WATER CONSERVATION PLAN

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May 2009

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City of Terrell
Water Conservation Plan

MAY 2009

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 supplies. At the same time, local and less expensive sources of water supply are largely developed. Additional supplies to meet higher demands will be expensive and difficult to develop. It is therefore important that Terrell make the most efficient use of existing supplies. This will delay the need for new supplies, minimize the environmental impacts associated with developing new supplies, and delay the high cost of additional water supply development.

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 and wholesale water suppliers [1]. TCEQ guidelines and requirements are included in Appendix B. The best management practices established by the Water Conservation Implementation Task Force [2], established pursuant to SB1094 by the 78th Legislature, were also considered in the development of this water conservation plan. The City of Terrell has developed this water conservation plan in accordance with the TCEQ requirements and the NTMWD guidelines and requirements [3]. This water conservation plan replaces Ordinance 2176 dated June 17, 2003 and Ordinance 2184 adopted in August 2003.

The objectives of this water conservation plan are as follows:

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

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 288.5 of the Texas Administrative Code, which is included in Appendix B. For the purpose of these rules, a water conservation plan is defined as "A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the

[1] Superscripted numbers match references listed in Appendix A.

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."[1] The elements in the TCEQ water conservation rules covered in this conservation plan are listed in Appendix B.

2. SYSTEM AND WATER UTILITY PROFILE

The City of Terrell is an incorporated municipality with city limits encompassing approximately 20 square miles. The City provides direct (retail) water and sewer service to its residents and wholesale water service to seven area rural water supply corporations. Figure 2.1 shows Terrell's service area.

Terrell's wholesale customers include College Mound Water Supply Corporation (WSC), Poetry WSC, High Point WSC, North Kaufman WSC, Lawrence WSC, Rose Hill Special Utility District (SUD) and Elmo WSC. Terrell is the sole source of supply for Poetry WSC, Lawrence WSC and Elmo WSC. With the exception of the Poetry WSC system, all service provided by the City is within Kaufman County, one of the 16 counties that make up the Region C Water Planning Area. Poetry WSC is located in Kaufman, Rockwall and Hunt counties, and is partially located in Region C and Region D Water Planning Areas.

Appendix C contains Terrell's most recent water utility profile based on the format recommended by TCEQ.

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Updated: Monday, November 10, 2008

FIGURE 2.1

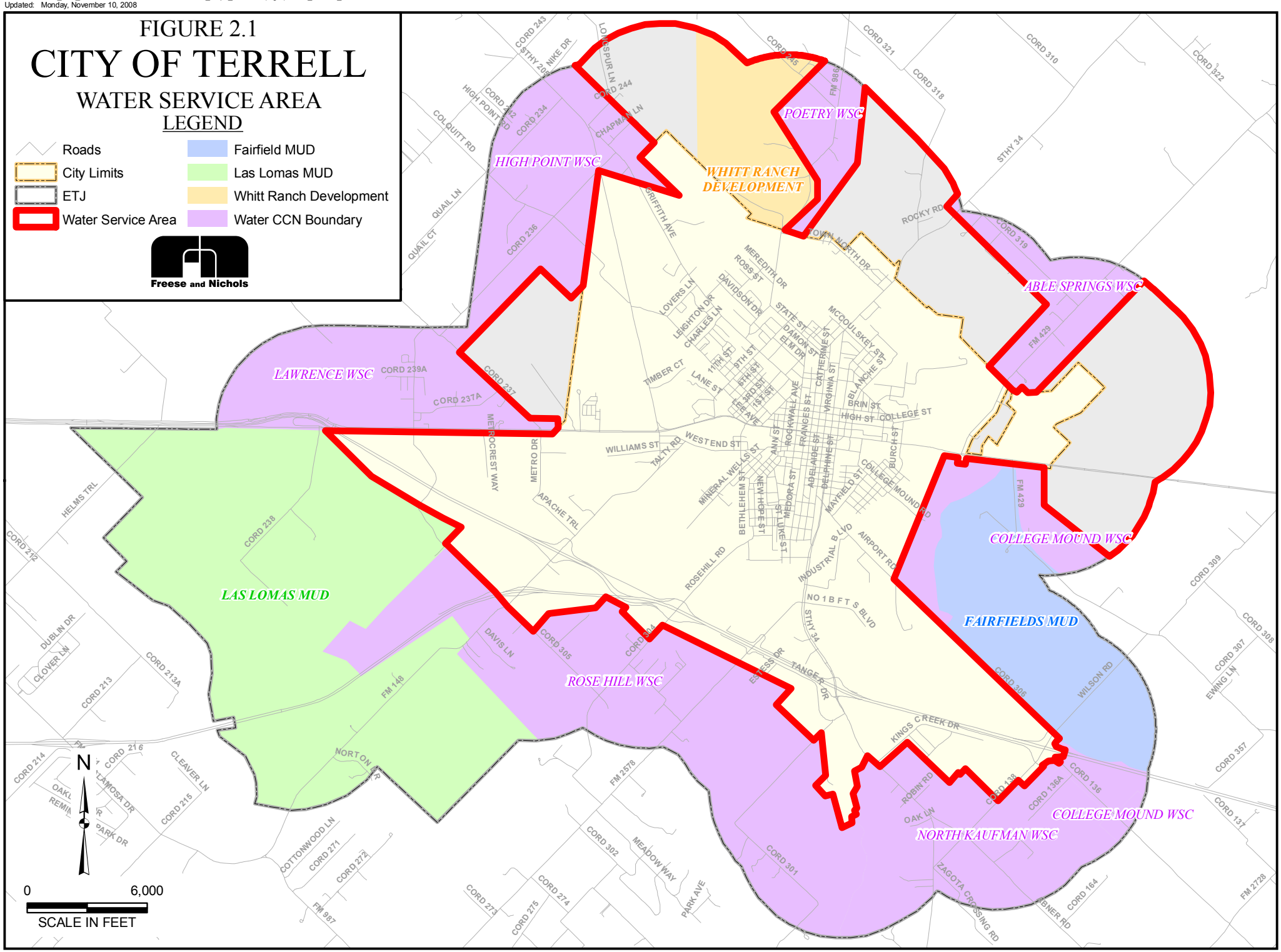
CITY OF TERRELL

WATER SERVICE AREA

LEGEND

- Roads
- City Limits
- ETJ
- Water Service Area
- Fairfield MUD
- Las Lomas MUD
- Whitt Ranch Development
- Water CCN Boundary

Freese and Nichols



3. SPECIFICATION OF WATER CONSERVATION GOALS

TCEQ rules require the adoption of specific water conservation goals for a water conservation plan. Terrell has developed 5-year and 10-year goals for municipal per capita use with credit for reuse. These goals were submitted to NTMWD for review. The goals for this water conservation plan include the following:

Maintain the per capita municipal water use below the specified amount in gallons per capita per day, as shown in the completed Table 4.1.

