WATER CONSERVATION PLAN FOR THE CITY OF BEDFORD

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ACKNOWLEDGEMENTS

This water conservation plan is based on the model water conservation plan prepared by the Tarrant Regional Water District (TRWD). The TRWD adapted the plan to maintain a consistent and regional approach to water conservation strategies. This plan was prepared pursuant to Texas Commission on Environmental Quality rules. Some material is based on the existing water conservation plans listed in Appendix A.

Questions regarding this water conservation plan should be addressed to the following:

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Water Conservation Plan

City of Bedford

JUNE 2011

1. INTRODUCTION AND OBJECTIVES

Having a dependable water supply has always been a key issue in the development of Texas. The growing population and economic expansion occurring in North Central Texas are placing increased demands on our water supplies. The latest population projections predict the number of people residing in Texas to more than double between the years 2000 and 2060, growing from about 21 million to nearly 46 million within that time span. The Texas Water Development Board predicts water demands to increase by 27 percent. In order to meet the challenge of providing for our current and future needs we must learn to use the water we already have more efficiently. By stretching our existing supplies we can delay the need for new supplies, minimize the environmental impacts associated with developing new water resources, and postpone the high cost of building the infrastructure (dams, treatment facilities, and pipelines) necessary to capture, treat, and transport the additional water into our homes and businesses.

Recognizing the need for efficient use of existing water supplies, the Texas Commission on Environmental Quality (TCEQ) has developed guidelines and requirements governing the development of water conservation plans for public water suppliers [1]. TCEQ guidelines and requirements are included in Appendix B.

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 extend the life of current water supplies by reducing the rate of growth in demand.

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

2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES

The TCEQ rules governing development of water conservation plans for public water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code, which is included in Appendix B. For the purpose of these rules, a water conservation plan is defined as "A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water." [1] The elements in the TCEQ water conservation rules covered in this conservation plan are listed below.

Minimum Conservation Plan Requirements

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

- 288.2(a)(1)(A) – Utility Profile – Section 3 and Appendix C
- 288.2(a)(1)(C) – Specification of Goals – Section 4
- 288.2(a)(1)(D) – Accurate Metering – Sections 5.1 and 5.2
- 288.2(a)(1)(E) – Universal Metering – Section 5.2
- 288.2(a)(1)(F) – Determination and Control of Unaccounted Water – Section 5.4
- 288.2(a)(1)(G) – Public Education and Information Program – Section 6
- 288.2(a)(1)(H) – Non-Promotional Water Rate Structure – Section 7
- 288.2(a)(1)(I) – Reservoir System Operation Plan – Section 8.1
- 288.2(a)(1)(J) – Means of Implementation and Enforcement – Section 9
- 288.2(a)(1)(K) – Coordination with Regional Water Planning Group – Section 8.6 and Appendix E

Conservation Additional Requirements (Population over 5,000)

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

- 288.2(a)(2)(A) – Leak Detection, Repair, and Water Loss Accounting – Sections 5.4, 5.5, and 5.6
- 288.2(a)(2)(B) – Record Management System – Section 5.3
- 288.2(a)(2)(C) – Requirement for Water Conservation Plans by Wholesale Customers – Section 8.5

Additional Conservation Strategies

TCEQ rules also list additional optional but not required conservation strategies, which may be adopted by suppliers. The following optional strategies are included in this plan:

- 288.2(a)(3)(A) – Conservation Oriented Water Rates – Section 7
- 288.2(a)(3)(B) – Ordinances, Plumbing Codes or Rules on Water-Conserving Fixtures – Section 8.3
- 288.2(a)(3)(D) – Reuse and Recycling of Wastewater – Section 8.2
- 288.2(a)(3)(F) – Considerations for Landscape Water Management Regulations – Section 8.4 and Appendix D
- 288.2(a)(3)(G) – Monitoring Method – Section 5.6

TCEQ rules for landscape irrigation include water conservation requirements in Title 30 Chapter 344:

- 344.6 – 344.65 – Subchapter F Standards for Designing, Installing, and Maintaining Landscape Irrigation Systems – Section 8.4

3. WATER UTILITY PROFILE

Appendix C to this water conservation plan is a modified water utility profile based on the format recommended by the TCEQ. Some additional sections were added in order to gather the information necessary to assess the effectiveness of the City water conservation plan.

4. SPECIFICATION OF WATER CONSERVATION GOALS

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

- Keep the per capita municipal water use below the specified amount in gallons per capita per day in a dry year. Municipal use for 2008 was 156 GPDC.

Target Goal Year	2015	2020
Target Goal for Municipal Use GPCD (gallons per capita per day)	148 GPCD	140 GPCD

  The goals are based on the recommendations of the Texas Water Conservation Implementation Task Force which suggest a 1% reduction in gallons per capita per day per year. A water consumption level of 140 gallons per person per day is the statewide recommendation of the Task Force. The Task Force was established per Senate Bill 1094 in 2004 to evaluate matters concerning water conservation.

  It should be noted that all the performance indicators outlined above are developed assuming a year of average rainfall.

