

MODEL WATER CONSERVATION PLAN

Prepared by Upper Trinity Regional Water District
for its Members and Customers

February 2013

TABLE OF CONTENTS

Section 1.	Introduction & Objectives	1
1.1	Texas Commission on Environmental Quality Rules	1
Section 2.	Water Utility Profile	4
Section 3.	Record Management System	4
Section 4.	Water Conservation Planning Goals	5
Section 5.	Basic Water Conservation Strategies	6
5.1	Accurate Supply Source Metering.....	6
5.2	Universal Metering, Meter Testing & Repair & Periodic Replacement.....	6
5.3	Determination and Control of Water Loss	6
5.4	Continuing Public Education and Information Campaign	7
5.5	Non-Promotional Water Rate Structure	8
5.6	Landscape Water Management Program / Ordinances	9
5.7	Reservoir Systems Operations Plan	10
Section 6.	Additional Requirements for Larger Public Water Suppliers	10
6.1	Leak Detection, Repair & Water Loss Program	10
6.2	Water Conservation Plans by Wholesale Customers.....	10
Section 7.	Enhanced Water Conservation Strategies	11
7.1	Ordinances, Plumbing Codes or Rules on Water-Conserving Fixtures	11
7.2	Reuse and Recycling of Wastewater & / or Gray Water	11
7.3	Pressure Control Program	11
7.4	Means for Measuring Success.....	12
7.5	Water Conserving Landscaping	12
7.6	Watershed Protection.....	12
7.7	Irrigation System Evaluations / Technical Assistance	12
7.8	Industrial, Commercial and Institutional (ICI) Audits	12
7.9	In-House Water Conservation Efforts	13
7.10	Water Conservation Coordinator.....	13
Section 8.	Implementation & Enforcement	13
Section 9.	Coordination with Regional Water Planning Group & UTRWD	13
Section 10.	Review & Update of Water Conservation Plan & Annual Reports	14

APPENDICES

Appendix A	Texas Commission on Environmental Quality Requirements for a Water Conservation Plan
Appendix B	<u>[Name of Entity]</u> Water Utility Profile
Appendix C	Ordinance or Resolution from Governing Body Adopting the Water Conservation Plan
Appendix D	Letter to Chairman of Region C Water Planning Group

LIST OF TABLES

Table 4.1	Municipal Per Capita Target Water Saving Goals
-----------	--

Water Conservation Plan for [Name of Entity] [Date]

SECTION 1

Introduction and Objectives

Water supply has always been a key issue in the development of Texas. In recent years, the growing population and economic development of North Central Texas has led to increasing demands for water. Additional supplies to meet higher demands will be expensive and difficult to develop. Therefore, it is important that we make efficient use of existing supplies - - to minimize the need for new resources.

Effective water conservation can postpone or reduce the need for development of new water supplies, minimize the associated environmental impacts and reduce the high cost of water supply development. Even with robust conservation measures, new sources of water will be needed; conservation alone is not enough. To respond to the growing population of this region, the planning for new water resources must continue. [Name of Entity] considers water conservation (including reuse of reclaimed wastewater) an integral part of this planning process and water supply development process.

Recognizing the need for efficient use of existing water supplies, the Texas Commission on Environmental Quality ("TCEQ") has promulgated guidelines and requirements governing the development of water conservation plans for Public Water Suppliers. [Name of Entity] developed its original plans for water conservation and drought contingency in [Date], later amended in [Date(s)]. This update of the Water Conservation Plan (the "Plan") has been coordinated with the suggested model water conservation plan prepared by Upper Trinity Regional Water District ("UTRWD") for its Members and Customers, such as [Name of Entity]; and is consistent with the latest TCEQ requirements outlined below.

Water is a basic tenant in all aspects of sustainability. Water conservation is one critical element of a water supplier's effort to meet future water supply needs, in an economical manner and without sacrificing quality of life standards. The following are the central objectives of this Plan:

- Reduce water consumption from levels that would prevail without conservation efforts;
- Reduce the loss and waste of water, as evidenced by per capita use;
- Provide support and incentives to retail customers to maintain and continue sound conservation practices;
- Continue to improve efficiency in the use of water and
- Extend the adequacy of current water supplies by reducing the pace of growth in the annual demand for water.

1.1 Texas Commission on Environmental Quality Rules

TCEQ rules governing the development of water conservation plans for municipal uses by Public Water Suppliers, such as [Name of Entity], are contained in Title 30, Part 1, Chapter 288, Subchapter A and Rule 288.2 of the Texas Administrative Code ("TAC"). A copy of these rules is included in Appendix A. The rules define a water conservation plan 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.”

New rules amending 30 TAC Chapter 288 were approved by TCEQ commissioners on November 14, 2012 and made effective on December 6, 2012. The following is a summary of the key changes affecting retail public water suppliers:

- A utility profile must be prepared in accordance with the Texas Water Use Methodology; water use data must include total gallons per capita per day (GPCD) **and** residential GPCD;
- All Public Water Suppliers must classify water sales and uses into the most detailed level of water use data currently available to the record management system (e.g., (i) residential (single family and multi-family), (ii) commercial, (iii) institutional, (iv) industrial, (v) agricultural and (vi) wholesale);
- Five-year and ten-year targets for water savings must include goals for municipal use in total GPCD **and** residential GPCD and
- The term “unaccounted-for uses of water” is replaced with “water loss.”