Maintain the level of unaccounted water in the system below 12 percent annually in 2008 and subsequent years, as discussed in Section 5.4.

Implement and maintain a program of universal metering and meter replacement and repair, as discussed in Section 5.2.

Increase efficient water usage through a landscape water management ordinance as discussed in Section 8.4 and Appendix E.

Decrease waste in lawn irrigation by implementation and enforcement of landscape water management regulations, as discussed in Section 8.5.

Raise public awareness of water conservation and encourage responsible public behavior by a public education and information program, as discussed in Section 5.

Develop a system specific strategy to conserve water during peak demands, thereby reducing the peak use.

Table 4.1
Five-Year and Ten-Year Municipal Per Capita Water Use Goals (gpcd)

Description	Current Average (gpcd)	5-Year Goal 2013 (gpcd)	10-Year Goal 2018 (gpcd)
Current 5-Year Average Per Capita Municipal Use with Credit for Reuse	179	179	179
Expected Reduction due to Low-Flow Plumbing Fixtures	0	2	4
Projected Reduction Due to Elements in this Plan	0	2	4
Water Conservation Goals	**179**	**175**	**171**

4. METERING, SYSTEM MANAGEMENT AND RATES

One of the key elements of water conservation is tracking water use and controlling losses through illegal diversions and leaks. It is important to carefully meter water use, detect and repair leaks in the distribution system and provide regular monitoring of unaccounted water.

4.1 Accurate Metering of Treated Water Deliveries from NTMWD

Water deliveries from NTMWD are metered by NTMWD using meters with accuracy of ±2%. These meters are calibrated on a monthly basis by NTMWD to maintain the required accuracy.

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

The City meters 100% of the connections to the distribution system. Meters range in size from 3/4" to 8". All meters meet AWWA accuracy standards when installed. In 2007 there were a total of 6,033 metered connections in the city, including all customer classes.

The City maintains a program whereby smaller meters are replaced every ten years. Large meters are field tested for accuracy on a regular basis. Wholesale (rural water supply) meters are tested for proper calibration annually.

4.3 Record Management System

As required by TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(2)(B), a record management system should allow for the separation of water sales and uses into residential, commercial, public/institutional, and industrial categories. This information should be included in an annual water conservation report, as described in Section 4.6 below. Those entities whose record management systems do not currently comply with this requirement should move to implement such a system within the next five years.

4.4 Determination and Control of Unaccounted Water

To track its progress in reducing water losses, the city performs a monthly water audit, comparing the amount of water purchased from NTMWD with that distributed through metered sales. A report is prepared outlining the monthly variance in percentage of water loss. The city also performs an annual audit comparing the same data on a calendar year basis.

Table 5-1 shows Terrell's annual percent water loss from 2003-2006. Data from 2007 were not used because they are incomplete due to Terrell's transition from treating its own raw water supply to purchasing treated water from NTMWD. This Plan considers the average from 2003-2006 to be representative of water loss estimates in Terrell. The

average unaccounted water during 2003-06 is approximately 12%, which is within the recommended percent for NTMWD customers.

Table 5-1 Terrell Percent Water Loss

Year	%
2003	9.71%
2004	16.85%
2005	11.28%
2006	12.19%

4.5 Leak Detection and Repair

The city operates two divisions that are responsible for leak detection and repair. The Utility Office is responsible for meter reading, meter replacement, and repair of meter leaks on 1.5" and smaller services. The Distribution Division repairs all leaks on the larger portions of the system.

The system is under routine and constant scrutiny by all city divisions, customers, Police Department and meter readers. Leak identification and repair are the top priority for the Distribution Division.

To further reduce water losses, a main and service replacement program eliminates old and deteriorated piping from the system.

4.6 Monitoring of Effectiveness and Efficiency - Annual Water Conservation Report

Appendix D is a water conservation report for the NTMWD that Terrell will complete on an annual basis and submit to NTMWD by March 31, of the following year. Terrell and NTMWD will use the report to monitor the effectiveness and efficiency of the water conservation program and to plan conservation-related activities for the next year. The report records the water use by category, per capita municipal use, and unaccounted water for the current year and compares them to historical values.

4.7 Water Conservation Implementation Report

Appendix I includes the TCEQ-required water conservation implementation report. Terrell will submit the report to TCEQ by May 1 of every year, beginning in 2010. This report lists the various water conservation strategies that have been implemented, including the date the strategy was implemented. The report also calls for the five-year and ten-year per capita water use goals from the previous water conservation plan. The reporting entity must answer whether or not these goals have been met and if not, why not. The amount of water saved is also requested.

5. CONTINUING PUBLIC EDUCATION AND INFORMATION CAMPAIGN

The continuing public education and information campaign on water conservation includes the following elements:

Utilize the "Water IQ: Know Your Water" and other public education materials produced by the NTMWD.

Insert water conservation information with water bills. Inserts will include material developed by Terrell staff and material obtained from the TWDB, the TCEQ, and other sources.

Include articles on water conservation in the city's newsletter.

Encourage local media coverage of water conservation issues and the importance of water conservation.

Notify local organizations, schools, and civic groups that City staff and staff of the NTMWD are available to make presentations on the importance of water conservation and ways to save water.

Promote the *Texas Smartscape* web site (www.txsmartscape.com) and provide water conservation brochures and other water conservation materials available to the public at City Hall and other public places.

Make information on water conservation available on the City's web site (www.cityofterrell.org) and include links to the "Water IQ: Know Your Water" website, *Texas Smartscape* website and to information on water conservation on the TWDB and TCEQ web sites and other resources.

Promote the installation of replacement plumbing fixtures designed to conserve water.

6. WATER RATE STRUCTURE

Terrell has an increasing block water rate structure that promotes water conservation for residential, commercial, and industrial customers. The rates are established following a cost of service study by an outside rate consultant. Rates are set to generate the revenues needed to operate and maintain the system and to meet debt service requirements. As of November 2008, the rate structure included a base rate for water service and four tiers of increasing prices for increased water usage.

7. OTHER WATER CONSERVATION MEASURES

7.1 Water Sources and NTMWD System Operation Plan

Terrell is a customer of North Texas Municipal Water District (NTMWD). As such, Terrell purchases treated water from NTMWD and does not have surface water supplies for which to implement a system operation plan. The City of Terrell owns New Terrell Lake and has a water right to use 6,000 acre-feet per year. While Terrell has secured this raw water supply, the City no longer uses this source of supply.