- Keep the level of unaccounted water in the system below 12% 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.
- Decrease waste in lawn irrigation by implementation and enforcement of landscape water management regulations, as discussed in Section 8.4.
- Raise public awareness of water conservation and encourage responsible public behavior by a public education and information program, as discussed in Section 6.
- Develop a system specific strategy to conserve water during peak demands, thereby reducing the peak use.

5. METERING, WATER USE RECORDS, CONTROL OF UNACCOUNTED WATER, AND LEAK DETECTION AND REPAIR

One of the key elements in water conservation is careful tracking of water use and control of losses through illegal diversions and leaks. Careful metering of water deliveries and water use, detection and repair of leaks in the distribution system and regular monitoring of unaccounted water are important in controlling losses.

5.1 Accurate Metering of Treated Water Deliveries from the Trinity River Authority

Trinity River Authority supplies all of the water used by the City of Bedford. Water deliveries are metered by the Trinity River Authority using meter with accuracy of ± 2%. These meters are calibrated on a monthly basis by the Trinity River Authority to maintain the required accuracy.

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

All connections to the water system are metered connections. All meters will be maintained with acceptable operating accuracy range as defined by the manufacturer or AWWA Standard for meter accuracy, whichever is more stringent. The City of Bedford changes out 100 residential meters per month. A dead meter list is maintained on a monthly basis to detect stopped meters. The City does not conduct meter testing; instead these meters are replaced on a 10 year replacement cycle.

5.3 Record Management System

As required by TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(2)(B), the City record management system allows for the separation of water sales and uses into residential, commercial, public/institutional, and industrial categories. This information is maintained and tracked by the Customer Service Department.

5.4 Determination and Control of Unaccounted Water

Unaccounted water is the difference between water delivered to customers and metered deliveries to customers plus authorized but unmetered uses. (Authorized but unmetered uses would include use for fire fighting, releases for flushing of lines, and uses associated with new construction.) Unaccounted water can include several categories:

- Inaccuracies in customer 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. (Included in Appendix G.)

- Other.

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

Unaccounted water is calculated in Appendix C. With the measures described in this plan, the City intends to maintain the unaccounted water below 12% in 2008 and subsequent years. If unaccounted water exceeds this goal, The City will implement a more intensive audit to determine the source(s) of and reduce the unaccounted water. The annual conservation report described below is the primary tool used to monitor unaccounted water.

5.5 Leak Detection and Repair

As described above, city crews and personnel are asked to look for and report evidence of leaks in the water distribution system. Areas of the water distribution system in which numerous leaks and line breaks occur are targeted for replacement as funds are available.

5.6 Monitoring of Effectiveness and Efficiency - Annual Water Conservation Report

Appendix C is a water utility profile form that will be used in the development of an annual water conservation report for the City. This form will be completed by May 1 of the following year and will be used to monitor the effectiveness and efficiency of the water conservation program and to plan conservation-related activities for the next year. The form records the water use by category, per capita municipal use, and unaccounted water for the current year and compares them to historical values. The water utility profile and annual water conservation report will also be sent to TRWD, which will monitor regional water conservation trends.

6. CONTINUING PUBLIC EDUCATION AND INFORMATION CAMPAIGN

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

- Insert water conservation information with water bills. Inserts will include material developed by City staff and material obtained from TRWD, TWDB, TCEQ, and other sources.
- Encourage local media coverage of water conservation issues and the importance of water conservation.
- Notify local organizations, schools, and civic groups, such as Home Owners' Associations and the Beautification Committee, that City staff and staff of the Tarrant Regional Water District are available to make presentations on the importance of water conservation and ways to save water.
- Make information on *Texas Smartscape* principles, water conservation brochures, and other water conservation materials available to the public at City Hall and other public places.
- Continue to update the information on water conservation available on the City Web site and include links to the *Texas Smartscape* Web site and to information on water conservation on TRWD, TWDB, and TCEQ Web sites.

7. WATER RATE STRUCTURE

The City will adopt, within five years or in conjunction with any water rate study, an increasing block rate structure. Current water rates can be found in the Schedule of Fees.

8. OTHER WATER CONSERVATION MEASURES

8.1 Reservoir System Operation Plan

The City of Bedford is a customer of the Trinity River Authority, which purchases untreated surface water from the Tarrant Regional Water District. The City of Bedford does not have surface water supplies for which to implement a reservoir system operation plan.

8.2 Reuse and Recycling of Wastewater

The City of Bedford is a customer of the Trinity River Authority, which treats the City's wastewater.

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

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

The City of Bedford will collaborate with the Tarrant Regional Water District and other customer cities in exploring the possibility of a joint purchase effort to establish a regional rebate or incentive program to encourage citizens to retrofit their homes with water-conserving fixtures. The City's participation would be dependent upon available funding.

