrigation and soaker hoses is allowed.
- Requirement that all irrigation systems installed on or after October 25, 1999, with the exception of those associated with agricultural and/or single family residential uses, must be equipped with rain and freeze sensors.
- Requirement that all agricultural and/or single family residential irrigation system installed within the City on or after August 1, 2006 must be equipped with rain and freeze sensors.
- Prohibition of irrigation systems that result in a substantial amount of water to fall upon impervious surfaces, such that a constant stream of water overflows from the lawn or landscape onto a street or other drainage area.
- Prohibition of poorly maintained irrigation systems that waste water.
- Prohibition of outdoor watering during any form of precipitation.

- Requirement for customers to repair a water service line or irrigation line leaking on private property within a designated time period as directed by the North Richland Hills Public Works Department.
- The City of Fort Worth and other regional water providers (North Texas Municipal Water District, Tarrant Regional Water District, Upper Trinity Regional Water District, the Trinity River Authority and the City of Dallas) have collaborated and agreed upon implementing a year round no more than twice per week watering schedule. The City has a mandatory a year round twice per week water schedule similar to Stage 1 of its drought plan. The schedule is included as Table 8.1.

Table 8.1: Year- Round 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)

Failure to comply with any portion of this section will constitute a violation and may be subject to enforcement of a fine up to Two Thousand Dollars (\$2,000.00) per violation. Each day that a violation is permitted to exist shall constitute a separate offense.

## 8.5 Requirement for Water Conservation Plans by Wholesale Customers

The City of North Richland Hills is a wholesale water supplier for the City of Watauga. The City of Watauga must develop and implement a water conservation plan as described in this section. Every contract for the wholesale sale of water 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 water conservation plan meeting the requirements of Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the TAC. The requirement will also extend to each successive wholesale customer in the resale of the water.

## **8.6 Coordination with Regional Water Planning Organizations**

Appendix D includes letters sent to the City of Fort Worth, TRA, the TRWD, TCEQ and the City of Watauga. A copy of the water conservation plan was included with each letter.

## **8.7 Request for Variance**

The Public Works Operations Manager or his/her designee may grant a temporary variance for water use prohibited by this plan if it is determined that an emergency condition resulting in an adverse effect to health, sanitation, or fire protection of a customer, person, or entity would result if a variance is not granted. A temporary variance may also be granted if it is determined that a customer, person, or entity is caused undue hardship or financial burden if a variance is not granted.

Outdoor watering at a service address with large multi-station irrigation systems may take place in accordance with a variance granted by the Public Works Operations Manager or his/her designee if it is determined that the property cannot be adequately irrigated in a single day.

A temporary variance may also be granted to playing fields which require watering to maintain league standards.

Skinned areas of sports fields may be watered as needed for dust control without applying for a temporary variance.

In order to receive a written variance from the Public Works Operations Manager or his/her designee the customer, person, or entity must provide a written request including:

- Name and address of the person requesting the variance.
- Location of the proposed water use.
- Detailed statement of potential damage and reason for the variance.
- The volume of water needed and specific purpose of water use.
- Period of time the variance is needed.
- Detailed statement of water conservation measures that are being used.
- Any diagram or other explanation that demonstrates the need for a variance.

## **9.0 IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN**

Appendix E includes a copy of the ordinance passed by the City Council which formally approves and adopts this water conservation plan. The ordinance includes penalties for non-compliance and designates responsible officials to implement and enforce the water conservation plan.

Appendix F includes a copy of the City's adopted Landscape Water Management Ordinance and Amendment to Outside Watering Ordinance.

## **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 (TAC)**

<b>Title 30</b>	Environmental Quality
<b>Part 1</b>	Texas Commission on Environmental Quality
<b>Chapter 288</b>	Water Conservation Plans, Drought Contingency Plans, Guidelines and Requirements
<b>Subchapter A</b>	Water Conservation Plans
<b>Rule §288.1</b>	Definitions

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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, 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 non-soil media, who grows more than 50% of the products that the person either sells or leases, regardless of 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) Residential Use – The use of water that is billed to single and multi-family residences, which applies to indoor and outdoor uses.
- (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) 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 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.

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**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 effective January 10, 2008, 33 TexReg 193; amended to be effective December 6, 2012, 37 TexReg 9515

## TEXAS ADMINISTRATIVE CODE

<b>Title 30</b>	Environmental Quality
<b>Part 1</b>	Texas Commission on Environmental Quality
<b>Chapter 288</b>	Water Conservation Plans, Drought Contingency Plans, Guidelines And Requirements
<b>SubChapter A</b>	Water Conservation Plans
<b>Rule §288.2</b>	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;
      - (1) Single family;
      - (2) 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 operation 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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**Source Note:** The provisions of this §288.2 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 October 7, 2004, 29 TexReg 9384; amended to be effective December 6, 2012, 37 TexReg 9515

## TEXAS ADMINISTRATIVE CODE

<b>Title 30</b>	Environmental Quality
<b>Part 1</b>	Texas Commission on Environmental Quality
<b>Chapter 288</b>	Water Conservation Plans, Drought Contingency Plans, Guidelines And Requirements
<b>SubChapter A</b>	Water Conservation Plans
<b>Rule §288.5</b>	Water Conservation Plans for Wholesale Water Suppliers

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A water conservation plan for a wholesale water supplier must provide information in response to each of the following paragraphs. If the plan does not provide information for each requirement, the wholesale water supplier shall include in the plan an explanation of why the requirement is not applicable.

- (1) Minimum Requirements – All water conservation plans for the wholesale water suppliers must include the following elements:
  - (A) a description of the wholesaler's service area, including population and customer data, water use data, water supply system data, and wastewater data;
  - (B) specific, quantified five-year and ten-year targets for water savings including, where appropriate, target goals for municipal use in gallons per capita per day for the wholesaler's service area, maximum acceptable water loss, and the basis for the development of these goals. The goals established by wholesale water suppliers under this subparagraph are not enforceable;
  - (C) a description as to which practice(s) and/or devices(s) will be utilized to measure and account for the amount of water diverted from the source(s) of supply;
  - (D) a monitoring and record management program for determining water deliveries, sales, and losses;
  - (E) a program of metering and leak detection and repair for the wholesaler's water storage, delivery, and distribution system;
  - (F) a requirement of every water supply contract entered into or renewed after official adoption of the water conservation plan, 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 of this chapter. If the customer intends to resell the water, then 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 applicable provisions of this chapter;