A. Minimum Water Conservation Plan Requirements

The minimum requirements for water conservation plans for municipal uses by Public Water Suppliers required by TCEQ and recommended by UTRWD are summarized below.

- *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 GPCD and residential GPCD), water supply system data and wastewater system data. (Section 2)
- *Record Management System:* 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 following sectors: (i) residential (single family and multi-family), (ii) commercial, (iii) institutional, (iv) industrial, (v) agricultural and (vi) wholesale). (Section 3)
- *Goals:* 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 are not enforceable under this subparagraph. (Section 4)
- *Accurate Metering Devices:* Metering devices have an accuracy of plus or minus five percent (5%) for measuring water diverted from the source of supply. (Section 5.1)
- *Universal Metering, Testing, Repair and Replacement:* A program for universal metering of both customer and public uses of water, for meter testing and repair and for periodic meter replacement. (Section 5.2)

- *Determination and Control of Water Loss:* Specific measures to determine and control water loss. The measures may include periodic visual inspections along distribution pipelines, periodic audits of the water system for illegal connections or abandoned services. (Section 5.3)
- *Continuing Public Education Program:* A continuing public education and information program regarding water conservation is required as part of the Plan. (Section 5.4)
- *Non-Promotional Water Rate Structure:* A water rate structure that is not “promotional,” that is, rates that discourage waste and excessive use of water such as increasing block rate instead of volume discounts. (Section 5.5)
- *Landscape Water Management Program / Ordinances:* Implementing and achieving the efficient use and stewardship of water in landscape irrigation, including watering a maximum of two times per week and time-of-day watering provisions. (Section 5.6)
- *Reservoir Systems Operational Plan:* If applicable, providing for the coordinated operation of reservoirs owned by the water supply entity within a common watershed or river basin in order to optimize available water supplies. (Section 5.7)
- *Means of Implementation and Enforcement:* The regulations require a strategy for implementing and enforcing the provisions of this Plan, as evidenced by an ordinance, resolution or tariff, and a description of the authority by which the Plan is enforced. (Section 8)
- *Coordination with Regional Water Planning Group:* Document that the Plan has been coordinated with the Regional Water Planning Group to ensure consistency with the appropriate approved regional water plan. (Section 9)

B. Additional Requirements for Larger Public Water Suppliers

Water conservation plans for municipal uses by Public Drinking Water Suppliers serving a population of 5,000 or more and / or a projected population of 5,000 or more within the 10 years subsequent to the effective date of this Plan must include the elements summarized below.

- *Program of Leak Detection, Repair and Water Loss Accounting:* A program of leak detection, repair and water loss accounting for the water transmission, delivery and distribution system in order to control for water loss. (Section 6.1)
- *Wholesale Customer Requirements:* If applicable, a requirement in every wholesale 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 in Title 30 TAC Chapter 288. (Section 6.2)

C. Enhanced Water Conservation Strategies

TCEQ rules identify the following strategies as optional, if they are necessary to achieve the stated water conservation goals of the Plan.

- Conservation-oriented water rates and water rate structures (Section 5.5);

- 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 (Section 7.1);
- A program for the replacement or retrofit of water-conserving plumbing fixtures in existing structures;
- Reuse and / or recycling of wastewater and / or gray water, where feasible and appropriate (Section 7.2);
- A program for pressure control and / or reduction in the distribution system and / or for customer connections (Section 7.3);
- A method for monitoring the effectiveness and efficiency of the Plan (Section 7.4 and Section 10) and
- Any other water conservation practice, method or technique which the Public Water Supplier shows to be appropriate for achieving the stated goal or goals of the water conservation plan (Section 7.5 – 7.10).

This Plan sets forth a program of long-term measures under which the [Name of Entity] can improve the overall efficiency of water use and conserve its water resources. Short-term measures that respond to specific water management conditions (i.e., periods of drought, unusually high water demands, unforeseen equipment or system failure or contamination of a water supply source) are provided in the [Name of Entity]'s Drought Contingency Plan.

SECTION 2

Water Utility Profile

[Name of Entity]'s utility profile was submitted electronically to the Texas Water Development Board ("TWDB") on [Date]. A copy of this utility profile is provided in Appendix B. The utility profile is in accordance with the Texas Water Use Methodology developed by TWDB and TCEQ, and includes information regarding population and customer data, water use data, water supply system data (including total GPCD and residential GPCD) and wastewater system data. A copy of the utility profile for [Name of Entity] will also be provided to UTRWD.

(Additional information may be included in this section if desired)

SECTION 3

Record Management System

[Entity Name]'s current record management system is able to classify water use data into the following sectors: [list sectors – i.e., residential (single family and multi-family), commercial, institutional, industrial, agricultural and wholesale]. When [Name of Entity] upgrades its software, which is expected to occur [approximate date], [Name of Entity] will purchase software capable of reporting detailed water use data to include all sectors (residential, commercial, institutional, industrial, agricultural and wholesale).