8.4 Landscape Water Management Regulations

Appendix D is a summary of 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 regulations include the following elements:

- Prohibition of outdoor watering with sprinklers from 10:00 a.m. to 6:00 p.m. every day from June 1 through September 30. (Resetting of watering times in sprinkler systems is recommended to comply with the water schedule. Watering with hand-held hoses, soaker hoses, or dispensers is allowed.)
  Requirement that all new irrigation systems include rain and freeze sensors capable of multiple programming. Any irrigation system installed before August 1, 2008 may not be operated after August 1, 2010 without being equipped with rain and freeze sensors. This requirement does not apply to a single family residential or duplex property, or an individual metered townhome or condominium unit. Existing residential irrigation systems are encouraged to be retrofitted with similar rain and freeze sensors.

- Requirement that all new irrigation systems be in compliance with state design and installation regulations (TAC Title 30, Part 1, Chapter 344).
- Prohibition of irrigation systems that spray directly onto impervious surfaces or onto other non-irrigated areas. (Wind driven water drift will be taken into consideration.)
- Prohibition of use of poorly maintained sprinkler systems that waste water.
- Prohibition of outdoor watering during any form of precipitation.
- Enforcement of the regulations by a system of warnings followed by fines for continued or repeat violations.

8.5 Coordination with Regional Water Planning Group and TRWD

Appendix E includes a letter sent to the Chair of the Region C Water Planning Group with this water conservation plan. Each customer (direct and indirect) is required to send a copy of their draft ordinance(s) or regulation(s) implementing the plan and their water utility profile to TRWD for review and comment. The adopted ordinance(s) or regulation(s) and the adopted water utility profile will also be sent to TRWD.

9. IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN

Appendix F contains a copy of the ordinance adopted by the City Council that designates responsible officials to implement and enforce the water conservation plan.

Appendix D contains copies of ordinances currently in place to enforce proper landscape water management, which also includes information about enforcement.

Appendix G contains a copy of an ordinance related to illegal connections and water theft.

APPENDIX A

LIST OF REFERENCES

Appendix A
List of References

(1) Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter A, Rules 288.1 and 288.5, and Subchapter B, Rule 288.22, downloaded from http://www.tceq.state.tx.us/assets/public/legal/rules/rules/pdflib/288a.pdf, March 2007.

(2) Texas Water Development Board: "Report 362 – Water Conservation Best Management Practices," prepared by Water Conservation Implementation Task Force, Austin, November 2004.

The TRWD model water conservation plan used in developing this plan was largely adapted from the following two plans:

- North Texas Municipal Water District: "Model Drought Contingency Plan for North Texas Municipal Water District Member Cities and Customers," prepared by Freese and Nichols, Inc., Fort Worth, August 2004.
- Tarrant Regional Water District: "Water Conservation and Drought Contingency Plan," adopted by the Board of Directors, Fort Worth, May 2005 with revisions in May 2007.

The following conservation and drought contingency plans and related documents were reviewed in the development of this plan. References marked with a * were used heavily in the development of this plan.

- City of Austin Water Conservation Division: "City of Austin Water Drought Contingency Plan, Developed to Meet Senate Bill 1 Regulatory Requirements," Austin, August 1999.
- City of Austin Water Conservation Division: "City of Austin Water Conservation Plan, Developed to Meet Senate Bill 1 Regulatory Requirements," Austin, August 1999.
- Upper Trinity Regional Water District: "Water Conservation Plan and Emergency Water Demand Management Plan," adopted by the Board of Directors, Lewisville, August 5, 1999.
- Upper Trinity Regional Water District: "Water Conservation Plan and Emergency Water Demand Management Plan (2002 Amended)," adopted by the Board of Directors, Lewisville, February 2002.
- *City of Dallas Water Utilities Department: "City of Dallas Water Management Plan," adopted by the City Council, Dallas, September 1999.

- Updates to City of Dallas Water Management Plan found at http://www.dallascityhall.com in September 2003.
- *City of Dallas Water Utilities Department: "City of Dallas Water Conservation Plan," adopted by the City Council, Dallas, September 1999.
- *City of Fort Worth: "Water Conservation plan for the City of Fort Worth," Fort Worth, August 1999.
- Updates to the City of Fort Worth water conservation plan found at http://ci./fort-worth.tx.us in September 2003.
- *City of Fort Worth: "Emergency Water Management Plan for the City of Fort Worth," Fort Worth, August 19, 2003.
- HDR Engineering, Inc.: "Water Conservation and Emergency Demand Management Plan," prepared for the Tarrant Regional Water District, Austin, February 2000.
- Freese and Nichols, Inc.: "Water Conservation and Drought Contingency Plan," prepared for Brown County Water Improvement District No. 1, Fort Worth, August 1999.
- Freese and Nichols, Inc.: "Water Conservation and Drought Contingency Plan," prepared for the Sabine River Authority of Texas, Fort Worth, September 1994.
- HDR Engineering, Inc.: "Water Conservation and Emergency Demand Management Plan," prepared for the Tarrant Regional Water District, Austin, June 1998.
- HDR Engineering, Inc.: "Water Conservation Plan for the City of Corpus Christi," adopted by the City of Corpus Christi City Council, August 24, 1999.
- City of Houston's water conservation plan downloaded September 2003 from http://www.cityofhouston.gov
- City of Houston: "Ordinance N. 2001-753, Amending Chapter 47 of the Code of Ordinances Relating to Water Emergencies," Houston, August 2001.
- City of Houston: "Ordinance No. 98-764, Relating to Water Conservation," Houston, September 1998.
- City of Houston: "Water Conservation Plan," 1998.
- City of Houston: "Water Emergency Response Plan," Houston, July 15, 1998.
- City of Lubbock: "Water Conservation Plan," ordinance number 10177 adopted by the City Council in August 1999.
- City of El Paso Water Conservation Ordinance downloaded August 14, 2003 from http://www.epwu.org/ordinance.html
- San Antonio Water System: "Water Conservation and Reuse Plan," San Antonio, November 1998 with June 2002 updates.