NTMWD has developed and implemented a system operation plan to optimize its available water supplies.

7.2 Reuse and Recycling of Wastewater

Terrell owns and operates its wastewater treatment plant. Terrell is interested in developing a reuse supply for irrigation and industrial purposes in the future.

NTMWD has water rights allowing reuse of up to 71,882 acre-feet per year of this treated wastewater through Lake Lavon for municipal purposes. In addition, NTMWD has also developed the East Fork Raw Water Supply Project which can divert up to 157,393 acre-feet per year based on treated wastewater discharges by the NTMWD. When fully developed, these two reuse projects will provide up to 44 percent of the NTMWD's currently permitted water supplies. NTMWD also provides treated effluent from its wastewater treatment plants available for direct reuse for landscape irrigation and industrial use.

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

The city operates under the International Plumbing Code. This code has been formally adopted by the City Council and is included in the Code of Ordinances. The city routinely inspects new construction, remodeling, add-ons, etc., through building permits.

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.

7.4 Landscape Water Management Measures

Terrell has developed landscape water management measures. Appendix E is a summary of considerations for landscape water management regulations adopted as part of the development of this water conservation plan. These regulations are intended to minimize waste in landscape irrigation. The following measures will be implemented and enforced in order to irrigate the landscape appropriately.

Time of day restrictions prohibiting lawn irrigation watering from 10 AM to 6 PM year round.

Prohibition of watering of impervious surfaces. (Wind driven water drift will be taken into consideration.)

Prohibition of outdoor watering during precipitation or freeze events.

Prohibiting the use of treated water to fill or refill residential, amenity, and any other natural or manmade ponds. A pond is considered to be a still body of water with a surface area of 2,500 square feet or more, except swimming pools.

Six months after this plan is adopted, rain and freeze sensors and/or ET or Smart controllers required on all new irrigation systems. Rain and freeze sensors and/or ET or Smart controllers must be maintained to function properly.

"At home" car washing can be done only when using a water hose with a shut-off nozzle.

Prohibition of watering areas that have been overseeded with cool season grasses (such as rye grass or other similar grasses), except for golf courses and public athletic fields.

Prohibition of use of poorly maintained irrigation systems that waste water.

Requirement that all new athletic fields be irrigated by a separate irrigation system from surrounding areas.

Requirement that all new irrigation systems be in compliance with state design and installation regulations (TAC Title 30, Part 1, Chapter 344).

Native, drought tolerant, or adaptive plants should be encouraged.

Drip irrigation systems should be promoted.

Evapotranspiration (ET) / Smart controllers that only allow sprinkler systems to irrigate when necessary should be promoted.

7.5 Requirement for Water Conservation Plans by Wholesale Customers

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 Texas Administrative Code. The requirement will also extend to each successive wholesale customer in the resale of the water.

7.6 Coordination with Regional Water Planning Group and NTMWD

Appendix F includes a letter sent to the Chairs of the Region C and Region D Water Planning Groups and a letter to the NTMWD with this water conservation plan. The adopted ordinances and the adopted water utility profile were also sent to the Chairs of the Region C and Region D Water Planning Groups and to NTMWD.

8. IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN

Appendix G contains a copy of the ordinance adopted by Terrell City Council regarding the water conservation plan. The ordinance designates responsible officials to implement and enforce the water conservation plan. Appendix E, the considerations for landscape water management regulations, also includes information about enforcement. Appendix H includes an ordinance related to illegal connections and water theft.

9. REVIEW AND UPDATE OF WATER CONSERVATION PLAN

This water conservation plan meets the TCEQ requirement of being updated prior to May 1, 2009. TCEQ requires that the plans be updated every five years thereafter. The Plan will be updated as required and as appropriate based on new or updated information.

APPENDIX A
REFERENCES

APPENDIX A
References

1. Freese and Nichols, Inc.: *North Texas Municipal Water District Water Conservation and Drought Contingency and Water Emergency Response Plan*, prepared fro the North Texas Municipal Water District, Fort Worth, March 2008.
2. Title 30 of the Texas Administrative Code, Part 1, Chapter 288, downloaded from http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288, May 2008.
3. City of Terrell, *Water Conservation Plan and Drought Contingency Ordinance, Ordinance Number 2176.*
4. City of Terrell, *Amendment to Water Conservation Plan and Drought Contingency Ordinance 2176, Ordinance Number 2184.*

APPENDIX B
TCEQ RULES ON WATER CONSERVATION PLANS

APPENDIX B
Texas Commission on Environmental Quality Rules
on Municipal Water Conservation Plans

Texas Administrative Code

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 §288.1	**Definitions**

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

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

(7) 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 through a municipal distribution system.
(8) 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.
(9) Mining use--The use of water for mining processes including hydraulic use, drilling, washing sand and gravel, and oil field repressuring.
(10) Municipal per capita water use--The sum total of water diverted into a water supply system for residential, commercial, and public and institutional uses divided by actual population served.
(11) Municipal use--The use of potable water within or outside a municipality and its environs whether supplied by a person, privately owned utility, political subdivision, or other entity as well as the use of sewage effluent for certain purposes, including the use of treated water for domestic purposes, fighting fires, sprinkling streets, flushing sewers and drains, watering parks and parkways, and recreational purposes, including public and private swimming pools, the use of potable water in industrial and commercial enterprises supplied by a municipal distribution system without special construction to meet its demands, and for the watering of lawns and family gardens.
(12) Municipal use in gallons per capita per day--The total average daily amount of water diverted or pumped for treatment for potable use by a public water supply system. The calculation is made by dividing the water diverted or pumped for treatment for potable use by population served. Indirect reuse volumes shall be credited against total diversion volumes for the purpose of calculating gallons per capita per day for targets and goals.
(13) Nursery grower--A person engaged in the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or nonsoil media, who grows more than 50% of the products that the person either sells or leases, regardless of the variety sold, leased, or grown. For the purpose of this definition, grow means the actual cultivation or propagation of the product beyond the mere holding or maintaining of the item prior to sale or lease, and typically includes activities associated with the production or multiplying of stock such as the development of new plants from cuttings, grafts, plugs, or seedlings.
(14) Pollution--The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or to the public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.
(15) Public water supplier--An individual or entity that supplies water to the public for human consumption.
(16) Regional water planning group--A group established by the Texas Water Development Board to prepare a regional water plan under Texas Water Code, §16.053.
(17) 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.
(18) 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.

(19) 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).

(20) 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.