Guidance. *Public Water Suppliers must classify water sales and uses into the most detailed level of water use data currently available to the record management system (e.g., (i) residential (single family and multi-family), (ii) commercial, (iii) institutional, (iv) industrial, (v) agricultural and (vi) wholesale). If Public Water Suppliers' current record management system is not able to capture water sales and uses at this detailed level, Public Water Suppliers do not need to purchase new software immediately, but will need to purchase the appropriate software when upgrading.*

SECTION 4

Water Conservation Planning Goals

TCEQ rules require the adoption of specific water conservation goals as part of the Plan. [Name of Entity] has developed 5-year and 10-year target water saving goals (see Table 4.1 below) for municipal use in total GPCD and residential GPCD. Specific water conservation strategies are discussed in the subsequent sections of this Plan. The goals of this Plan include the following:

- Maintain accurate supply source metering to measure and account for the amount of water diverted from the source of supply;
- Maintain a program of universal metering, meter replacement and repair and periodic meter replacement;
- Maintain the level of water loss in [Name of Entity]'s water system below 5% annually;
- Raise public awareness of water conservation and encourage responsible public behavior through a coordinated public education and information program;
- Continue to implement a water rate structure to encourage water conservation;
- *(if applicable)* Maintain a reservoir systems operations plan, providing for the coordinated operation of reservoirs;
- Implement and enforce the Plan by officially adopting the Plan through an ordinance / resolution / tariff, describing the authority by which [Name of Entity] will implement and enforce the Plan and documenting coordination with the Region C Water Planning Group;
- *(applicable to larger Public Water Suppliers)* Maintain a program of leak detection and repair;
- *(if applicable)* Ensure that each wholesale customer develops and implements a water conservation plan with similar and consistent strategies as provided in this Plan;
- Decrease waste in lawn irrigation by implementing and enforcing landscape water management regulations and
- *(Include other goals as appropriate)*

Table 4.1

Municipal Per Capita Target Water Saving Goals

Description	5-Year Goal (GPCD)		10-Year Goal (GPCD)	
	*Total	Residential	*Total	Residential
Average Per Capita Municipal Use				
Less Projected Reduction Due to Elements in this Plan				
Water Conservation Goals				

*Includes (i) residential (single family and multi-family), (ii) commercial, (iii) institutional, (iv) industrial, (v) agricultural and (vi) wholesale

SECTION 5

Basic Water Conservation Strategies

This section outlines the [Name of Entity]'s basic water conservation program strategies that are planned to be implemented to achieve or exceed the stated water conservation goals above.

5.1 Accurate Supply Source Metering

[Name of Entity] uses the following source(s) of water: groundwater pumped plus treated surface water supplied by UTRWD. [Name of Entity] meters all water delivered into the distribution system from each water well site using meters having an accuracy of plus or minus five percent (5%). [Name of Entity] currently calibrates its meters at each water well site on a regular basis and regularly checks the calibration of each meter at one (1) to two (2) year intervals.

5.2 Universal Metering, Meter Testing and Repair and Periodic Meter Replacement

Water usage for all customers of the [Name of Entity], including public and governmental users, is metered. *(Mention any exceptions. If exceptions, describe a plan to meter, as appropriate.)* [Name of Entity] will continue to implement its meter testing and calibration program of its service connections to identify any water loss and to determine if the meter readings are outside the acceptable range according to AWWA standards *(Describe program, e.g., testing schedule, etc.)*.

Meters registering any unusual or questionable readings are tested for accuracy. Inaccurate meters are repaired or replaced as needed. [Name of Entity] replaces meters at 10 to 15-year intervals depending on meter size. Repair or replacement of larger general service meters is generally provided at 5-year intervals.

(Further describe program as necessary.)

5.3 Determination and Control of Water Loss

Water loss is the difference between the amount of water produced or received and the amount delivered to retail, public and governmental users - - plus authorized but unmetered uses. Water loss can include several categories:

- Inaccuracies in retail meters;

- Accounts which are being used but have not yet been added to the billing system;
- Losses due to water main breaks and leaks in the water distribution system;
- Losses due to illegal connections and theft and
- Unmetered uses such as firefighting, flushing water mains and water for public buildings and water treatment plants.

Measures to control water loss are part of the routine operations of [Name of Entity]. Field crews and other personnel are expected to look for and report evidence of leaks in the water distribution system. Personnel are trained to watch for and report signs of illegal connections so they can be quickly addressed.

Water loss is calculated in accordance with the water utility profile in Appendix B. With the measures described in this Plan, the goal for [Name of Entity] is to maintain its water loss below five percent (5%) annually. If water loss exceeds this goal, [Name of Entity] will complete an audit of its water distribution system to determine the source(s) of and reduce the water loss. The annual conservation report described in Section 10 is the primary tool that should be used to monitor water loss.

(Further describe measures for determining and controlling water loss as necessary.)

5.4 Continuing Public Education and Information Program

The ultimate success of any water conservation program is dependent on an informed public. Individual retail customers must have an awareness of the benefits and needs for water conservation. They must also have knowledge of how to contribute to the success of the Plan. [Name of Entity]'s public education and information program, *(if applicable)* including dedicated staff for this program, is designed to provide information to as many retail customers as possible. [Name of Entity] works in collaboration with UTRWD to provide this information. [Name of Entity] will promote its water conservation strategies outlined in this Plan as well as the measures and activities discussed below.

- **Informative School Program.** Provide water conservation information to area schools. This may consist of providing textbook covers containing water conservation messages, integrating curriculum into school classrooms (e.g., *Waters to the Sea: Trinity River*) and educating students through poster contests, classroom presentations, demonstrations, etc.
- **Literature Program.** Insert water conservation information with water bills at least twice per year as well as make information available to the public at utility offices or other public places. Information may include material developed by [Name of Entity]'s staff using material obtained from UTRWD, TWDB, TCEQ and other sources that pertain to water conservation in general and specific to landscape irrigation conservation.
- **Special Events and Promotions.** Make available promotional / educational items at special events focusing on water conservation in the landscape, home and business.