- North Texas Municipal Water District: “District Policy No. 24 Water Conservation Plan Containing Drought Contingency Plan,” adopted August 1999.
- GDS Associates, Inc.: “Water Conservation Study,” prepared for the Texas Water Development Board, Fort Worth, 2002.
- A & N Technical Services, Inc.: “BMP Costs & Savings Study: A Guide to Data and Methods for Cost-Effectiveness Analysis of Urban Water Conservation Best Management Practices,” prepared for The California Urban Water Conservation Council, Santa Monica, California, July 2000.
- *City of Dallas: “City of Dallas Ordinances, Chapter 49, Section 21.1,” Dallas, October 1, 2001.

APPENDIX B

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES ON MUNICIPAL WATER CONSERVATION PLANS

Texas Commission on Environmental Quality Rules on Water Conservation Plans for Municipal Uses by Public Water Suppliers

Texas Administrative Code

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) 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.

(4) 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).

(5) 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.

(6) 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.

(7) 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.

(8) Mining use--The use of water for mining processes including hydraulic use, drilling, washing sand and gravel, and oil field repressuring.

(9) 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.

(10) 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.

(11) 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.

(12) 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.

(13) 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.

(14) Public water supplier--An individual or entity that supplies water to the public for human consumption.

(15) 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.

(16) 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.

(17) 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.

(18) 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).

(19) 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

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; and

(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, 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.

(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 greywater;

(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

APPENDIX C

2008 WATER UTILITY PROFILE

Texas Commission on Environmental Quality

UTILITY PROFILE & WATER CONSERVATION PLAN REQUIREMENTS FOR MUNICIPAL WATER USE BY PUBLIC WATER SUPPLIERS

This form is provided to assist entities in water conservation plan development for municipal water use by a retail public water supplier. Information from this form should be included within a water conservation plan for municipal use. If you need assistance in completing this form or in developing your plan, please contact the conservation staff of the Resource Protection Team in the Water Supply Division at (512) 239-4691.

Name of Entity: City of Bedford

Address & Zip: 1813 Reliance Parkway, Bedford TX 76021

Telephone Number: **(817)952-2258** **Fax: (817)952-2240**

Form Completed By: Stephanie Corso

Title: Environmental Specialist

Date:

Signature

Name and Phone Number of Person/Department responsible for implementing a water conservation program: Stephanie Corso 817-952-2258

UTILITY PROFILE 2008

I. POPULATION AND CUSTOMER DATA

A. Population and Service Area Data

1. Attach a copy of your service-area map and, if applicable, a copy of your Certificate of Convenience and Necessity (CCN).

2. Service area size (square miles): 10

3. Current population of service area: 49,450

4. Current population served:

   a. water 100%
   b. wastewater 100%

5. Population served by water utility for the previous five years:

Year	Population
2008	49,450
2007	49,050
2006	48,000
2005	48,450
2004	48,000

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

Year	Population
2010	48,699
2020	50,210
2030	50,636
2040	unavailable
2050	unavailable

7. List source/method for the calculation of current and projected population:

North Central Texas Council of Governments

B. Active Connections

1. Current number of active connections. Check whether multi-family service is counted as Residential __**X**__ or Commercial _____

Treated water users:	Metered	Not-metered	Total
Residential	13725	0	13725
Commercial	665	0	665
Industrial	N/A		
Builders/Sprinklers	516	0	516

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

Year	2008	2007	2006
Residential	77	60	59
Commercial	15	17	11
Industrial	N/A	N/A	N/A
Other	N/A	N/A	N/A

C. High Volume Customers

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

	Customer	Use (1,000gal./yr.)	Treated/Raw Water
(1)	Walden Residential Property Management	75,757	Treated
(2)	HEB Hospital	59,168	Treated
(3)	Colonial Properties Trust	47,202	Treated
(4)	Forestwood/Oak Creek Apartments	34,427	Treated
(5)	City of Bedford	22,475	Treated
(6)	HEB Independent School District	20,553	Treated
(7)	Village at Central Park	20,054	Treated
(8)	Windmill Terrace	18,267	Treated
(9)	Pecan Creek	17,829	Treated
(10)	Arbors of Central Park	16,088	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
Treated Water