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

Texas Administrative Code

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 drinking water suppliers must include the following elements:

(A) a utility profile including, but not limited to, information regarding population and customer data, water use data, water supply system data, and wastewater system data;

(B) until May 1, 2005, specification of conservation goals including, but not limited to, municipal per capita water use goals, the basis for the development of such goals, and a time frame for achieving the specified goals;

(C) beginning May 1, 2005, specific, quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use, in gallons per capita per day. 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 unaccounted-for uses of water (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 in order to control unaccounted-for uses of water;

(B) a record management system to record water pumped, water deliveries, water sales, and water losses which allows for the desegregation of water sales and uses into the following user classes:

(i) residential;

(ii) commercial;

(iii) public and institutional; and

(iv) industrial;

(C) 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) Beginning May 1, 2005, 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 not later than May 1, 2009, and every five years after that date 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

Texas Administrative Code

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 §288.5	**Water Conservation Plans for Wholesale Water Suppliers**

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 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) until May 1, 2005, specification of conservation goals including, where appropriate, target per capita water use goals for the wholesaler's service area, maximum acceptable unaccounted-for water, the basis for the development of these goals, and a time frame for achieving these goals;

(C) beginning May 1, 2005, 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 unaccounted-for water, and the basis for the development of these goals. The goals established by wholesale water suppliers under this subparagraph are not enforceable;

(D) a description as to which practice(s) and/or device(s) will be utilized to measure and account for the amount of water diverted from the source(s) of supply;

(E) a monitoring and record management program for determining water deliveries, sales, and losses;

(F) a program of metering and leak detection and repair for the wholesaler's water storage, delivery, and distribution system;

(G) a requirement in 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;

(H) 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;

(I) 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

(J) documentation of 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. Beginning May 1, 2005, 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 not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group.

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

Location of TCEQ Requirements in This Plan

Minimum Conservation Plan Requirements for Public Water Suppliers

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

288.2(a)(1)(A) – Utility Profile – Section 2 and Appendix C

288.2(a)(1)(B) – Specification of Goals – Section 3

288.2(a)(1)(C) – Specific, Quantified Goals – Section 3

288.2(a)(1)(D) – Accurate Metering – Sections 4.1 and 4.2

288.2(a)(1)(E) – Universal Metering – Section 4.2

288.2(a)(1)(F) – Determination and Control of Unaccounted Water – Section 4.4

288.2(a)(1)(G) – Public Education and Information Program – Section 5

288.2(a)(1)(H) – Non-Promotional Water Rate Structure – Section 6

288.2(a)(1)(I) – Reservoir System Operation Plan – Section 7.1

288.2(a)(1)(J) – Means of Implementation and Enforcement – Section 8

288.2(a)(1)(K) – Coordination with Regional Water Planning Group – Section 7.6 and Appendix F

288.2(c) – Review and Update of Plan – Section 9

Conservation Additional Requirements for Public Water Suppliers (Population over 5,000)

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

288.2(a)(2)(A) – Leak Detection, Repair, and Water Loss Accounting – Sections 4.4, 4.5, and 4.6

288.2(a)(2)(B) – Record Management System – Section 4.3

288.2(a)(2)(C) – Requirement for Water Conservation Plans by Wholesale Customers – Section 7.5

Additional Conservation Strategies

The TCEQ requires that a water conservation implementation report be completed and submitted on an annual basis. This report is included in Appendix I.

In addition to the TCEQ required water conservation strategies, the NTMWD also requires the following strategy to be included in the Member City and Customer plans:

288.2(a)(3)(F) – Considerations for Landscape Water Management Regulations – Section 7.4 and Appendix E

TCEQ rules also include the following optional, but not required, conservation strategies, which are included in this Plan:

288.5(2)(A) – Conservation Oriented Water Rates – Section 6

288.5(2)(C) – Reuse and Recycling of Wastewater – Section 7.2

288.5(2)(D) – Additional Appropriate Conservation Practices – Section 7.4

Minimum Conservation Plan Requirements for Wholesale Water Suppliers

The City of Terrell is also a wholesale water supplier to seven nearby rural water supply corporations. The minimum requirements in the Texas Administrative Code for water conservation plans for wholesale water suppliers are covered in this report as follows:

288.5(1)(A) – System and Utility Profile – Section 2 and Appendix C

288.5(1)(B) – Specification of Goals – Section 3

288.5(1)(C) – Specific, Quantified Goals – Section 3

288.5(1)(D) – Accurate Metering – Sections 4.1

288.5(1)(E) – Record Management Program and Universal Metering – Sections 4.2 and 4.3

288.5(1)(F) – Determination and Control of Unaccounted Water – Section 4.4

288.5(1)(G) – Requirements for Water Conservation Plan by Wholesale Customers – Section 7.5

288.5(1)(H) – Reservoir System Operation Plan – Section 7.1

288.5(1)(I) – Means of Implementation and Enforcement – Section 8

288.5(1)(J) – Coordination with Regional Water Planning Group – Section 7.6 and Appendix F

288.5(3) – Review and Update of Water Conservation Plan – Section 9

APPENDIX C
TCEQ WATER UTILITY PROFILE

City of Terrell
Water Utility Profile Based on TCEQ Format
(Matches TCEQ Profile dated 11-5-04)

The purpose of the Water Utility Profile is to assist an applicant with water conservation plan development and to ensure that important information and data be considered when preparing your water conservation plan and goals. You may contact the Municipal Water Conservation Unit of the TWDB at 512-936-2391 for assistance, or the Resource Protection Team at 512-239-4691 if submitted to the TCEQ.

Name of Entity:	City of Terrell
Address & Zip:	P.O. Box 310, Terrell, TX 75160-0310
Telephone Number:	(972) 551-6609
Fax Number:	(972) 551-6620
Form Completed by:	Sonny Groessel
Title:	Director of Utilities
Signature:	Sonny Groessel
Date:	May 5, 2009

Name and phone number of person/department responsible for implementing a water conservation program:

Name:	Sonny Groessel
Phone Number:	(972) 551-6609

I. POPULATION AND CUSTOMER DATA

A. Population and Service Area Data

1. Please attach a copy of your service-area map and, if applicable, a copy of your Certificate of Convenience and and a service-area map. Figure 2.1 shows the service area for the City of Terrell.
2. Service area size (square miles): 20
3. Current population of service area: 17,665 as of year 2007
4. Current population served by utility:
   water: 17,665
   wastewater: 17,665
5. Population served by water utility for the previous five years. (Please list by year in ascending order.):

Year	Population
2003	14,300
2004	14,950
2005	15,500
2006	16,500
2007	17,665

6. Projected population for service area in the following decades:

Year	Population
2010	15,196
2020	18,642
2030	21,664
2040	23,650
2050	25,599
2060	28,445

7. List source/method for the calculation of current and projected population:
2003-05 Population based on NCTCOG estimates. 2006-07 population based on City data.
Projected population from the 2006 Region C Water Plan