- (G) 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. The reservoir systems operations plans shall include optimization of water supplies as one of the significant goals of the plan;
  - (H) a means for implementation and enforcement, which shall be evidenced by a copy of the ordinance, rule, resolution, or tariff, indicating official adoption of the water conservation plan by the water supplier; and a description of the authority by which the water supplier will implement and enforce the conservation plan; and
  - (I) documentation or coordination with the regional water planning groups for the service area of the wholesale water supplier in order to ensure consistency with the appropriate approved regional water plans.
- (2) Additional conservation strategies. Any combination of the following strategies shall be selected by the water wholesaler, in addition to the minimum requirements of paragraph (1) of this section, if they are necessary in order to achieve the stated water conservation goals of the plan. The commission may require by commission order that any of the following strategies be implemented by the water supplier if the commission determines that the strategies are necessary in order for the conservation plan to be achieved:
- (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) a program to assist agricultural customers in the development of conservation pollution prevention and abatement plans;
  - (C) a program for reuse and/or recycling of wastewater and/or graywater; and
  - (D) any other water conservation practice, method, or technique which the wholesaler shows to be appropriate for achieving the stated goal or goals of the water conservation plan.

- (3) Review and update requirements. The wholesale water supplier 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. A wholesale water supplier 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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**Source Note:** The provisions of this §288.5 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 October 7, 2004, 29 TexReg 9384; amended to be effective December 6, 2012, 37 TexReg 9515

## **APPENDIX B**

### **NORTH RICHLAND HILLS WATER UTILITY PROFILE**

## CONTACT INFORMATION

Name of Utility: City of North Richland Hills

Public Water Supply Identification Number (PWS ID): TX2200063

Certificate of Convenience and Necessity (CCN) Number: 10103

Surface Water ID Number: \_\_\_\_\_

Wastewater ID Number: 20041

Contact: First Name: Tuan Last Name: Ngo

Title: Regulatory Compliance Specialist

Address: 7200 Dick Fisher Drive South North Richland Hills, TX 76180

Telephone Number: 817-428-6457 Email: tngo@nrhtx.com

## UTILITY PROFILE

### A. Population and Service Area

1. Current service area size in square miles: 18.2
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	70,148	24,602	70,148
2017	68,143	24,882	68,143
2016	67,000	24,345	6,700
2015	65,690	24,187	6,700
2014	65,690	24,187	65,690

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	71,655	25,596	71,655
2030	77,000	26,365	77,000
2040	77,000	26,979	77,000
2050	77,000	27,468	77,000
2060	77,000	30,082	77,000

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

Current and projected population obtained from 2016 Region C Water Plan.

## 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	0	4,014,866,531	685,150,953	3,329,715,578	130
2017	0	3,941,197,827	673,735,306	3,267,462,521	131
2016	0	3,938,639,010	737,270,606	3,201,368,404	131
2015	0	4,106,937,906	800,702,700	3,306,235,206	138
2014	37,858,844	4,191,358,900	783,005,800	3,446,211,944	144
Historic Average	7,571,769	4,038,600,035	735,973,073	3,310,198,731	135

## C. Water Supply System

1. Designed daily capacity of system in gallons 16,000,000
2. Storage Capacity
- 2a. Elevated storage in gallons: 5,500,000
- 2b. Ground storage in gallons: 10,500,000

## 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	71,655	4,149,060,783
2021	72,192	4,169,806,087
2022	72,734	4,190,655,117
2023	73,279	4,211,608,393
2024	73,829	4,232,666,435
2025	74,383	4,253,829,767
2026	74,941	4,275,098,916
2027	75,503	4,296,474,410
2028	76,069	4,317,956,783
2029	76,639	4,339,546,566

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

Data from 2016 Region C Water Plan.

## 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
Doskocil Food (Tyson)	Industrial	128,298,031	Treated
Aragon 2014	Residential	42,552,381	Treated
BISD	Institutional	39,715,606	Treated
North Hills Hospital	Commercial	34,111,904	Treated
Silver Creek Apts	Residential	26,781,108	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 Watauga	Municipal	671,447,934	Treated

**F. Utility Data Comment Section**

Additional comments about utility data.

Data obtained from water department.

## 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	20,156	68.36 %
Residential - Multi-Family	7,784	26.40 %
Industrial	14	0.05 %
Commercial	1,453	4.93 %
Institutional	76	0.26 %
Agricultural	0	0.00 %
<b>Total</b>	<b>29,483</b>	<b>100.00 %</b>

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

	Net Number of New Retail Connections						
Year	Residential - Single Family	Residential - Multi-Family	Industrial	Commercial	Institutional	Agricultural	Total
2018	224	0	0	13	62	0	299
2017	206	34	0	239	0	0	479
2016	260	0	24	28	0	0	312
2015	284	68	82	277	2	0	713
2014	3	0	164	0	0	0	167

## 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	1,957,520,198	391,244,635	128,899,983	532,085,933	50,974,094	0	3,060,724,843
2017	1,928,281,885	391,446,917	123,021,157	530,556,009	48,873,700	0	3,022,179,668
2016	1,884,618,550	377,632,104	116,374,932	352,767,851	170,395,086	0	2,901,788,523
2015	1,971,183,892	365,991,321	169,021,178	413,403,072	213,595,437	0	3,133,194,900
2014	2,061,405,615	368,460,730	140,592,007	363,314,063	241,691,451	0	3,175,463,866

### 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	77	15	92
2017	77	16	93
2016	77	16	93
2015	82	15	97
2014	86	15	101
Historic Average	80	15	95

### 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	193,145,105	188,455,899	171,433,624	156,464,259	172,515,060
February	175,773,970	168,812,917	163,010,032	161,799,745	177,743,232
March	151,941,082	170,669,313	192,935,267	151,568,241	174,933,188
April	199,999,423	216,177,864	185,322,026	163,972,206	207,937,237
May	225,454,932	253,718,623	203,029,087	192,731,736	230,819,491
June	351,811,404	268,527,218	198,952,052	175,254,023	287,126,493
July	388,113,710	295,610,618	303,032,294	288,744,232	319,411,305
August	436,586,177	292,629,193	367,650,608	405,498,623	324,414,489
September	346,350,139	346,853,170	377,042,939	430,131,570	374,151,111
October	223,577,279	305,700,442	314,460,920	387,565,025	365,518,188
November	184,540,836	264,954,145	262,369,452	330,545,850	309,393,506
December	178,136,586	239,484,562	198,235,909	280,155,390	203,210,409
Total	3,055,430,643	3,011,593,964	2,937,474,210	3,124,430,900	3,147,173,709