Year	2008	2007	2006	2005	2004
January	161007	149741	198416	156385	191891
February	155887	154982	124696	129235	160199
March	183364	211419	134202	165828	196589
April	202308	188380	216622	221987	233552
May	259277	192439	277724	244348	260126
June	360522	204490	353183	325333	221434
July	449220	234616	401705	375310	347471
August	372267	357671	482396	352830	339505
September	323181	285513	328239	373961	316948
October	301924	277918	297229	329809	244680
November	227678	233588	223584	235992	182266
December	181547	181483	169082	193903	182650

Total	3178182	2672240	3207078	3100163	2877311

Indicate how the above figures were determined (e.g., from a master meter located at the point of a diversion from the source or located at a point where raw water enters the treatment plant, or from water sales).

Two meters from treatment source to distribution system.

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

Year	Residential	Commercial	Industrial	Other (Builder/Sprinkler)	Total
2008	2113018	382235		330691	2825944
2007	1817451	379627		235302	2432380
2006	2424411	430392		396621	3251424
2005	2293780	426438		337071	3057289
2004	1926864	398392		253707	2578963

3. Calculate gallons per capita per day by account types for the past five years.

Account Type	**Gallons per capita per day by Account Type (Total water diverted (or treated) / population / 365)**				
	2008	**2007**	**2006**	**2005**	**2004**
Residential	**117**	**101**	**138**	**129**	**109**
Commercial	**21**	**21**	**24**	**24**	**23**
Other (Builder/ Sprinkler)	**18**	**13**	**23**	**19**	**14**
Total	**156**	**135**	**185**	**172**	**147**

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

Year	Amount (gal.)	%
2008	352,238,000	11%
2007	239,860,000	9%
2006	44,346,000	1%
2005	42,874,000	1%
2004	298,348,000	10%

5. Municipal per capita water use (in gallons per day) for previous five years. Municipal per capita water use is the sum total of water diverted into a water supply system for residential, commercial, and public and institutional uses divided by total population served. GPCD includes water losses.

Year	Population	Total Water Diverted (1,000 gal.)		Municipal Per Capita Use (GPCD)
2008		49450	3178182	156
2007		49050	2672240	135
2006		48600	3207078	185
2005		48450	3100163	172
2004		48000	2877311	147

6. Per Capital Goals: 2015: 148 2020: 140

7. Water use (GPCD) increased from 2007 to 2008 by 13%. This increase was due to heavier rains the region received in 2007 as opposed to 2008.

III. WATER SUPPLY SYSTEM DATA

A. Water Supply Sources

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

Source		Amount Authorized
Surface Water:	_____N/A_____	_____N/A_____acre-feet
Groundwater:	____ Trinity Sands_____	_____N/A_____acre-feet
Contracts:	_____Trinity River Authority_____	pay as you go, based on % of usage
Other:		N/A

B. Treatment and Distribution System

1. Design daily capacity of system: _____16_____ MGD
2. Storage Capacity: Elevated ___5_____ MGD, Ground _1.325___MGD

3. If surface water, do you recycle filter backwash to the head of the plant?
   N/A
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.

IV. WASTEWATER SYSTEM DATA

A. Wastewater System Data

The City of Bedford contracts with the Trinity River Authority (TRA) for its wastewater system. City wastewater is treated at the TRA's Central Regional Wastewater System.

B. Wastewater Data for Service Area

1. Percent of water service area served by wastewater system: 100 %

2. Monthly volume treated for previous three years (in 1,000 gallons):

Year	2008	2007	2006
January	135601	149881	129007
February	132714	132483	120030
March	151495	138183	136700
April	136093	138261	129815
May	138998	150845	134207
June	130020	149030	127319
July	134106	154138	129371
August	138522	138452	134116
September	130800	136737	130076
October	131138	138344	132961
November	127014	130496	127887
December	112895	136933	131994
Total	1599396	1693784	1563485

APPENDIX D

LANDSCAPE WATER MANAGEMENT REGULATIONS

ORDINANCE NO. 08-2912

ORDINANCE NO. 08-2913

ORDINANCE NO. 08-2912

2000 International Plumbing Code Amendment

AN ORDINANCE AMENDING CHAPTER 22 OF THE CITY OF BEDFORD CODE OF ORDINANCES ENTITLED "ARTICLE IV PLUMBING; IRRIGATION", AS PREVIOUSLY ADOPTED, IN ORDER TO ESTABLISH THE MINIMUM STANDARDS FOR INSTALLATION OF IRRIGATION SYSTEMS WITHIN THE CORPORATE LIMITS OF THE CITY OF BEDFORD AND PERMIT FEES THEREFOR; PROVIDING FOR RECORDING OF SUCH CODE AS A PUBLIC RECORD PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE OF ALL ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR A PENALTY FOR VIOLATIONS HEREOF; PROVIDING A SAVINGS CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

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

WHEREAS, the City Council of the City of Bedford, Texas has determined that water conservation and environmental protection are important issues and concerns affecting the City; and,