B. Active Connections

1. Current number of active connections.
Check whether multi-family service is counted as Residential _X__ or Commercial ___.
Current year is: 2007

Treated Water Users	Metered	Non-Metered	Total
Residential	4,447		4,447
Commercial	839		839
Industrial	11		11
Other			0
Total	5,297	0	5,297

2. List the net number of new connections per year for most recent three years:

Year	2005	2006	2007
Residential	192	128	22
Commercial	30	23	0
Industrial	0	0	1
Other			
Total	222	151	23

C. High Volume Customers

List annual water use for the five highest volume customers.
(Please indicate if treated or raw water delivery.):

Customer	Use (1,000 gal/yr)	Treated or Raw Water?
College Mound WSC	121,820	treated
Poetry WSC	70,793	treated
Terrell State Hospital	56,686	treated
Vistawall	54,576	treated
Rose Hill SUD	40,114	treated

II. WATER USE DATA FOR SERVICE AREA

A. Water Accounting Data

1. Amount of water use for previous five years (in 1,000 gal):

Please indicate: Diverted Water: 2003-06 Terrell diverted and treated its own water supply.
Treated Water: February 2007, Terrell began purchasing treated water from NTMWD and stopped using local supplies.

Year	2003	2004	2005	2006	2007
January	81,450	117,250	100,000	115,620	103,000
February	75,350	98,150	86,340	94,290	97,900
March	82,790	106,490	99,940	106,210	129,300
April	106,990	104,110	104,730	128,330	56,900
May	121,150	118,810	136,630	141,680	87,500
June	115,462	126,910	158,000	154,560	81,000
July	127,610	162,050	161,850	166,400	98,800
August	155,440	140,740	168,510	175,050	139,200
September	107,940	135,600	159,630	134,600	107,800
October	133,790	115,400	144,350	127,440	102,100
November	108,830	95,720	118,260	112,930	92,600
December	111,970	106,640	124,270	104,700	88,200
Total	1,328,772	1,427,870	1,562,510	1,561,810	1,184,300

Note: 2007 data are unusual because of the changes in water supplies.

2. Amount of water (in 1,000 gallons) delivered (sold) as recorded by the following account types

Year	Residential	Commercial	Industrial	Wholesale	Other	Total Sold
2003	417,592	263,727	92,013	278,306		1,051,638
2004	409,238	324,727	175,768	341,073		1,250,806
2005	425,333	297,030	94,351	452,979		1,269,693
2006	427,987	215,700	93,124	427,460		1,164,271
2007	369,000	212,000	80,000	335,000	269,000	1,265,000

Note: 2007 data are unusual because of the changes in water supplies.

3. List previous five years records for water loss (the difference between water diverted (or treated) and water delivered (sold)).

Year	Amount (gal.)	%
2003	129,002,930	9.71%
2004	240,661,340	16.85%
2005	176,299,600	11.28%
2006	190,340,200	12.19%
2007	-83,668,000	-7.06%

Note: 2007 data are unusual because of the changes in water supplies.

4. Municipal water use for previous five years:

Year	Population	Total Diverted (or Treated) (1,000 gal)
2003	14,300	681,319
2004	14,950	733,965
2005	15,500	722,363
2006	16,500	643,687
2007	17,665	581,000

Note: 2007 data are unusual because of the changes in water supplies.

B. Projected Water Demands

If applicable, attach projected water supply demands for the next ten years using information such as population trends, historical water use, and economic growth in the service area over the next ten years and any additional water supply requirement from such growth.

Year	Projected Demand (Ac-Ft)	Source of data	Additional Water Supply Requirements
2010	3,575	*2006 Region C Water Plan*	
2020	4,302	*2006 Region C Water Plan*	

III. WATER SUPPLY SYSTEM DATA

A. Water Supply Sources

List all current water supply sources and the amounts authorized with each:

Type	Source	Amount Available (AF/Y)
Surface Water	New Terrell City Lake (no longer in use)	6,000
Surface Water	Tawakoni (SRA) (no longer in use)	10,081
Groundwater	None	
Contracts	NTMWD	4,603
Other	None	

B. Treatment and Distribution System

1. Design daily capacity of system: Terrell no longer operates a water treatment plant.

2. Storage capacity:
   Elevated 1.5 MG
   Ground 3 MG

3. If surface water, do you recycle filter backwash to the head of the plant? **Not Applicable.**
   Yes ___ No ___. If yes, approximately ____ MGD.

4. Please attach a description of the water system. Include the number of treatment plants, wells, and storage tanks. If possible, include a sketch of the system layout.
   Terrell no longer operates a water treatment plant. Terrell purchases treated water from the North Texas Municipal Water District.

IV. WASTEWATER SYSTEM DATA

A. Wastewater System Data

1. Design capacity of wastewater treatment plant(s): 9 MGD

2. Is treated effluent used for irrigation on-site ____, off-site ____, plant washdown _X___, or chlorination/dechlorination ____? If yes, approximately 270,000 gallons per month.

3. Briefly describe the wastewater system(s) of the area serviced by the water utility. Describe how treated wastewater is disposed of. Where applicable, identify treatment plant(s) with the TCEQ name and number, the operator, owner, and, if wastewater is discharged, the receiving stream. Please provide a sketch or map which located the plant(s) and discharge or disposal sites.:

   The wastewater system is a mostly gravity flow system with four lift stations and located completely within the Terrell city limits. The plant discharges to Kings Creek in the Cedar Creek Reservoir watershed, segment 818 of the Trinity River Basin.

Treatment Plant Name	TCEQ Number	Operator	Owner	Receiving Stream
Kings Creek	10747-001	Terrell	Terrell	Kings Creek

B. Wastewater Data for Service Area

1. Percent of water service area served by wastewater system: 100 %
2. Monthly wastewater volume for previous three years (in 1,000 gallons):

Year	2005	2006	2007
January	58,630	52,650	58,510
February	52,250	49,770	45,160
March	55,970	75,260	63,660
April	50,750	51,510	57,240
May	50,970	50,750	68,620
June	48,090	47,430	91,970
July	51,280	50,600	79,120
August	48,700	50,640	56,940
September	48,350	48,330	57,740
October	48,900	48,860	44,870
November	47,400	40,500	40,890
December	49,100	48,380	45,690
Total	610,390	614,680	710,410

APPENDIX D
ANNUAL WATER CONSERVATION REPORT

APPENDIX D

NTMWD MEMBER CITY AND CUSTOMER WATER CONSERVATION REPORT

Due: March 31 of every year

Entity Reporting:	**City of Terrell**
Filled Out By:	**Sonny Groessel**
Date Completed:	**November 13, 2008**
Year Covered:	**2006**
# of Connections	**5,274**