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	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	0	0	0	0	0
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
<b>Total</b>	0	0	0	0	0

3. Summary of seasonal and annual water use.

	Summer RETAIL (Treated + Raw)	Total RETAIL (Treated + Raw)
<b>2018</b>	1,176,511,291	3,055,430,643
<b>2017</b>	856,767,029	3,011,593,964
<b>2016</b>	869,634,954	2,937,474,210
<b>2015</b>	869,496,878	3,124,430,900
<b>2014</b>	930,952,287	3,147,173,709
<b>Average in Gallons</b>	940,672,487.80	3,055,220,685.20

## 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	113,414,731	4	3.40 %
2017	118,581,793	5	3.63 %
2016	191,081,893	8	5.97 %
2015	80,578,100	3	2.43 %
2014	227,670,429	10	6.61 %
Average	146,265,389	6	4.41 %

## 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	8,371,042	12,788,166	1.5277
2017	8,250,942	9,312,685	1.1287
2016	8,047,874	9,452,553	1.1745
2015	8,560,084	9,451,053	1.1041
2014	8,622,393	10,119,046	1.1736

## G. Summary of Historic Water Use

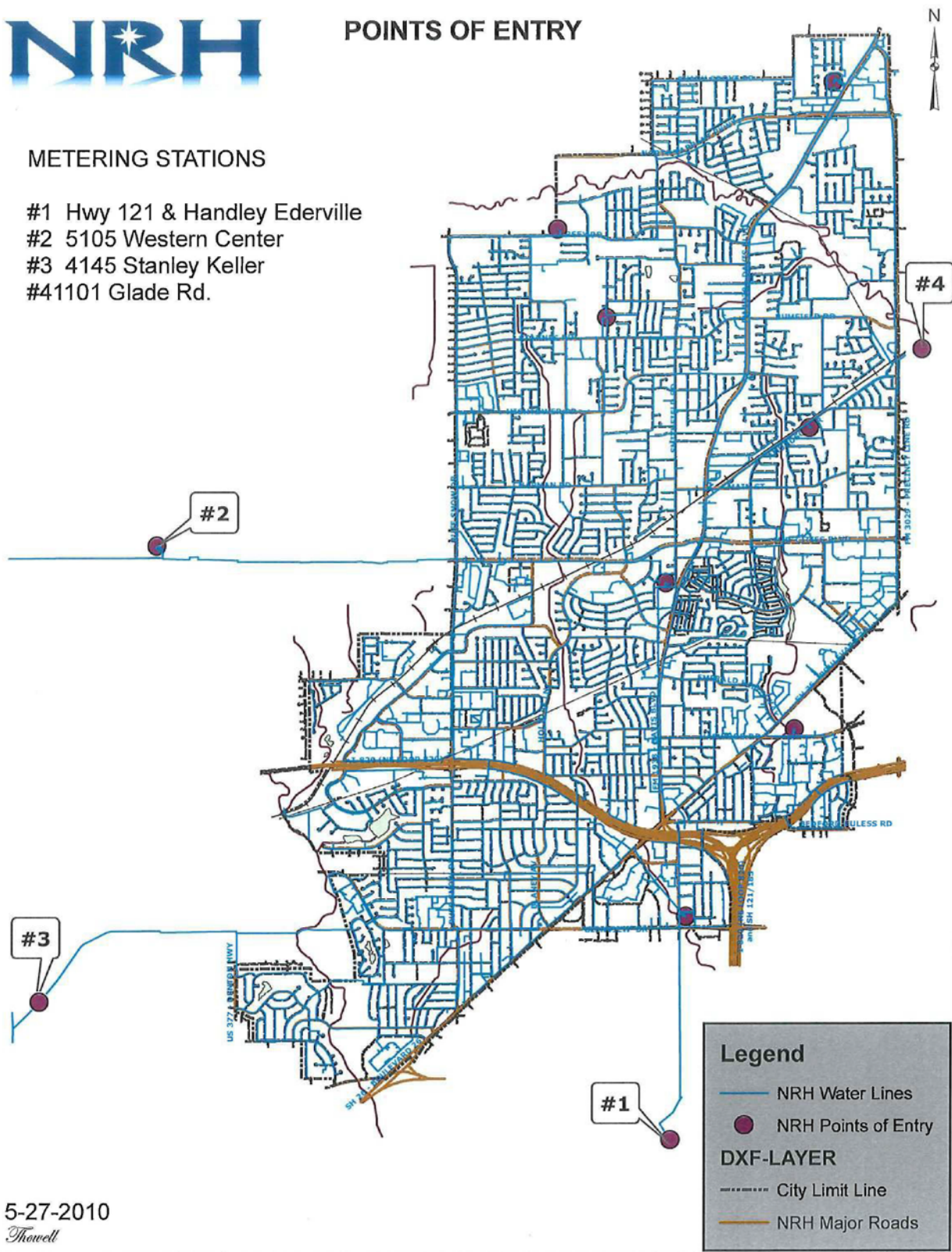
Water Use Category	Historic Average	Percent of Connections	Percent of Water Use
Residential - Single Family	1,960,602,028	68.36 %	64.10 %
Residential - Multi-Family	378,955,141	26.40 %	12.39 %
Industrial	135,581,851	0.05 %	4.43 %
Commercial	438,425,385	4.93 %	14.33 %
Institutional	145,105,953	0.26 %	4.74 %
Agricultural	0	0.00 %	0.00 %