Items may include Texas SmartScape® bookmarks, water bottles, toilet-leak test kits, water conservation coloring books, etc.

- Website. Make information on water conservation available on [Name of Entity]'s website and include links to sites with good information about water conservation, such as to Texas SmartScape, TWDB and TCEQ.
- Speaking Engagements. Notify local organizations, schools and civic groups that [Name of Entity]'s staff, and staff of UTRWD, are available to make presentations on the importance of water conservation and the best ways to save water.

As a demonstration project, UTRWD maintains a water conservation garden to showcase the beauty and practicality of a water-conserving landscape. The conservation garden includes over 100 varieties of plants that are either native to North Texas or well adapted to the area, and is available for use by [Name of Entity], garden clubs, developers or other civic groups who desire to advance their knowledge and use of water conservation practices in home and business landscapes.

Other best management practices that may be included as part of the public education and information program:

- Public service announcements;
- Water efficient landscape judging / competition and
- Awards / certificates to recognize water efficient commercial users – recognize water saving landscape designs

(Further describe public education and information program as necessary.)

5.5 Non-Promotional Water Rate Structure

[Name of Entity] has adopted an increasing block water rate structure that is intended to encourage water conservation and discourage waste and excessive use of water.

(Further describe public water rate structure as necessary.)

Guidance. *An example water rate structure is below:*

Residential Rates

1. *Monthly minimum charge. This can (but does not have to) include up to 2,000 gallons water use with no additional charge.*
2. *Base charge per 1,000 gallons up to the approximate average residential use.*
3. *2nd tier (from average to 2 times the approximate average) at 1.25 to 2.0 times the base charge.*
4. *3rd tier (above 2 times the approximate average) at 1.25 to 2.0 times the 2nd tier.*

**The residential rate can also include a lower tier (a life-line rate) for basic household use up to 4,000 gallons per month or a determined basic use.*

Commercial / Industrial Rates

Commercial / industrial rates should include at least two (2) tiers, with rates for the 2nd tier at 1.25 to 2.0 times the first tier. Higher water rates for commercial irrigation use are encouraged, but not required.

5.6 Landscape Water Management Program / Ordinances

[Name of Entity] seeks to promote the efficient use and stewardship of water and to help UTRWD provide a consistent message throughout its service area. [Name of Entity] has implemented the following landscape water management strategies:

- Time of Week. Limit outdoor watering (automatic systems or hose-end sprinklers) to no more than two (2) times per week. Watering with hand-held hoses, soaker hoses or drip irrigation is allowed at any time.
- Time of Day Watering. No outdoor watering with automatic irrigation systems or hose-end sprinklers from 10:00 a.m. to 6:00 p.m. each day beginning June 1 and ending September 30 of each year. Watering with hand-held hoses, soaker hoses or drip irrigation systems is allowed at any time.

These strategies are intended to be actively promoted by [Name of Entity] through public information programs for voluntary compliance by its customers. These strategies become mandatory and enforceable under the Drought and Emergency Response Stages 1 through 4.

Guidance. *For many utilities, water use rises 50% or more during summer months, taking a toll on water treatment and delivery infrastructure and available water resources. Managing peak season water demand is an important component of water sustainability. As part of the development of this Plan, UTRWD strongly recommends the implementation of landscape water management strategies consistent with UTRWD. The strategies are intended to reduce waste in landscape irrigation and peak water demands.*

Strategies that may be adopted to reduce waste in landscape irrigation include:

- *Require all new irrigation systems include rain and freeze sensors;*
- *Require all new irrigation systems be in compliance with state design and installation standards (TAC Title 30, Part 1, Chapter 344);*
- *Prohibit the design and installation of irrigation systems that spray directly onto impervious surfaces such as sidewalks and roads or onto other non-irrigated areas;*
- *Require well maintained automatic irrigation systems to avoid waste of water;*
- *Prohibit outdoor watering during any form of precipitation and during freezing temperatures and*

- *Enforce strategies by a system of warnings followed by fines for continued or repeat violations.*

5.7 Reservoir Systems Operations Plan

Not applicable to [Name of Entity] because [Name of Entity] does not own any reservoirs.

Guidance. *A reservoir systems operations plan is required only for those Public Water Suppliers that own reservoirs within a common watershed or river basin. The purpose of this requirement is to provide for the coordinated operation of these reservoirs to optimize available water supplies.*

SECTION 6

Additional Requirements for Larger Public Drinking Water Suppliers

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 ten (10) years subsequent to the effective date of this Plan must include the elements below.

6.1 Leak Detection, Repair and Water Loss Program

Most water leaks, illegal connections, abandoned water services or other means of water loss are discovered through the visual observation of field crews and other personnel, or are reported by the public. [Name of Entity] trains its personnel (e.g., meter readers, maintenance crews, etc.) to look for and report evidence of water leaks in the water distribution system to the appropriate department. Personnel are asked to watch for and report signs of illegal connections and abandoned services. All leaks are repaired as soon as possible, and all illegal connections and abandoned services are investigated as soon as possible in order to maintain a sound water system. Areas of the water distribution system in which numerous leaks and line breaks occur are programmed for replacement, as funds are available.