WHEREAS, properly-installed irrigation systems will conserve water, help avoid wasteful use, and improve the overall quality of life for the citizens of Bedford, Texas; and,

WHEREAS, during the 2007 legislative session, the Texas Legislature adopted House Bill 1656; and,

WHEREAS, House Bill 1656 amended Chapter 401 of the Texas Local Government Code to require a city with a population of 20,000 or more to regulate the installation of irrigation systems within the corporate limits of the city as well as the city's extraterritorial jurisdiction; and,

WHEREAS, the provisions herein are necessary to promote and protect the health, safety, and welfare of the public by creating an urban environment that is protective of the city's water supply and provides an enhanced quality of life for the citizens of the City of Bedford.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BEDFORD, TEXAS:

SECTION 1. That the International Plumbing Code, 2000 Edition, published by the International Code Council, is hereby amended by adding section 315 as follows:

315. Landscape Irrigation. Minimum Standards for Landscape Irrigation Systems.

The landscape irrigation rules promulgated by the Texas Commission on Environmental Quality and contained in Chapter 344, Subchapters E and F, §§344.50-344.65 TEXAS ADMINISTRATIVE CODE, as the same may be from time to time amended, are hereby adopted by reference as the landscape irrigation rules of the City.

SECTION 2. That this ordinance shall be cumulative of all provisions of ordinances of the City of Bedford, Texas, except where the provisions of this ordinance are in direct conflict with the provisions of such ordinances, in which event the conflicting provisions of such ordinances are hereby repealed.

SECTION 3. That it is hereby declared to be the intention of the City Council that the phrases, clauses, sentences, paragraphs, and sections of this ordinance are, severable, and if any phrase, clause sentence, paragraph or section of this ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the

remaining phrases, clauses, sentences, paragraphs and sections of this ordinance, since the same would have been enacted by the City Council without the incorporation in this ordinance of any such unconstitutional phrase, clause, sentence, paragraph or section.

SECTION 4. That any person, firm or corporation who violates, disobeys, omits, neglects or refuses to comply with or who resists the enforcement of any of the provisions of this ordinance shall be fined not more than five hundred dollars ($500) for each day that a violation is permitted to exist. Each day that a violation is permitted to exist shall constitute a separate offense.

SECTION 5. That all rights and remedies of the City of Bedford are expressly saved as to any and all violations of the provisions of any ordinances affecting the regulation and control of the use, occupancy, maintenance, repair, design, construction and quality of materials for buildings and structures within the City which have accrued at the time of the effective date of this ordinance; and, as to such accrued violations and all pending litigation, both civil and criminal, whether pending in court or not, under such ordinances, same shall not be affected by this ordinance but may be prosecuted until final disposition by the courts.

SECTION 6. That this ordinance shall be in full force and effect from and after its passage as required by law but not before January 1, 2009, and is so ordained.

PASSED AND APPROVED this 9th day of December 2008, by a vote of 6 ayes, 0 nays and 0 abstentions, at a regular meeting of the City Council of the City of Bedford, Texas.

_____
Jim Story, Mayor

ATTEST:

_____
Shanae Jennings, City Secretary

APPROVED AS TO FORM:

_____
Stan Lowry, City Attorney

ORDINANCE NO. 08-2913

2000 International Residential Code Amendment

AN ORDINANCE AMENDING CHAPTER 22 OF THE CITY OF BEDFORD CODE OF ORDINANCES ENTITLED "ARTICLE IIIa INTERNATIONAL RESIDENTIAL CODE FOR ONE AND TWO FAMILY DWELLINGS", AS PREVIOUSLY ADOPTED, IN ORDER TO ESTABLISH THE MINIMUM STANDARDS FOR INSTALLATION OF IRRIGATION SYSTEMS WITHIN THE CORPORATE LIMITS OF THE CITY OF BEDFORD AND PERMIT FEES THEREFOR; PROVIDING FOR RECORDING OF SUCH CODE AS A PUBLIC RECORD; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE OF ALL ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR A PENALTY FOR VIOLATIONS HEREOF; PROVIDING A SAVINGS CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

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

WHEREAS, the City Council of the City of Bedford, Texas has determined that water conservation and environmental protection are important issues and concerns affecting the City; and,

WHEREAS, properly-installed irrigation systems will conserve water, help avoid wasteful use, and improve the overall quality of life for the citizens of Bedford, Texas; and,

WHEREAS, during the 2007 legislative session the Texas Legislature adopted House Bill 1656; and,

WHEREAS, House Bill 1656 amended Chapter 401 of the Texas Local Government Code to require a city with a population of 20,000 or more to regulate the installation of irrigation systems within the corporate limits of the city as well as the city's extraterritorial jurisdiction; and,

WHEREAS, the provisions herein are necessary to promote and protect the health, safety, and welfare of the public by creating an urban environment that is protective of the City's water supply and provide an enhanced quality of life for the citizens of the City of Bedford.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BEDFORD, TEXAS:

SECTION 1. That the International Plumbing Code, 2000 Edition, published by the International Code Council, is hereby amended by adding section 315 as follows:

P2609. Landscape Irrigation. Minimum Standards for Landscape Irrigation Systems.