## POINTS OF ENTRY

### METERING STATIONS

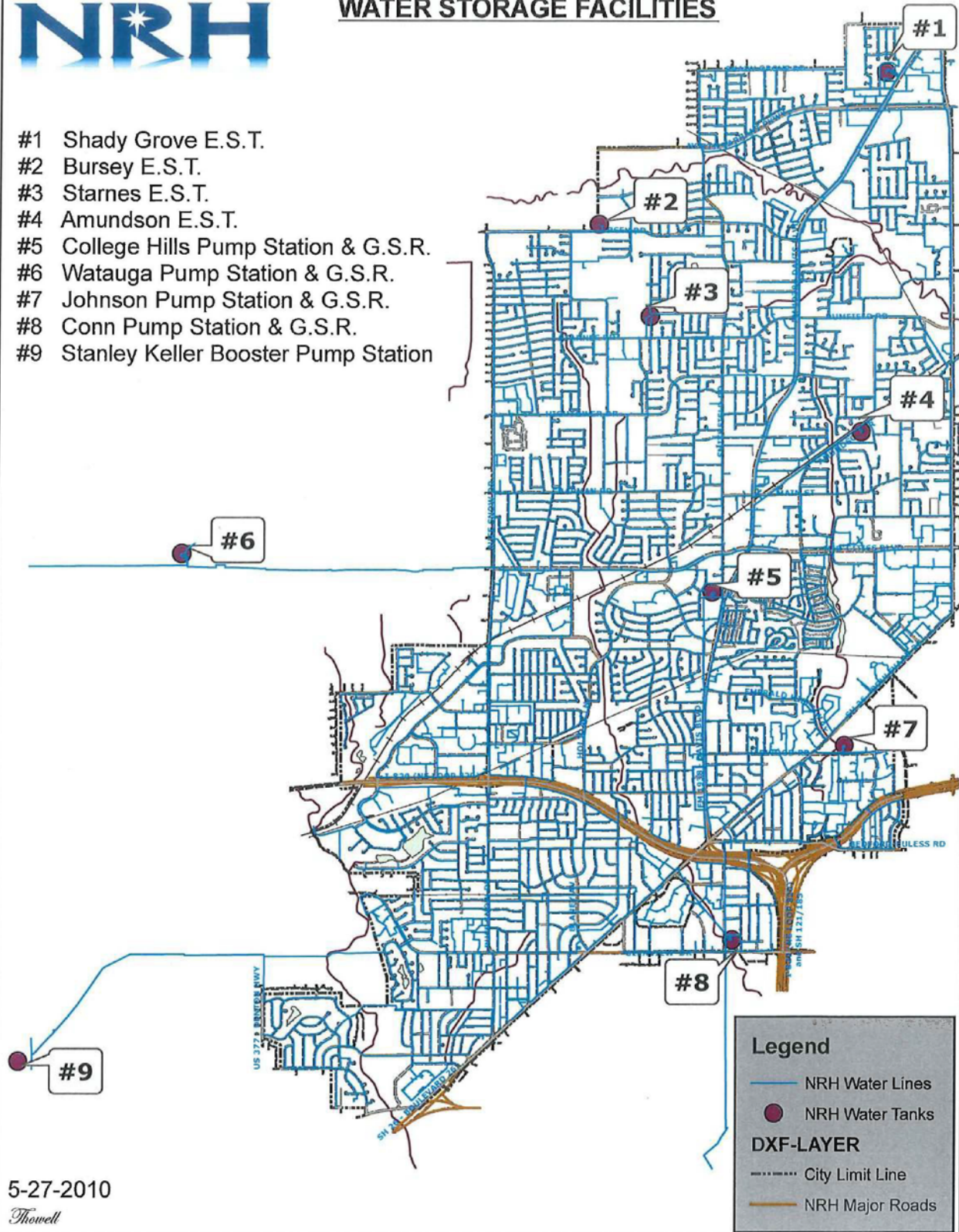
- #1 Hwy 121 & Handley Ederville
- #2 5105 Western Center
- #3 4145 Stanley Keller
- #41101 Glade Rd.





## WATER STORAGE FACILITIES

- #1 Shady Grove E.S.T.
- #2 Bursey E.S.T.
- #3 Starnes E.S.T.
- #4 Amundson E.S.T.
- #5 College Hills Pump Station & G.S.R.
- #6 Watauga Pump Station & G.S.R.
- #7 Johnson Pump Station & G.S.R.
- #8 Conn Pump Station & G.S.R.
- #9 Stanley Keller Booster Pump Station



## **APPENDIX C**

### **CITY OF WATAUGA'S WATER UTILITY PROFILE**

**(A WHOLESALE CUSTOMER OF  
THE CITY OF NORTH RICHLAND HILLS)**

## CONTACT INFORMATION

Name of Utility: City of Watauga

Public Water Supply Identification Number (PWS ID): TX2200328

Certificate of Convenience and Necessity (CCN) Number: 12843

Surface Water ID Number: \_\_\_\_\_

Wastewater ID Number: 20834

Contact: First Name: Brandon Last Name: Dupree

Title: Utility Superintendent

Address: 77800 Virgil Anthony Sr. Blvd. Watauga, TX 76148

Telephone Number: 817-514-5851 Email: Bdupree@cowtx.org

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: 4
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	24,882	0	24,882
2017	24,882	0	24,882
2016	24,345	0	24,345
2015	24,345	0	24,345
2014	24,187	0	24,187

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	25,000	0	25,000
2030	25,396	0	25,396
2040	26,000	0	26,000
2050	26,500	0	26,500
2060	27,000	0	27,000

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

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## 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	0	699,424,723	0	699,424,723	77
2017	0	673,735,306	0	673,735,306	74
2016	0	744,793,776	0	744,793,776	84
2015	0	817,043,571	0	817,043,571	92
2014	0	798,983,770	0	798,983,770	91
Historic Average	0	746,796,229	0	746,796,229	83

## C. Water Supply System

1. Designed daily capacity of system in gallons 2,500,000

2. Storage Capacity

2a. Elevated storage in gallons: 2,000,000

2b. Ground storage in gallons: 2,000,000

#### 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	25,000	755,000,000
2021	25,075	757,000,000
2022	25,150	759,000,000
2023	25,225	761,000,000
2024	25,300	763,000,000
2025	25,375	765,000,000
2026	25,450	767,000,000
2027	25,525	769,000,000
2028	25,600	771,000,000
2029	25,675	775,000,000

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

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#### 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
Daybreak Venture	Commercial	4,251,330	Treated
Denton Hwy Laundromat	Commercial	2,238,620	Treated
Park vista OTM Harmony LP	Commercial	1,636,910	Treated
Kwik Kar Wash	Commercial	1,556,520	Treated
BISD	Institutional	1,106,430	Treated

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

Customer	Water Use Category	Annual Water Use	Treated or Raw
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#### B. Utility Data Comment Section

Additional comments about utility data.