Specialized, state-of-the-art leak detection equipment is available to utilities in Texas to borrow free of charge from the Conservation Division of the TWDB to reduce water loss by detecting water leaks within the water distribution system.

(Further describe leak detection, repair and water loss program as necessary)

6.2 Water Conservation Plans by Wholesale Customers

[Name of Entity] will receive authorization from the UTRWD Board of Directors prior to providing wholesale water services to any successive wholesale customers. [Name of Entity] will include language in its wholesale water supply contract with these entities requiring said entity to develop and implement a water conservation plan or water conservation measures using the applicable elements in 30 TAC Chapter 288, and having similar conservation strategies as provided in this Plan.

Guidance. *Every contract for the wholesale of water that is entered into, renewed or extended after the effective date of this Plan will include a requirement that the wholesale customer develop and implement a water conservation plan meeting the requirements of 30 TAC Chapter 288 and including similar and consistent strategies as provided in the Plan. However, prior to*

entering into a contract to provide wholesale service, entities are required to gain authorization from the UTRWD Board of Directors.

SECTION 7

Enhanced Water Conservation Strategies

[Entity Name] has selected the following additional water conservation strategies, described below, to achieve the water conservation goals of the plan.

7.1 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 1.28 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. [Name of Entity] has or will incorporate these plumbing code standards into its building regulations.

Over the next five (5) years, [Name of Entity] plans to evaluate the feasibility and merits of an optional rebate program to encourage replacement of older fixtures with water conserving fixtures. A rebate program may include one or more of the following concepts:

- Low-flow toilet replacement and rebate;
- Pressure reduction in the system or for individual customers;
- Rain / freeze sensors for irrigation systems,
- Low-flow showerhead and sink aerators replacement;
- Water efficient clothes washer rebates or
- Other water conservation incentive programs.

7.2 Reuse and Recycling of Wastewater and / or Gray Water

[Name of Entity] cooperates with UTRWD in the promotion of and achieving reuse of treated effluent on a regular basis.

(Describe internal water reuse / recycling efforts, as appropriate.)

7.3 Pressure Control Program

[Name of Entity] has determined a reasonable system pressure for each pressure zone in its retail distribution system, and has installed internal pressure control stations and customer service pressure regulators where needed.

(Further describe pressure control program, as appropriate.)

7.4 Means for Measuring Success

[Name of Entity] will make every effort to measure and quantify water savings achieved through its programs. The water saving results will be used to monitor the effectiveness and efficiency of [Name of Entity]'s water conservation program. The results will also be regularly reported to UTRWD.

7.5 Water Conserving Landscaping

As part of its public education program, [Name of Entity] encourages its retail customers to incorporate Texas SmartScape® principles into their respective landscapes. Texas Smartscape was developed through the North Central Texas Council of Governments in cooperation with cities, utilities and other agencies to educate citizens on the ecological, economic and aesthetic benefit of using landscape plants, shrubs, grasses and trees that are native or adapted to the regional climate and local conditions. Using Texas SmartScape principles can be both practical and beautiful, using earth-friendly techniques that conserve water resources and protect water quality.

7.6 Watershed Protection

Protecting our watershed is a priority need for every citizen and every community. As a double benefit, strategies that promote water conservation also tend to protect the quality of water resources. Using earth-friendly techniques, such as native and adaptive plant materials and organic techniques for landscaped areas, requires less water and less use of fertilizers, pesticides and other chemicals. Overuse or improper use of fertilizer, pesticides and other chemicals from landscape activities is also a major source of pollutants that find their way into water resources.

[Name of Entity] is participating in UTRWD's coordinated program for watershed protection aimed at educating the public about protecting local watersheds and water quality. To help communicate the important role that watersheds have in the water supply for this region, UTRWD created a watershed logo and sign for Customers', such as [Name of Entity], use. [Name of Entity] has installed [number] watershed signs along roadways / waterways as a constant reminder that we need to keep our watersheds clean.

7.7 Irrigation System Evaluations / Technical Assistance

To improve water conservation and efficiency in landscape watering practices, [Name of Entity], in cooperation with UTRWD, provides technical assistance to retail customers (residential, industrial, commercial and institutional). [Name of Entity] performs irrigation system evaluations to identify potential system leaks, diagnose equipment malfunctions and recommend equipment upgrades to enhance water efficiency. During the evaluation, education about good landscape watering practices and the use of earth-friendly materials is also shared with the retail customer.

7.8 Industrial, Commercial and Institutional (ICI) Audits

[Name of Entity], in coordination with UTRWD, offers an outreach program to assist large water users find ways to operate more efficiently, save water and energy and lower their costs. Water savings are realized as the ICI customers implement audit recommendations. In addition to these

audits, ICI customers who have implemented said recommendations and have taken proactive steps in using water more wisely and efficiently are publicly recognized.

7.9 In-House Water Conservation Efforts

[Name of Entity] has implemented an in-house water conservation program, including the following elements (*adapt as needed*):

- [Name of Entity] uses native or adapted drought tolerant plants, trees and shrubs in the majority of its landscapes;
- Irrigation at [Name of Entity]'s facilities occurs during off-peak times at night and early morning to avoid evaporation losses;
- Irrigation is limited to the amount needed to promote survival and health of plants and lawns, including limitation on frequency and time-of-day watering (see Section 5.6);
- Irrigation will be avoided on Saturday and Sunday if possible, since these are periods of high water use by the public and
- Irrigation will be accomplished with treated wastewater effluent wherever feasible and practicable.