Recorded Deliveries and Sales by Month (in Million Gallons):

Month	Deliveries from NTMWD	Other Supplies	Sales by Category					
			Residential	Commercial	Public/ Institutional	Industrial	Wholesale	Total
January	0.000	115.620	26.206	28.164		6.310	26.072	86.752
February	0.000	94.290	30.932	27.076		6.104	18.303	82.415
March	0.000	106.210	26.630	30.626		6.069	19.733	83.057
April	0.000	128.330	28.408	10.296		6.474	30.279	75.457
May	0.000	141.680	41.703	23.980		7.791	27.969	101.442
June	0.000	154.560	37.706	19.247		7.820	32.986	97.759
July	0.000	166.400	46.068	22.883		7.451	34.276	110.678
August	0.000	175.050	55.894	21.281		7.036	38.995	123.206
September	0.000	134.600	43.987	29.944		7.186	33.304	114.420
October	0.000	127.440	31.165	22.165		6.449	32.815	92.593
November	0.000	112.930	28.060	19.706		17.935	30.352	96.053
December	0.000	104.700	25.228	23.215		6.501	36.865	91.809
TOTAL	**0.000**	**1,561.810**	**421.987**	**278.582**	**0.000**	**93.124**	**361.948**	**1,155.642**

Unaccounted Water (Million Gallons):

NTMWD Deliveries	0.000	from Table above
Other Supplies	1,561.810	from Table above
Total Supplies	1,561.810	from Table above
Total Sales	1,155.642	from Table above
Estimated Fire Use	1.000	estimated from best available data
Estimated Line Flushing Use	0.300	estimated from best available data
Unaccounted Water	404.868	
% Unaccounted	25.92%	
Goal for % Unaccounted	12.00%	

Per Capita Municipal Use (Gallons per person per day)

Municipal Use (MG)	1,106.738	from Table above (NTMWD deliveries+ other supplies - industrial sales - municipal sales - other sales)
Estimated Population	16,500	please describe source of population estimate
Per Capita Use (gpcd)	184	
5-year Per Capita Goal (2013)	175	
10-year Per Capita Goal (2018)	171	

Recorded Wholesale Sales by Month (in Million Gallons):

Month	ELMO WSC	LAWRENCE WSC	HIGH POINT WSC	COLLEGE MOUND WSC	NORTH KAUFMAN WSC	POETRY WSC	ROSE HILL SUD	Total Wholesale Sales
January	4.041	1.510	2.840	7.075	0.193	6.131	4.282	26.072
February	2.921	1.160	1.980	4.166	1.427	4.429	2.220	18.303
March	3.446	1.260	2.510	4.491	1.421	5.039	1.565	19.733
April	3.979	1.330	2.780	5.339	1.633	6.025	9.193	30.279
May	4.320	1.910	3.300	7.098	2.140	8.225	0.976	27.969
June	4.917	2.010	3.990	7.510	2.630	10.405	1.524	32.986
July	3.615	1.920	4.141	9.820	3.119	10.895	0.767	34.276
August	5.254	2.310	4.210	13.124	2.844	11.240	0.013	38.995
September	3.936	1.530	2.690	15.609	1.698	7.003	0.838	33.304
October	3.942	1.450	2.780	16.248	1.844	6.534	0.017	32.815
November	3.397	1.400	2.500	14.835	1.562	5.552	1.106	30.352
December	3.566	1.450	2.370	16.030	1.525	6.230	5.694	36.865
TOTAL	**47.334**	**19.240**	**36.090**	**121.345**	**22.036**	**87.708**	**28.196**	**361.948**

Information on Wholesale Customers:

Customer	Estimated Population
Elmo WSC	
Lawrence WSC	
High Point WSC	
College Mound WSC	
North Kaufman WSC	
Poetry WSC	
Rose Hill SUD	

Unusual Circumstances (use additional sheets if necessary):

Terrell began converting from its self supplied water to purchasing treated water in 2007. The water use records for 2007 are unusual. Thus, 2006 was used as the base year for this report.

Progress in Implementation of Conservation Plan (use additional sheets if necessary):

Conservation measures planned for next year (use additional sheets if necessary):

Assistance requested from North Texas Municipal Water District (use additional sheets if necessary):

Other (use additional sheets if necessary):

APPENDIX E
LANDSCAPE WATER MANAGEMENT REGULATIONS

ORDINANCE NO. 2399

AN ORDINANCE OF THE CITY OF TERRELL, TEXAS, ADDING SECTION 12-18 OF THE CODE OF ORDINANCES THROUGH THE ADOPTION OF A ORDINANCE PERTAINING TO LANDSCAPE WATER MANAGEMENT REGULATIONS FOR THE CITY OF TERRELL TO PROVIDE FOR PENALTIES AND PROVIDING SEVERABILITY AND AN EFFECTIVE DATE.

ARTICLE I.

WHEREAS, the City of Terrell, Texas (the "City") recognizes that the amount of water available to its water customers is limited; and

WHEREAS, pursuant to Chapter 54 of the Local Government Code, the City is authorized to adopt such policies necessary to preserve and conserve available water supplies; and

WHEREAS, the City of Terrell seeks to adopt an ordinance pertaining to landscape water management regulations.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Terrell, Texas that;

SECTION 1.

The Code of Ordinances is hereby amended by adopting a new section 12-18 to read as follows:

SECTION 2.

Lawn and Irrigation Restrictions

(a) A person commits an offense if the person irrigates, waters, or knowingly or recklessly causes or allows the irrigation or watering of any lawn or landscape located on any property owned, leased, or managed by the person between the hours of 10:00 a.m. and 6:00 p.m. year round.

(b) A person commits an offense if the person knowingly or recklessly irrigates, waters, or causes or allows the irrigation or watering of lawn or landscape located on any property owned, leased, or managed by that person in such a manner that causes:

i. Over-watering lawn or landscape, such that a constant stream of water overflows from the lawn or landscape onto a street or other drainage area; or

ii. Irrigating lawn or landscape during any form of precipitation or freezing conditions. This restriction applies to all forms of irrigation, including automatic sprinkler systems; or

iii. The irrigation of impervious surfaces or other non-irrigated areas, wind driven water drift taken into consideration.

(c) A person commits an offense if the person knowingly or recklessly operates a lawn or irrigation system or device on property that the person owns, leases, or manages that:

i. has broken or missing sprinkler head(s); or

ii. has not been properly maintained to prevent the waste of water.

(d) All new athletic fields must have separate irrigation systems that are capable of irrigating the playing fields separately from other open spaces.

SECTION 3.