The landscape irrigation rules promulgated by the Texas Commission on Environmental Quality and contained in Chapter 344, Subchapters E and F, §§344.50-344.65 **TEXAS ADMINISTRATIVE CODE**, as the same may be from time to time amended, are hereby adopted by reference as the landscape irrigation rules of the City.

SECTION 2. That this ordinance shall be cumulative of all provisions of ordinances of the City of Bedford, Texas, except where the provisions of this ordinance are in direct conflict with the provisions of such ordinances, in which event the conflicting provisions of such ordinances are hereby repealed.

SECTION 3. That it is hereby declared to be the intention of the City Council that the phrases, clauses, sentences, paragraphs, and sections of this ordinance are, severable, and if any phrase, clause sentence, paragraph or section of this ordinance shall be

declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs and sections of this ordinance, since the same would have been enacted by the City Council without the incorporation in this ordinance of any such unconstitutional phrase, clause, sentence, paragraph or section.

SECTION 4. That any person, firm or corporation who violates, disobeys, omits, neglects or refuses to comply with or who resists the enforcement of any of the provisions of this ordinance shall be fined not more than five hundred dollars ($500) for each day that a violation is permitted to exist. Each day that a violation is permitted to exist shall constitute a separate offense.

SECTION 5. That all rights and remedies of the City of Bedford are expressly saved as to any and all violations of the provisions of any ordinances affecting the regulation and control of the use, occupancy, maintenance, repair, design, construction and quality of materials for buildings and structures within the City which have accrued at the time of the effective date of this ordinance; and, as to such accrued violations and all pending litigation, both civil and criminal, whether pending in court or not, under such ordinances, same shall not be affected by this ordinance but may be prosecuted until final disposition by the courts.

SECTION 6. That this ordinance shall be in full force and effect from and after its passage as required by law but not before January 1, 2009, and is so ordained.

PASSED AND APPROVED this 9th day of December 2008, by a vote of 6 ayes, 0 nays and 0 abstentions, at a regular meeting of the City Council of the City of Bedford, Texas.

_____
Jim Story, Mayor

ATTEST:

_____
Shanae Jennings, City Secretary

APPROVED AS TO FORM:

_____
Stan Lowry, City Attorney

APPENDIX E

LETTER TO REGION C
WATER PLANNING GROUP

CITY of BEDFORD

SERVICE CENTER • 1813 RELIANCE PARKWAY • BEDFORD TEXAS 76021 • (817) 952-2200 • FAX (817) 952-2240

April 27, 2009

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

Jim

Dear ~~Mr. Parks~~:

Enclosed please find a copy of the City of Bedford Water Conservation and Drought Contingency 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 Texas Commission on Environmental Quality rules.

Sincerely,

John

John F. Kubala, P.E.
Public Works Director

APPENDIX F

ORDINANCE NO. 09-2925

ADOPTION OF WATER CONSERVATION PLAN

ORDINANCE NO. 09-2925

AN ORDINANCE AMENDING CHAPTER 118 "UTILITIES", ARTICLE IV "RESTRICTIONS ON OUTDOOR USE OF WATER" OF THE CITY OF BEDFORD CODE OF ORDINANCES, AS AMENDED IN ITS ENTIRETY BY THE ADOPTION OF THE REVISED WATER RESOURCE MANAGEMENT ORDINANCE TO PROMOTE RESPONSIBLE USE OF WATER; PROVIDING FOR A FINE OF UP TO $500 FOR EACH OFFENSE IN VIOLATION OF THE ORDINANCE AND/OR DISCONNECTION OF WATER SERVICE FOR NONCOMPLIANCE WITH THE PROVISIONS OF THE WATER RESOURCE MANAGEMENT ORDINANCE; PROVIDING A REPEALING CLAUSE; PROVIDING A SEVERABILITY CLAUSE; AND DECLARING AN EFFECTIVE DATE.

WHEREAS, the City of Bedford, 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 Drought Contingency Plan and a Water Conservation Plan; and,

WHEREAS, the City has determined an urgent need in the best interest of the public to adopt a Drought Contingency Plan and 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.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BEDFORD TEXAS:

SECTION 1. That all matters stated hereinabove are found to be true and correct and are incorporated herein by reference.

SECTION 2. That the City of Bedford Code of Ordinances Chapter 118 "Utilities", Article IV "Restrictions on Outdoor Use of Water", is hereby amended in its entirety to read as follows:

ARTICLE IV. WATER RESOURCE MANAGEMENT

DIVISION 1. GENERAL PROVISIONS

Section 118-111. Definitions

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words in the plural number include the singular number, and words in the singular number include the plural number. The word "shall" is always mandatory and not merely directory.

City is the City of Bedford.

Person is any person, firm, partnership, association, corporation, company, or organization of any kind.

TCWSP is the Tarrant County Water Supply Project.

TRA is the Trinity River Authority.

TRWD is the Tarrant Regional Water District.