7.10 Water Conservation Coordinator

[Name of Entity] has designated a Water Conservation Coordinator. The Conservation Coordinator is responsible for the preparation, implementation and enforcement of [Name of Entity]'s water conservation and drought contingency plans, as well as the preparation and submittal of annual conservation status reports and implementation of [Name of Entity]'s conservation program.

SECTION 8

Implementation and Enforcement

A copy of [Name of Entity]'s ordinance / resolution / tariff indicating official adoption of the water conservation plan is provided in Appendix C. The Water Conservation Coordinator is authorized to implement and enforce the Plan as described in Section 7.10. Such responsibilities may involve:

- Overseeing the execution and administration of all Plan elements;
- Supervising the keeping of records for the program verification and to assess the program effectiveness and
- Making recommendations for changes in the Plan as needed.

SECTION 9

Coordination with Regional Water Planning Group and UTRWD

[Name of Entity] has coordinated with the Region C Water Planning Group and UTRWD to ensure consistency with the approved regional water plan and UTRWD's water conservation plan. [Name of Entity] sent a copy of the draft ordinance(s) or resolution(s) implementing the

Plan and the water utility profile to UTRWD for review and approval. After adoption, [Name of Entity] sent the final ordinance(s) or resolution(s), the Plan and the adopted water profile to UTRWD. Appendix D includes a copy of the letter sent to the Chair of the Region C Water Planning along with [Name of Entity]'s Plan.

SECTION 10

Review and Update of Water Conservation Plan and Annual Reports

As required by TCEQ rules, the [Name of Entity] will review and update this Plan every five (5) years. The Plan will be updated as appropriate based on an assessment of previous five-year and ten-year targets and any other new or updated information. The next revision of the Plan is due by May 1, 2014. Any revised Plan must be submitted to the TWDB within 90 days of adoption of the community water system.

[Name of Entity] is also required to submit an annual report on the [Name of Entity]'s progress in implementing its water conservation plan. Annual reports for all retail public water suppliers receiving water from UTRWD are due to UTRWD by March 31 of each year. Retail public water suppliers providing water service to 3,300 or more connections must also submit an annual report to TWDB by May 1 of each year. Said report will be used to monitor the effectiveness and efficiency of [Name of Entity]'s water conservation program. The results of the annual report may also be used to plan conservation-related activities for the following year.

APPENDIX A

TCEQ Requirements for a Water Conservation Plan
(Title 30, Part 1, Chapter 288, Subchapter A and Rule 288.2 of TAC)

[<<Prev Rule](#)

Texas Administrative Code

[Next Rule>>](#)**TITLE 30****ENVIRONMENTAL QUALITY****PART 1****TEXAS COMMISSION ON ENVIRONMENTAL QUALITY****CHAPTER 288****WATER CONSERVATION PLANS, DROUGHT
CONTINGENCY PLANS, GUIDELINES AND
REQUIREMENTS****SUBCHAPTER A****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 per day (GPCD) and residential GPCD), water supply system data, and wastewater system data;

(B) a record management system which allows for the classification of water sales and uses into the most detailed level of water use data currently available to it, including, if possible, the sectors listed in clauses (i) - (vi) of this subparagraph. Any new billing system purchased by a public water supplier must be capable of reporting detailed water use data as described in clauses (i) - (vi) of this subparagraph:

- (i) residential;
 - (I) single family;
 - (II) multi-family;
- (ii) commercial;
- (iii) institutional;
- (iv) industrial;
- (v) agricultural; and,
- (vi) wholesale.

(C) specific, quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use in total GPCD and residential GPCD. The goals established by a public water supplier under this subparagraph are not enforceable;

(D) metering device(s), within an accuracy of plus or minus 5.0% in order to measure and account for the amount of water diverted from the source of supply;

(E) a program for universal metering of both customer and public uses of water, for meter testing and repair, and for periodic meter replacement;

(F) measures to determine and control water loss (for example, periodic visual inspections along distribution lines; annual or monthly audit of the water system to determine illegal connections; abandoned services; etc.);

(G) a program of continuing public education and information regarding water conservation;

(H) a water rate structure which is not "promotional," i.e., a rate structure which is cost-based and which does not encourage the excessive use of water;

(I) a reservoir systems operations plan, if applicable, providing for the coordinated operation of reservoirs owned by the applicant within a common watershed or river basin in order to optimize available water supplies; and

(J) a means of implementation and enforcement which shall be evidenced by:

(i) a copy of the ordinance, resolution, or tariff indicating official adoption of the water conservation plan by the water supplier; and

(ii) a description of the authority by which the water supplier will implement and enforce the conservation plan; and

(K) documentation of coordination with the regional water planning groups for the service area of the public water supplier in order to ensure consistency with the appropriate approved regional water plans.

(2) Additional content requirements. Water conservation plans for municipal uses by public drinking water suppliers serving a current population of 5,000 or more and/or a projected population of 5,000 or more within the next ten years subsequent to the effective date of the plan must include the following elements:

(A) a program of leak detection, repair, and water loss accounting for the water transmission, delivery, and distribution system;

(B) a requirement in every wholesale water supply contract entered into or renewed after official adoption of the plan (by either ordinance, resolution, or tariff), and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements in this chapter. If the customer intends to resell the water, the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with the provisions of this chapter.