Rain and Freeze Sensors and/or ET or Smart Controllers

(a) Six months after this plan is adopted, any new irrigation system installed must be equipped with rain and freeze sensing devices and/or ET or Smart controllers in compliance with state design and installation regulations.

(b) A person commits an offense on property owned, leased or managed if the person:

i. knowingly or recklessly installs or allows the installation of new irrigation systems in violation; or

ii. knowingly or recklessly operates or allows the operation of an irrigation system that does not comply with Section 3 (a).

SECTION 4.

Filling or Refilling of Ponds

(a) A person commits an offense if the person knowingly or recklessly fills or refills any natural or manmade pond located on any property owned, leased, or managed by the person by introducing any treated water to fill or refill the pond. This does not restrict the filling or maintenance of pond levels by the effect of natural water runoff or the introduction of well water into the pond. A pond is considered to be a still body of water with a surface area of 2,500 square feet or more.

SECTION 5.

Washing of Vehicles.

(a) A person commits an offense if the person knowingly or recklessly washes a vehicle without using a water hose with a shut-off nozzle on any property owned, leased or managed by the person.

SECTION 6.

An offense under this Ordinance is a Class C misdemeanor punishable by a fine of up to two thousand dollars (2,000.00) and/or discontinuance of irrigation water service by the City.

SECTION 7.

Variances.

In special cases, variances may be granted by the city manager or his designee to persons demonstrating extreme hardship or need. Variances may be granted under the following circumstances:

(a) The applicant must sign a compliance agreement agreeing to irrigate or water the lawn and/or landscape only in the amount and manner permitted by the variance; and

(b) The variance must not cause an immediate significant reduction to the water supply; and

(c) The extreme hardship or need requiring the variance must related to the health, safety, or welfare of the person making the request; and

(d) The health, safety, and welfare of the public and the person making the request must not be adversely affected by the requested variance.

A variance will be revoked upon a finding that:

(a) The applicant can no longer demonstrate extreme hardship or need; or

(b) The terms of the compliance agreement are violated; or

(c) The health, safety, or welfare of the public or other persons requires revocation.

SECTION 8.

The City Council does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting considering this Ordinance was posted at a designated place convenient to the public for the time required by law preceding the meeting, that such place of posting was readily accessible at all times to the general public and that all of the foregoing was done as required by law at all times during which this Ordinance, and the subject matter thereof, has been discussed, considered and formally action upon. The City Council further ratifies, approves and confirms such written notice and the posting there.

SECTION 9.

All ordinances or part of ordinances in conflict herewith are, to the extent of such conflict, hereby repealed.

SECTION 10.

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 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 11.

The City Secretary is hereby authorized and directed to cause publication of the descriptive caption of this ordinance as an alternative method of publication provided by law.

SECTION 12.

This Ordinance will take effect immediately from and after its passage and the publication of the caption, as the law in such case provides.

PASSED AND APPROVED this the 7th day of April, 2009.
PASSED AND ADOPTED this the 21st day of April, 2009.

APPROVED:

Hal Richards, Mayor

ATTEST:

John Rounsavall, City Secretary

APPROVED AS TO FORM:

Mary Gayle Ramsey, City Attorney

APPENDIX F
LETTERS TO REGION C AND D WATER PLANNING GROUPS AND NTMWD

APPENDIX F
Letters to Region C and D Water Planning Groups and NTMWD

May 5, 2009

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

Dear Mr. Parks:

Enclosed please find a copy of the recently updated Water Conservation Plan for the City of Terrell. I am submitting a copy of this plan to the Region C Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. The City Council of Terrell adopted the updated plan on April 21, 2009.

Sincerely,

Sonny Groessel
City of Terrell

May 5, 2009

Mr. Jim Thompson
Chair, Region D Water Planning Group
P.O. Box 1107
Atlanta, TX 75551

Dear Mr. Thompson:

Enclosed please find a copy of the recently updated Water Conservation Plan for the City of Terrell. I am submitting a copy of this Plan to the Region D Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. The City Council of Terrell adopted the updated water conservation plan on April 21, 2009.

Sincerely,

Sonny Groessel
City of Terrell

May 5, 2009

Mr. Jim Parks
Executive Director
North Texas Municipal Water District
P.O. Box 2408
Wylie, TX 75098

Dear Mr. Parks:

Enclosed please find a copy of the recently updated Water Conservation Plan for the City of Terrell. I am submitting a copy of this plan to the District in accordance with the guidelines established in the model plan. The City Council of Terrell adopted the updated water conservation plan on April 21, 2009.

Sincerely,

Sonny Groessel
City of Terrell

APPENDIX G
ADOPTION OF WATER CONSERVATION PLAN

ORDINANCE NO. 2402

AN ORDINANCE OF THE CITY OF TERRELL, TEXAS, ADDING SECTION 12-17 OF THE CODE OF ORDINANCES THROUGH THE ADOPTION OF A WATER CONSERVATION PLAN FOR THE CITY OF TERRELL TO PROMOTE RESPONSIBLE USE OF WATER AND TO PROVIDE FOR PENALTIES AND/OR THE DISCONNECTION OF WATER SERVICE FOR NONCOMPLIANCE WITH THE PROVISIONS OF THE WATER CONSERVATION PLAN; AND PROVIDING SEVERABILITY AND AN EFFECTIVE DATE.

WHEREAS, the City of Terrell, Texas (the "City"), recognizes that the amount of water available to its water customers is limited; and

WHEREAS, the City recognizes that due to natural limitations, drought conditions, system failures and other acts of God which may occur, the City cannot guarantee an uninterrupted water supply for all purposes at all times; and

WHEREAS, the Water Code and the regulations of the Texas Commission on Environmental Quality (the "Commission") require that the City adopt a Water Conservation Plan; and

WHEREAS, the City has determined an urgent need in the best interest of the public to adopt a Water Conservation Plan; and

WHEREAS, pursuant to Chapter 54 of the Local Government Code, the City is authorized to adopt such Ordinances necessary to preserve and conserve its water resources; and

WHEREAS, the City Council of the City of Terrell desires to adopt a Water Conservation Plan.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF TERRELL THAT:

Section 1. The Code of Ordinances is hereby amended by adopting a new section 12-17 to read as follows:

Section 2. The City Council hereby approves and adopts the Water Conservation Plan (the "Plan"), attached hereto as Addendum A, as if recited verbatim herein. The City commits to implement the requirements and procedures set forth in the adopted Plan.

Section 3. Any customer, defined pursuant to 30 Tex. Admin. Code Chapter 291, failing to comply with the provisions of the Plan shall be subject to a fine of up to two thousand dollars ($2,000.00) and/or discontinuance of water service by the City. Proof of a culpable mental state is not required for a conviction of an offense under this section. Each day a customer fails to comply with the Plan is a separate violation. The City's authority to seek injunctive or other civil relief available under the law is not limited by this section.