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## 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	7,948	93.04 %
Residential - Multi-Family	212	2.48 %
Industrial	0	0.00 %
Commercial	330	3.86 %
Institutional	53	0.62 %
Agricultural	0	0.00 %
<b>Total</b>	8,543	100.0

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

	Net Number of New Retail Connections						
Year	Residential - Single Family	Residential - Multi-Family	Industrial	Commercial	Institutional	Agricultural	Total
2018	18	0	0	0	0	0	18
2017	19	0	0	4	0	0	23
2016	21	0	0	14	0	0	35
2015	30	0	0	28	0	0	58
2014	4	0	0	0	0	0	4

**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	502,327,923	15,559,169	0	108,246,348	32,657,664	0	658,791,104
2017	469,252,516	16,493,423	0	113,140,819	31,441,165	0	630,327,923
2016	525,695,716	17,313,064	0	117,969,406	36,994,626	0	697,972,812
2015	553,137,558	19,312,457	0	121,882,251	43,387,628	0	737,719,894
2014	564,806,124	19,600,981	0	75,293,970	43,743,978	0	703,445,053

**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	60	2	57
2017	51	2	53
2016	59	2	61
2015	62	2	64
2014	64	2	66
Historic Average	59	2	60

## 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	35,243,900	55,008,400	57,407,700	61,147,300	54,574,745
February	34,796,300	45,246,700	50,555,900	44,666,500	50,886,798
March	29,919,800	46,323,300	52,051,400	52,980,500	47,392,368
April	48,297,867	56,479,900	51,408,800	46,112,900	41,181,761
May	65,969,367	71,815,900	50,341,600	55,474,900	56,401,137
June	97,706,400	60,065,500	65,135,000	67,236,200	60,707,868
July	84,664,400	69,022,000	88,096,700	84,814,200	67,490,394
August	89,315,400	60,800,800	80,252,000	115,995,800	76,283,824
September	41,106,400	49,995,500	64,501,700	95,176,900	77,160,651
October	27,933,666	55,793,900	72,095,800	80,212,000	74,588,256
November	52,800,333	47,291,000	56,775,800	52,994,700	68,927,862
December	63,694,101	42,417,700	41,275,500	43,890,800	54,635,581
<b>Total</b>	671,447,934	660,260,600	729,897,900	800,702,700	730,231,245

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	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	0	0	0	0	0
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
<b>Total</b>	0	0	0	0	0

### 3. Summary of seasonal and annual water use.

	<b>Summer RETAIL (Treated + Raw)</b>	<b>Total RETAIL (Treated + Raw)</b>
<b>2018</b>	271,686,200	671,447,934
<b>2017</b>	189,888,300	660,260,600
<b>2016</b>	233,483,700	729,897,900
<b>2015</b>	268,046,200	800,702,700
<b>2014</b>	204,482,086	730,231,245
<b>Average in Gallons</b>	233,517,297	718,508,076

#### E. Water Loss

Water Loss data for the previous five years.

<b>Year</b>	<b>Total Water Loss in Gallons</b>	<b>Water Loss in GPCD</b>	<b>Water Loss as a Percentage</b>
<b>2018</b>	21,376,365	2	3.06 %
<b>2017</b>	27,973,128	3	4.15 %
<b>2016</b>	31,249,307	4	4.20 %
<b>2015</b>	50,384,948	6	6.17 %
<b>2014</b>	65,194,375	7	8.16 %
<b>Average</b>	39,235,625	4	5.15 %

#### F. Peak Day Use

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

<b>Year</b>	<b>Average Daily Use (gal)</b>	<b>Peak Day Use (gal)</b>	<b>Ratio (peak/avg)</b>
<b>2018</b>	1,839,583	2,953,110	1.6053
<b>2017</b>	1,808,933	2,064,003	1.1410
<b>2016</b>	1,999,720	2,537,866	1.2691
<b>2015</b>	2,193,706	2,913,545	1.3281
<b>2014</b>	2,000,633	2,222,631	1.1110

### G. Summary of Historic Water Use

Water Use Category	Historic Average	Percent of Connections	Percent of Water Use
Residential - Single Family	523,043,967	93.04 %	76.28 %
Residential - Multi-Family	17,655,818	2.48 %	2.58 %
Industrial	0	0.00 %	0.00 %
Commercial	107,306,558	3.86 %	15.65 %
Institutional	37,645,012	0.62 %	5.49 %
Agricultural	0	0.00 %	0.00 %

### H. System Data Comment Section

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## Section III: Wastewater System Data

### A. Wastewater System Data

1. Design capacity of wastewater treatment plant(s) in gallons per day: 0
2. List of active wastewater connections by major water use category.

Water Use Category	Metered	Unmetered	Total Connections	Percent of Total Connections
Municipal			0	0.00 %
Industrial			0	0.00 %
Commercial			0	0.00 %
Institutional			0	0.00 %
Agricultural			0	0.00 %
Total			0	100.00 %

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

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	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	0	0	0	0	0
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
<b>Total</b>	0	0	0	0	0

5. Could treated wastewater be substituted for potable water? ☐ Yes ☒ No

## 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)	0
Agricultural	
Discharge to surface water	0
Evaporation Pond	0
Other	
<b>Total</b>	0

## **Wastewater System Data Comment**

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

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## **APPENDIX D**

### **LETTERS TO WHOLESALE CUSTOMERS**

**CITY OF FORT WORTH**

**CITY OF WATAUGA**

**TRINITY RIVER AUTHORITY**

**THE TEXAS WATER DEVELOPMENT BOARD**

**THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

May 13, 2019

Mr. Micah Reed, Water Conservation Manager  
City of Fort Worth  
200 Texas St.  
Ft. Worth, TX 76102

RE: City of North Richland Hills' Water Conservation Plan

Dear Mr. Reed

Please find enclosed the City of North Richland Hills' Water Conservation Plan. As you are aware, this plan is required by the TCEQ to meet the minimum requirements provided in Texas Administration Code Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.20. In addition, as a wholesale customer of the City of Fort Worth, we have received the City of Fort Worth's plan and believe our plan reflects the goals and criteria as stated in Fort Worth's plan.

Please feel free to contact me at 817-427-6459 if you need any additional information regarding this matter.

Respectfully,

---

Boe Blankenship  
Public Works Operations Manager

Enclosure

BB/sh/pwl2019-008u

P.O.BOX 820609 \* North Richland Hills, Texas \* 76182-0609  
7200 Dick Fisher Dr. S \* (817) 427-6440 \* FAX (817) 427-6444  
[www.nrhtx.com](http://www.nrhtx.com)

May 13, 2019

City of Watauga  
Andrea Gardner, City Manager  
7105 Whitley Road  
Watauga, TX 76148

RE: City of North Richland Hills' Water Conservation Plan

Dear Mrs. Gardner,

Please find enclosed the City of North Richland Hills' Water Conservation Plan. As you are aware, the Texas Commission on Environmental Quality (TCEQ) is requiring all municipalities with a population of 5,000 or greater, to submit these documents. As the City of North Richland Hills' wholesale customer, the City of Watauga is required to implement a plan consistent with that developed by the City of North Richland Hills. A draft copy of the proposed plan was submitted to Mr. Brandon Dupree as reference material on May 13, 2019.