(3) Additional conservation strategies. Any combination of the following strategies shall be selected by the water supplier, in addition to the minimum requirements in paragraphs (1) and (2) of this subsection, if they are necessary to achieve the stated water conservation goals of the plan. The

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

(A) conservation-oriented water rates and water rate structures such as uniform or increasing block rate schedules, and/or seasonal rates, but not flat rate or decreasing block rates;

(B) adoption of ordinances, plumbing codes, and/or rules requiring water-conserving plumbing fixtures to be installed in new structures and existing structures undergoing substantial modification or addition;

(C) a program for the replacement or retrofit of water-conserving plumbing fixtures in existing structures;

(D) reuse and/or recycling of wastewater and/or graywater;

(E) a program for pressure control and/or reduction in the distribution system and/or for customer connections;

(F) a program and/or ordinance(s) for landscape water management;

(G) a method for monitoring the effectiveness and efficiency of the water conservation plan; and

(H) any other water conservation practice, method, or technique which the water supplier shows to be appropriate for achieving the stated goal or goals of the water conservation plan.

(b) A water conservation plan prepared in accordance with 31 TAC §363.15 (relating to Required Water Conservation Plan) of the Texas Water Development Board and substantially meeting the requirements of this section and other applicable commission rules may be submitted to meet application requirements in accordance with a memorandum of understanding between the commission and the Texas Water Development Board.

(c) A public water supplier for municipal use shall review and update its water conservation plan, as appropriate, based on an assessment of previous five-year and ten-year targets and any other new or updated information. The public water supplier for municipal use shall review and update the next revision of its water conservation plan every five years to coincide with the regional water planning group.

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

[Next Page](#)

[Previous Page](#)

[List of Titles](#)

[Back to List](#)

APPENDIX B

Water Utility Profile

UTILITY PROFILE

Fill out this form as completely as possible.
If fields do not apply to your entity, leave them blank.

CONTACT INFORMATION

Name of Utility: _____

Public Water Supply Identification Number (PWS ID): _____

CCN Number: _____

Water Rights ID Number: _____

Wastewater ID Number: _____

Check all that apply:

Retail Water Supplier

Wholesale Water Supplier

Wastewater Treatment Utility

Address: _____ City: _____ Zip Code: _____

Email: _____ Telephone Number: _____

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

Groundwater Conservation District: _____ [Map](#)

Completed By: _____ Title: _____

Date: _____

Check all that apply:

Received financial assistance of \$500,000 or more from TWDB

Have 3,300 or more retail connections

Have a water right with TCEQ

Section I: Utility Data

A. Population and Service Area Data

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

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

Year	Historical Population Served By Retail Water Service	Historical Population Served By Wholesale Water Service	Historical Population Served By Wastewater Service

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

Year	Projected Population Served By Retail Water Service	Projected Population Served By Wholesale Water Service	Projected Population Served By Wastewater Service
2020			
2030			
2040			
2050			
2060			

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

B. System Input

Provide system input data for the previous five years.

Total System Input = Self-supplied + Imported – Exported

Year	Self-supplied Water in Gallons	Purchased/Imported Water in Gallons	Exported Water in Gallons	Total System Input

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

1. Designed daily capacity of system _____ gallons per day
2. Storage Capacity:
 Elevated _____ gallons
 Ground _____ gallons

3. List all current water supply sources in gallons:

Water Supply Source	Source Type*	Total Gallons

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

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

D. Projected Demands

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

Year	Population	Water Demands (gallons)

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

E. High Volume Customers

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

Retail Customer	Water Use Category*	Annual Water Use	Treated or Raw

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

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

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

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

Section II: Retail System Data

If you do not provide retail water, go to Section III.

A. Retail Connections

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

Water Use Category*	Active Retail Connections		
	Metered	Unmetered	Total Connections
Residential - Single Family			
Residential – Multi-family (units)			
Industrial			
Commercial			
Institutional			
Agricultural			
TOTAL			

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

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

Water Use Category*	Net Number of New Retail Connections				
Residential - Single Family					
Residential – Multi-family (units)					
Industrial					
Commercial					
Institutional					
Agricultural					
TOTAL					

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

B. Retail Water Accounting Data - Water Use Categories

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

Water Use Category*	Total Gallons of Retail Water				
Residential - Single Family					
Residential – Multi-family					
Industrial					
Commercial					
Institutional					
Agricultural					
TOTAL					

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

C. Retail Water Accounting Data - Annual and Seasonal Use

For the previous five years, enter the number of gallons provided to RETAIL customers.

TREATED

January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
TOTAL					

RAW

January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
TOTAL					

RETAIL						Average in Gallons
Summer Retail (Treated + Raw)						_____
						5yr Average
TOTAL Retail (Treated + Raw)						_____
						5yr Average

D. Water Loss

Provide Water Loss Data for the previous five years.

Water Loss GPCD = [Total Water Loss in Gallons ÷ Permanent Population Served] ÷ 365

Water Loss Percentage = [Total Water Loss ÷ Total System Input] x 100

Year	Total Water Loss in Gallons	Water Loss in GPCD	Water Loss as a Percentage
5-year average			

E. Peak Day Use

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

Year	Average Daily Use (gal)	Peak Day Use (gal)	Peak Day

Section III: Wholesale System Data

If you do not provide wholesale water, go to Section IV.