Section 4. The City Council does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting adopting this Ordinance was posted at a designated place convenient to the public for the time required by law preceding the meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Ordinance and the subject matter thereof has been discussed, considered and formally acted upon. The City Council further ratifies, approves and confirms such written notice and the posting thereof.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Ordinance be declared unconstitutional or invalid for any reason, the remainder of this Ordinance shall not be affected.

Section 6. The City Manager or his designee is hereby directed to file a copy of the Plan and this Ordinance with the Commission in accordance with Title 30, Chapter 288 of the Texas Administrative Code.

Section 7. The City Secretary is hereby authorized and directed to cause publication of the descriptive caption of this ordinance as an alternative method of publication provided by law.

Section 8. All ordinances or parts of ordinances in conflict herewith are, to the extent of such conflict, hereby repealed.

Passed and Approved by the Terrell City Council on this 7th day of April, 2009.
Passed and Adopted by the Terrell City Council on this 21st day of April, 2009.

Approved:

Hal Richards, Mayor

Attest:

John Rounsavall, City Secretary

Approved as to Form:

Mary Gayle Ramsey, City Attorney

APPENDIX H
ILLEGAL WATER CONNECTIONS AND THEFT OF WATER

ORDINANCE NO. 2394

AN ORDINANCE OF THE CITY OF TERRELL, TEXAS, REPLACING SECTION 12-9 OF CHAPTER 12 OF THE CODE OF ORDINANCES OF THE CITY OF TERRELL, TEXAS, PERTAINING TO ILLEGAL WATER CONNECTIONS AND/OR THE THEFT OF WATER RELATED TO THE WATER SUPPLY FOR THE CITY OF TERRELL.

WHEREAS, the City of Terrell, Texas (the "City") recognizes that the amount of water available to its water customers is limited; and

WHEREAS, pursuant to Chapter 54 of the Local Government Code, the City is authorized to adopt such policies necessary to preserve and conserve available water supplies; and

WHEREAS, the City seeks to adopt an ordinance pertaining to illegal water connections and theft of water.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF TERRELL THAT:

Section 1. The City Council hereby approves and adopts this Ordinance as described herein.

Section 2. A person commits an offense of theft of water by any of the following actions:

(a) A person may not knowingly tamper, connect to, or alter any component of the City's water system including valves, meters, meter boxes, lids, hydrants, lines, pump stations, ground storage tanks, and elevated storage tanks. This shall include direct or indirect efforts to initiate or restore water service without the approval of the City.

(b) If, without the written consent of the City Manager or the City Manager's designee, the person knowingly causes, suffers or allows the initiation or restoration of water service to the property after termination of service(s). For purposes of this section, it shall be assumed that the owner, occupant, or person in control of the property caused, suffered, or allowed the unlawful initiation or restoration of service(s).

(c) A person may not knowingly make or cause a false report to be made to the City of a reading of a water meter installed for metered billing.

(d) A person commits a separate offense each day that the person performs an act prohibited by this section or fails to perform an act required by this section.

Section 3. An offense under this Ordinance is a Class C misdemeanor punishable by a fine of up to two thousand dollars ($2,000.00) and/or discontinuance of water service by the City.

Section 4. The City Council does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting considering this Ordinance was posted at a designated place convenient to the public for the time required by law preceding the meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Ordinance, and the subject matter thereof, has been discussed, considered and formally acted upon. The City Council further ratifies, approves and confirms such written notice and the posting thereof.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Ordinance be declared unconstitutional or invalid for any reason, the remainder of this Ordinance shall not be affected.

Section 6. The City Secretary is hereby authorized and directed to cause publication of the descriptive caption of this ordinance as an alternative method of publication provided by law.

Section 7. That this ordinance shall take effect immediately from and after its passage.

PASSED AND APPROVED on first reading this the 6th day of January, 2009.

PASSED AND APPROVED on final reading this the 20th day of January, 2009.

HAL RICHARDS, MAYOR

ATTEST:

JOHN ROUNSAVALL, CITY SECRETARY

APPROVED AS TO FORM:

MARY GAYLE RAMSEY, CITY ATTORNEY

APPENDIX I
TCEQ WATER CONSERVATION IMPLEMENTATION REPORT

APPENDIX I
TCEQ Water Conservation Implementation Report

Texas Commission on Environmental Quality

Water Conservation Implementation Report

This report must be completed by entities that are required to submit a water conservation plan to the TCEQ in accordance with Title 30 Texas Administrative Code, Chapter 288. Please complete this report and submit it to the TCEQ. If you need assistance in completing this form, please contact the Resource Protection Team in the Water Supply Division at (512) 239-4691.

Name:	City of Terrell	
Address:	P.O. Box 310, Terrell, TX 75160-0310	
Telephone Number:	(972) 551-6609	**Fax:** (972) 551-6620
Form Completed By:	Sonny Groessel	**Title:** Director of Utilities
Signature:	Sonny Groessel	**Date:** 5/5/2009

I. WATER USES

Indicate the type(s) of water uses (example: municipal, industrial, or agricultural).

Municipal Use
Industrial Use

II. WATER CONSERVATION MEASURES IMPLEMENTED

Provide the water conservation measures and the dates the measures were implemented.

Description of Water Conservation Measure:
Bill inserts with conservation messaging
Date Implemented: on-going effort used periodically, typically during the summer

Description of Water Conservation Measure:
Program that systematically replaces old mains and appurtenances throughout the City.
Date Implemented: January 2008 to present

Description of Water Conservation Measure:
Water conserving rate structure encourages efficient use of water by charging more as more water is used.
Date Implemented: October 1, 2006 to present

III. TARGETS

A. Provide the **specific and quantified five and ten-year targets** as listed in water conservation plan for previous planning period.

5-Year Specific/Quantified Target: 175 municipal gpcd

Date to achieve target: 2013

10-Year Specific/Quantified Target: 171 municipal gpcd

Date to achieve target: 2018

B. State if these targets in the water conservation plan are being met.
These targets have just been established. It is too early to determine whether or not the targets are being met. The strategies established in the conservation plan are expected to result in the savings projected here.

C. List the **actual amount of water saved.**
The amount of water saved cannot be calculated based on the currently available information.

D. If the targets are not being met, provide an explanation as to why, including any progress on the targets.

_____

_____

_____

_____

_____

If you have any questions on how to fill out this form or about the Water Conservation program, please contact the Texas Commission on Environmental Quality at (512) 239-4691.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512-239-3282.