Please feel free to contact me at 817-427-6459 if you need any additional information regarding this matter.

Respectfully,

---

Boe Blankenship  
Public Works Operations Manager

Enclosure

BB/sh/pwl2019-009u

P.O.BOX 820609 \* North Richland Hills, Texas \* 76182-0609  
7200 Dick Fisher Dr. S \* (817) 427-6440 \* FAX (817) 427-6444  
[www.nrhtx.com](http://www.nrhtx.com)

May 13, 2019

Trinity River Authority  
Siona Allen, Northern Region Manager  
P.O. Box 240  
Arlington, TX 76004-0240

RE: City of North Richland Hills' Water Conservation Plan

Dear Ms. Allen:

Please find enclosed the City of North Richland Hills' Water Conservation Plan. As you are aware, this plan is required by TCEQ to meet the minimum requirements provided in Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.20. In addition, as a wholesale customer of the Trinity River Authority, we have reviewed the Trinity River Authority's plan and believe our plan reflects the goals and criteria as stated in the Trinity River Authority's plan.

Please feel free to contact me at 817-427-6459 if you require any additional information regarding this matter.

Respectfully,

---

Boe Blankenship  
Public Works Operations Manager

Enclosure

BB/sh/pwl2019-010u

P.O.BOX 820609 \* North Richland Hills, Texas \* 76182-0609  
7200 Dick Fisher Dr. S \* (817) 427-6440 \* FAX (817) 427-6444  
[www.nrhtx.com](http://www.nrhtx.com)

May 13, 2019

Mr. John T. Sutton  
Municipal Water Conservation  
Texas Water Development Board  
P.O. Box 13231, Congress Ave.  
Austin, TX 78711-3231

RE: City of North Richland Hills' Water Conservation Plan

Dear Mr. Sutton,

Please find enclosed the City of North Richland Hills' Water Conservation Plan. As you are aware, this plan is required by TCEQ to meet the minimum requirements provided in Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.20. In addition, as a wholesale customer of the City of Fort Worth and the Trinity River Authority, we have reviewed their plans and believe our plan reflects the goals and criteria as stated in their plans.

Please feel free to contact me at 817-427-6459 if you require any additional information regarding this matter.

Respectfully,

---

Boe Blankenship  
Public Works Operations Manager

Enclosure

BB/sh/pwI2019-011u

P.O.BOX 820609 \* North Richland Hills, Texas \* 76182-0609  
7200 Dick Fisher Dr. S \* (817) 427-6440 \* FAX (817) 427-6444  
[www.nrhtx.com](http://www.nrhtx.com)

May 13, 2019

Mr. Jason Godeaux, Team Leader  
Water Rights Permitting & Availability Section  
Water Availability Division  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, TX 78711-3087

RE: The City of North Richland Hills' Water Conservation Plan

Dear Mr. Jason,

Please find enclosed the City of North Richland Hills' Water Conservation Plan. As you are aware, this plan is required by TCEQ to meet the minimum requirements provided in Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.20. In addition, as a wholesale customer of the City of Fort Worth and the Trinity River Authority, we have reviewed their plans and believe our plan reflects the goals and criteria as stated in their plans.

Please feel free to contact me at 817-427-6459 if you need any additional information regarding this matter.

Respectfully,

---

Boe Blankenship  
Public Works Operations Manager

Enclosure

BB/sh/pwl2019-012u

P.O.BOX 820609 \* North Richland Hills, Texas \* 76182-0609  
7200 Dick Fisher Dr. S \* (817) 427-6440 \* FAX (817) 427-6444  
[www.nrhtx.com](http://www.nrhtx.com)

## **APPENDIX E**

### **CITY OF NORTH RICHLAND HILLS' ORDINANCE ADOPTING WATER CONSERVATION PLAN**

**ORDINANCE NO. \_\_\_\_\_**

**AN ORDINANCE OF THE CITY OF NORTH RICHLAND HILLS, TEXAS, AMENDING CHAPTER 78, ARTICLE II, SECTIONS 78-62 AND 78-63 OF THE NORTH RICHLAND HILLS CODE OF ORDINANCES; ADOPTING THE 2019 WATER CONSERVATION PLAN AND THE 2019 DROUGHT CONTINGENCY AND EMERGENCY WATER MANAGEMENT PLAN; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE OF ALL ORDINANCES AND REPEAL OF CONFLICTING PROVISIONS; PROVIDING SAVINGS CLAUSE; PROVIDING A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.**

**WHEREAS,** the City of North Richland Hills, Texas (“the City”) is a home rule city acting under its power adopted by the electorate pursuant to Article XI, Section 5 of the Texas Constitution and Chapter 9 of the Local Government Code; and

**WHEREAS,** the City Council finds that conservation of water and protection of water supplies is in the best interest of the citizens of the city; and

**WHEREAS,** water supply relies on rainfall for replenishment, and rainfall can vary significantly from year to year; and

**WHEREAS,** the occurrence of droughts cannot be predicted as to when one will begin or end, and emergency situations can occur at any time as a result of incidents such as pipeline failures, power outages and pump failures; and

**WHEREAS,** the Texas Commission on Environmental Quality has mandated the adoption of new Water Conservation and Drought Contingency and Emergency Water Management Plans;

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF NORTH RICHLAND HILLS, TEXAS:**

**SECTION 1:** The City Council hereby finds the recitals above to be true and correct, and such recitals are hereby incorporated into this Ordinance as if written herein.

**SECTION 2:** That Section 78-62 of the North Richland Hills Code of Ordinances be replaced in its entirety to be and read as follows:

**Sec. 78-62. - Water Conservation Plan adopted.**

“The City of North Richland Hills, Texas hereby adopts the 2019 Water Conservation Plan attached hereto. The city commits to implement the requirements and procedures set forth in the adopted plan.”

**SECTION 3:** That Section 78-63(a) of the North Richland Hills Code of Ordinances be replaced in its entirety to be and read as follows:

**Sec. 78-63. Drought Contingency and Emergency Water Management Plan.**

“(a) *Plan adopted.* The city council hereby approves the 2019 Drought Contingency and Emergency Water Management Plan (the “plan”) attached hereto. The city commits to implement the requirements and procedures set forth in the adopted plan.”