A. Wholesale Connections

1. List the active wholesale connections by major water use category.

Water Use Category*	Active Wholesale Connections		
	Metered	Unmetered	Total Connections
Municipal			
Industrial			
Commercial			
Institutional			
Agricultural			
TOTAL			

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

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

Water Use Category*	Net Number of New Wholesale Connections				
Municipal					
Industrial					
Commercial					
Institutional					
Agricultural					
TOTAL					

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

B. Wholesale Water Accounting Data - Water Use Categories

For the previous five years, enter the number of gallons of WHOLESale water exported (*sold or transferred*) to each major water use category.

Customer Category*	Total Gallons of Wholesale Water				
Municipal					
Industrial					
Commercial					
Institutional					
Agricultural					
TOTAL					

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

C. Wholesale Water Accounting Data - Annual and Seasonal Use

For the previous five years, enter the number of gallons exported (*sold or transferred*) to WHOLESALÉ customers.

TREATED

January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
TOTAL					

RAW

January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
TOTAL					

WHOLESALÉ						Average in Gallons
Summer Wholesale (Treated + Raw)						_____
						5yr Average
TOTAL Wholesale (Treated + Raw)						_____
						5yr Average

D. Water Loss

Provide Water Loss Data for the previous five years.

Water Loss GPCD = [Total Water Loss in Gallons ÷ Permanent Population Served] ÷ 365

Water Loss Percentage = [Total Water Loss ÷ Total System Input] x 100

Year	Total Water Loss in Gallons	Water Loss in GPCD	Water Loss as a Percentage
5-year average			

E. Peak Day Use

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

Year	Average Daily Use (gal)	Peak Day Use (gal)	Peak Day

Section IV: Wastewater System Data

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

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

1. Design capacity of wastewater treatment plant(s): _____
gallons per day.
2. Provide data on the types of recycling and reuse activities implemented during the current reporting period.

	Total Annual Volume (in gallons)
On-site irrigation	
Plant wash down	
Chlorination/de-chlorination	
Industrial	
Landscape irrigation (parks, golf courses)	
Agricultural	
Discharge to surface water	
Evaporation pond	

3. Could treated wastewater be substituted for potable water?
 Yes No

B. Wastewater Data for Service Area

1. Percent of water service area served by wastewater system: _____%
2. Monthly treated wastewater volume in gallons, for the previous five years.

January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
TOTAL					

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

APPENDIX C

Ordinance or Resolution from Governing Body Adopting the Water Conservation Plan

ORDINANCE # 2013 - ____

AN ORDINANCE ADOPTING THE [NAME OF ENTITY]'S WATER CONSERVATION PLAN AND DROUGHT CONTINGENCY PLAN; PROVIDING A PENALTY CLAUSE AND PROVIDING A SERVERABILITY CLAUSE.

WHEREAS, the [Name of Entity] recognizes that the amount of water available to its customers is limited and subject to depletion during periods of extended drought; and

WHEREAS, the Texas Water Code and applicable rules of the Texas Commission on Environmental Quality require a Water Conservation Plan and a Drought Contingency Plan (the "Plans"); and

WHEREAS, the drought contingency plan provides measures that may be needed during drought conditions, during an emergency and / or when water use approaches the system supply that help reduce water usage and temporarily reduce demand placed on the [Name of Entity]'s water system; and

WHEREAS, the water conservation plan establishes certain rules and policies for the orderly and efficient management of water supplies to reduce consumption, reduce waste and improve water use efficiency.

NOW THEREFORE, BE IT ORDAINED BY THE GOVERNING BODY OF [NAME OF ENTITY] THAT:

SECTION 1. The Water Conservation Plan and the Drought Contingency Plan of the [Name of Entity] attached hereto and made a part hereof are hereby adopted as the official policy of the [Name of Entity].

SECTION 2. Any person violating or failing to comply with any provision of this Ordinance shall be fined upon conviction, not less than One Dollar (\$1.00) nor more than Two Thousand Dollars (\$2,000). Each day in which one or more of the provisions of this ordinance is violated shall constitute a separate offense.

SECTION 3. The terms and provisions of this Ordinance shall be deemed to be severable and that if the validity of any section, subsection, sentence, clause or phrase of this ordinance should be declared to be invalid, the same shall not affect the validity of any other section, subsection, sentence, clause or phrase of this ordinance.

PASSED AND APPROVED BY THE GOVERNING BODY OF [NAME OF ENTITY], THIS _____ DAY OF _____ 2013.

Mayor / President

Attest:

Secretary

APPENDIX D

Letter to Chairman of Region C Water Planning Group

[Date]

Mr. James M. Parks
Chairman, Region C Water Planning Group
c/o North Texas Municipal Water District
P.O. Box 2408
Wylie, TX 75098

Subject: Water Conservation and Drought Contingency Plans

Dear Mr. Parks:

Enclosed please find a copy of the [Name of Entity]'s Water Conservation and Drought Contingency Plans (the "Plans"). I am submitting a copy of these Plans to the Region C Water Planning Group in accordance with the Texas Water Development Board and the Texas Commission on Environmental Quality rules. The governing body of the [Name of Entity] adopted the attached Plans on [Date], 2013.

Sincerely,

Attachments 1. Water Conservation Plan
 2. Drought Contingency Plan

C: Jason L. Pierce, Manager of Watershed & Contract Services, UTRWD