**SECTION 4:** It is hereby declared to be the intention of the City Council that the sections, paragraphs, sentences clauses, and phrases of this Ordinance are severable, and if any section, paragraph, sentence, clause, or phrase of this Ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction. Such unconstitutionality shall not affect any of the remaining sections, paragraphs, sentences, clauses, and phrased of this Ordinance, since the same would have been enacted by the City Council without the incorporation in this Ordinance of any such unconstitutional section. Paragraph, sentence, clause or phrase.

**SECTION 5:** The City Secretary is here by directed to publish this ordinance or its caption and penalty in the official City newspaper as required by law.

**SECTION 6:** Any person intentionally, knowingly, recklessly, or with criminal negligence violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined an amount not to exceed two thousand dollars (\$2,000). Each day any such violation shall be allowed to continue shall constitute a separate violation and be punishable hereunder.

**SECTION 7:** This Ordinance shall be cumulative of all provisions of the Code of Ordinances of the City of North Richland Hills, except where the provisions of this Ordinance are in direct conflict with the provisions of such ordinances and such Code, in which event conflicting provisions of such ordinances and such Code are hereby repealed.

**SECTION 8:** All rights and remedies of the City of North Richland Hills are expressly saved as to any and all violations of the provisions of any ordinances in the Code of Ordinances of the City of North Richland Hills that have accrued at the time of the effective date of this Ordinance; and, as to such accrued violations and all pending litigation, both civil and criminal, whether pending in court or not, under such ordinances, same shall not be affected by this Ordinance but may be prosecuted until final disposition by the courts.

**SECTION 9:** It is hereby declared to be the intention of the City Council that the phrases, clauses, sentences, paragraphs and sections of this ordinance are severable, and if any phrase, clause, sentence, paragraph or section of this ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs and sections of this ordinance, since the same would have been enacted by the City Council without the incorporation in this ordinance of any such unconstitutional phrase, clause, sentence, paragraph or section.

**SECTION 10:** This Ordinance shall be in full force and effect from and after its passage and publication as required by law.

**AND IT IS SO ORDAINED.**

**PASSED AND APPROVED** on this 13<sup>th</sup> day of May, 2019.

**CITY OF NORTH RICHLAND HILLS**

By: \_\_\_\_\_  
Oscar Trevino, Mayor

ATTEST:

---

Alicia Richardson, City Secretary

APPROVED AS TO FORM AND LEGALITY:

---

Maleshia B. McGinnis, City Attorney

APPROVED AS TO CONTENT:

---

Caroline Waggoner, Director of Public Works

## **APPENDIX F**

### **CITY OF NORTH RICHLAND HILLS' LANDSCAPE WATER MANAGEMENT ORDINANCE AND AMENDMENT TO OUTSIDE WATERING ORDINANCE**

**ORDINANCE NO. 2893**

**AN ORDINANCE AMENDING CHAPTER 78 "UTILITIES", ARTICLE II "WATER", DIVISION 2 "WATER CONSERVATION AND RATIONING" OF THE NORTH RICHLAND HILLS CODE OF ORDINANCES BY ADDING SECTIONS 78-65 TO BE ENTITLED "LAWN AND LANDSCAPE IRRIGATION RESTRICTIONS", SECTION 78-66 TO BE ENTITLED "RAIN SENSING DEVICES AND FREEZE SENSORS" AND SECTION 78-67 TO BE ENTITLED "EXCEPTIONS"; AMENDING SECTION 114.71(C) OF THE CODE OF ORDINANCES TO CONFORM TO THE OTHER AMENDMENTS HEREIN; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE OF ALL ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A PENALTY FOR VIOLATIONS HEREOF; PROVIDING FOR PUBLICATION IN THE OFFICIAL NEWSPAPER; AND PROVIDING AN EFFECTIVE DATE.**

**WHEREAS**, the City of North Richland Hills, Texas (the "City") is a home rule city acting under its charter adopted by the electorate pursuant to Article XI, Section 5, of the Texas Constitution and Chapter 9 of the Local Government Code; and

**WHEREAS**, the City Council finds that conservation of water and protection of water supplies is necessary to protect public health and sanitation as well as to provide water for fire protection; and

**WHEREAS**, the City Council having previously adopted a water conservation plan incorporated into the Code of Ordinances; and

**WHEREAS**, securing future water supplies will require proving to state permitted agencies that existing water supplies are being used efficiently.

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF NORTH RICHLAND HILLS, TEXAS:**

**SECTION 1.** That Chapter 78 "Utilities", Article II "Water", Division 2 "Water Conservation and Rationing" of the Code of Ordinances be and is hereby amended by adding Sections 78-65 through 78-67 which shall read as follows:

**Sec. 78-65. Lawn and landscape irrigation restrictions**

- (a) Except for hand watering and the use of soaker hoses, a person commits an offense if a person irrigates, waters, or causes or permits the irrigation of watering of any lawn or landscape located on premises owned, leased, or managed by that person between the hours of 10:00 a.m. and 6:00 p.m. during the period from June 1 through September 30 of any year.
- (b) A person commits an offense if he knowingly or recklessly irrigates, waters, or causes or permits the irrigation or watering of a lawn or landscape located on premises owned, leased or managed by the person in a manner that causes:
  - (1) a substantial amount of water to fall upon impervious areas instead of a lawn or landscape, such that a constant stream of water overflows from the lawn or landscape onto a street or other drainage area; or
  - (2) an irrigation system or other lawn or landscape watering device to operate during any form of precipitation.
- (c) A person commits an offense if, on premises owned, leased, or managed by that person, he operates a lawn or landscape irrigation system or device that:
  - (1) has any broken or missing sprinkler head; or
  - (2) has not been properly maintained in a manner that prevents the waste of water.

**Sec. 78-66. Rain sensing devices and freeze sensors.**

- (a) All irrigation systems installed on or after October 25, 1999 with the exception of those associated with agricultural and/or single family residential uses must be equipped with rain and freeze sensors. (See Section 114-74)
- (b) Any agricultural and/or single family residential irrigation system installed within the City on or after August 1, 2006 must be equipped with rain and freeze sensors.
- (c) The potable water supply to lawn irrigation system shall be protected against backflow in accordance with the City's Backflow and Cross-connection Control Program adopted by Article VII of Chapter 78 of the Code of Ordinances.

- (d) It shall be unlawful for any person to knowingly or recklessly install, operate, or cause, or permit the installation of or the operation of, an irrigation system in violation of subsections 78-66 (a) through (d) on premises owned, leased, or managed by that person.

**Sec. 78-67. Exceptions.**

- (a) The Director of Public Works or his designee may grant exceptions from the provisions of Sections 78-65 or 78-66 to persons demonstrating extreme hardship and/or need as determined by the Director of Public Works or his designee and only under the following conditions:
  - (1) The applicant must sign a compliance agreement on forms provided by the Public Works Department, agreeing to irrigate or water a lawn or landscape only in the amount and manner permitted by the exception.
  - (2) Granting of an exception must not cause an immediate significant reduction in the City's water supply.

Examples of hardships that will be considered shall include such things but not be limited to such items as:

- New landscaping and/or lawns that can not be watered during the specified times
- Installation of new irrigation systems
- Repair and/or adjustments to an existing irrigation system
- Any hardship related to the health, safety and welfare of the person making the request
- Any other request determined to be a hardship as determined by the Public Works Director or his Designee

- (b) The Director of Public Works or his designee may revoke an exception granted when determined that:
  - (1) the conditions of subsection (a) are not being met or are no longer applicable;
  - (2) the terms of the compliance agreement are being violated; or
  - (3) the health, safety or welfare of other persons requires revocation."

SECTION 2. That Section 114-71(c)(1) Landscaping Regulations general criteria of the Code of Ordinances be and is hereby amended to read as follows:

**Sec. 114-71. Landscaping regulations**

(c) General criteria.

“(1) The standards contained in this section are considered minimum standards and shall apply to all zoning districts. Agricultural uses and single-family residences and their accessory buildings shall be exempt from the requirements of this Article except as provided in subsection (c)(2) of this section and Section 78-66 of this Code.”

SECTION 3. This Ordinance shall be cumulative of all provisions of the Code of Ordinances of the City of North Richland Hills, and other applicable City ordinances, except where the provisions of this Ordinance are in direct conflict with the provisions of such ordinances, in which event the applicability of the conflicting provisions of such ordinances are hereby repealed to the extent of such conflict.

SECTION 4. It is hereby declared to be the intention of the City Council that the sections, paragraphs, sentences, clauses, and phrases of this Ordinance are severable, and if any section, paragraph, sentence, clause, or phrase of this Ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining sections, paragraphs, sentences, clauses, and phrases of this Ordinance, since the same would have been enacted by the City Council without the incorporation in this Ordinance of any such unconstitutional section, paragraph, sentence, clause or phrase.

SECTION 5. Any person, firm or corporation who violates, disobeys, omits, neglects or refuses to comply with or who resists the enforcement of any of the provisions of this Ordinance shall be fined not more than Two Thousand Dollars (\$2000.00) for each offense. Each day that a violation is permitted to exist shall constitute a separate offense.

SECTION 6. The City Secretary is hereby directed to publish this ordinance or its caption and penalty in the official City newspaper one time within ten (10) days after final passage hereof.

SECTION 7. This Ordinance shall be in full force and effect from and after its passage and publication as required by law, and it is so ordered.

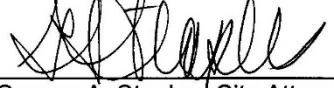
**PASSED AND APPROVED** on this 10<sup>th</sup> day of July, 2006.

CITY OF NORTH RICHLAND HILLS

By:   
Oscar Trevino, Mayor

ATTEST:   
  
Patricia Hutson, City Secretary

APPROVED AS TO FORM AND LEGALITY:

  
George A. Staples, City Attorney

APPROVED AS TO CONTENT:

  
Mike Curtis, Public Works Director

**ORDINANCE NO. 3009**

**AN ORDINANCE AMENDING SECTION 78-65 OF THE NORTH RICHLAND HILLS CODE OF ORDINANCES TO EXTEND OUTSIDE WATERING RESTRICTIONS TO ALL MONTHS OF THE YEAR; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE OF ALL ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A PENALTY FOR VIOLATIONS HEREOF; PROVIDING FOR PUBLICATION IN THE OFFICIAL NEWSPAPER; AND PROVIDING AN EFFECTIVE DATE.**

**WHEREAS,** the City of North Richland Hills, Texas (the "City") is a home rule city acting under its charter adopted by the electorate pursuant to Article XI, Section 5, of the Texas Constitution and Chapter 9 of the Local Government Code; and

**WHEREAS,** the City Council finds that conservation of water and protection of water supplies is necessary to protect public health and sanitation as well as to provide water for fire protection; and

**WHEREAS,** the City Council having previously adopted a water conservation plan incorporated into the Code of Ordinances; and

**WHEREAS,** securing future water supplies will require proving to state permitted agencies that existing water supplies are being used efficiently; and,

**WHEREAS,** THE City has been requested by its supplier of potable water to extend the restrictions on hours for outside watering to all months of the year in order to conserve water;

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF NORTH RICHLAND HILLS, TEXAS:**

Section 1. That Section 78-65(a) of the North Richland Hills Code of Ordinances be amended to read as follows:

**"Sec. 78-65. Lawn and landscape irrigation restrictions**

- (a) Except for hand watering and the use of soaker hoses, a person commits an offense if a person irrigates, waters, or causes or permits the irrigation of watering of any lawn or landscape located on premises owned, leased, or managed by that person between the hours of 10:00 a.m. and 6:00 p.m.

..."

- Section 2. It is hereby declared to be the intention of the City Council that the sections, paragraphs, sentences, clauses, and phrases of this Ordinance are severable, and if any section, paragraph, sentence, clause, or phrase of this Ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining sections, paragraphs, sentences, clauses, and phrases of this Ordinance, since the same would have been enacted by the City Council without the incorporation in this Ordinance of any such unconstitutional section, paragraph, sentence, clause or phrase.
- Section 3. Any person, firm or corporation who violates, disobeys, omits, neglects or refuses to comply with or who resists the enforcement of any of the provisions of this Ordinance shall be fined not more than Two Thousand Dollars (\$2000.00) for each offense. Each day that a violation is permitted to exist shall constitute a separate offense.
- Section 4. The City Secretary is hereby directed to publish this ordinance or its caption and penalty in the official City newspaper one time within ten (10) days after final passage hereof.
- Section 5. This Ordinance shall be in full force and effect beginning October 1, 2008 and after its passage and publication as required by law and it is so ordered.

**PASSED AND APPROVED** on this 26th day of August, 2008.



*Patricia Hutson*  
Patricia Hutson, City Secretary

**CITY OF NORTH RICHLAND HILLS**

By: *Oscar Trevino*  
Oscar Trevino, Mayor

**APPROVED AS TO FORM AND LEGALITY:**

*George A. Staples*  
George A. Staples, City Attorney

**APPROVED AS TO CONTENT:**

*Mike Curtis*  
Mike Curtis, P.E., Public Works Director