Water is water from the City water system.

Section 118-112. Application of Regulations

The provisions of this article shall apply to all persons using water from the water system of the city. The provisions of this article shall not apply to those functions necessary for the public health, safety and welfare, such as emergency fire protection.

Section 118-113. General Restrictions on Water Use

(a) All new irrigation systems must be in compliance with ordinances 08-2912 and 08-2913 of the City Code of Ordinances, as the same may be from time to time amended, including but not limited to system design and installation requirements and the prohibition of irrigation systems that spray directly onto impervious surfaces or other non-irrigated areas.

(b) Except for hand watering and the use of soaker hoses, it shall be unlawful for any person to irrigate, water, or cause or permit the irrigation or watering of any lawn or landscape located on premises owned, leased, or managed by that person between the hours of 10:00 a.m. and 6:00 p.m. It is an affirmative defense to prosecution that the irrigation or watering of any lawn or landscape during the prohibited time was done for the purpose of establishing hydromulch, grass sod, grass seed; dust control for sport fields; or for the maintenance, repair, or testing of an irrigation system. The escape of water through defective plumbing, which shall mean the knowing permission for defective plumbing to remain out of repair, is hereby prohibited.

DIVISION 2. DROUGHT CONTINGENCY PLAN

Section 118-114. Emergency Water Restrictions

(a) Purpose and scope. The purpose of this section is to establish the city's policy in the event of shortages or delivery limitations in the city's water supply and to establish water restrictions to be enforced in case of drought or emergency conditions.

(b) Drought contingency plan. The drought contingency plan, as the same may be from time to time amended, is attached hereto as Exhibit A and is incorporated herein by reference.

(c) Authority. The City Manager or official designee is authorized to implement measures prescribed when required by this section and by the drought contingency plan approved by the city council. The Public Works Director is authorized to enforce the measures implemented and to promulgate regulations, not in conflict with this section or state and federal laws, in aid of enforcement.

(d) Initiation of plan stages. When a trigger condition has been reached, the city will notify the public through publication of articles in the Fort Worth Star Telegram and announcements on local radio and television. Signs will also be posted at public places throughout the city such as the library, post office, city hall, etc. Notices will also be posted on the city website.

(e) Duration of stage; change. A stage will remain in effect until the conditions that triggered initiation of the stage have been eliminated. If the stage is initiated because of excessive demands, all initiated actions will remain in effect through September 30 of the year in which they were triggered unless the City Manager or official designee determines that conditions exist that will allow termination of the stage before September 30. Upon recommendation of the Public Works Director, the City Manager or official designee may terminate, upgrade or downgrade the stage. Any such change must be made in the same manner prescribed in subsection (d).

DIVISION 3. WATER CONSERVATION PLAN

Section 118-115 Adoption of Water Conservation Plan

(a) Purpose and scope. The purpose of this section is to establish the city's policy on water conservation measures.

(b) Water conservation plan. The water conservation plan, as the same may be from time to time amended, is attached hereto as Exhibit B and is incorporated herein by reference.

(c) Authority. The City Manager or official designee is authorized to implement measures prescribed when required by this section and by the water conservation plan approved by the city council. The Public Works Director is authorized to enforce the measures implemented and to promulgate regulations, not in conflict with this section or state and federal laws, in aid of enforcement.

DIVISION 4. RAIN AND FREEZE SENSORS

Section 118-116. Irrigation System Rain and Freeze Sensors.

(a) Any irrigation system installed within the City on or after August 1, 2008 must be equipped with rain and freeze sensors.

(b) Any irrigation system installed before August 1, 2008 may not be operated after August 1, 2010 without being equipped with rain and freeze sensors. This requirement does not apply to a single family residential or duplex property, or an individual metered townhome or condominium unit.

(c) It shall be unlawful for any person to knowingly install, or cause or permit the installation of an irrigation system that does not comply with this section.

(d) It shall be unlawful for any person on premises owned, leased, or managed by that person to knowingly or recklessly operate, or cause or permit the operation of an irrigation system that does not comply with this section.

(e) It shall be unlawful for any person to operate an irrigation system with broken or missing heads after receiving notification from the building official and such representative as they may designate.

(f) It shall be unlawful for any person to operate an irrigation system which causes significant runoff.

DIVISION 5. ENFORCEMENT

Section 118-117. Criminal responsibility.

A person commits an offense of inappropriate use of water by any of the following actions:

(a) A person may not knowingly make, cause or permit a use of an irrigation system contrary to the requirements of this article.

(b) A person may not knowingly make, cause or permit a use of water contrary to the measures implemented by the city manager or official designee as prescribed in the water conservation plan.

(c) A person may not knowingly make, cause or permit a use of water contrary to the measures implemented by the city manager or official designee as prescribed in the drought contingency plan. It is presumed that a person has knowingly made, caused or permitted a use of water contrary to the measures implemented if the mandatory measures have been formally ordered consistent with the terms of section 118-114(d) and:

(1) The manner of use has been prohibited by the drought contingency plan;

(2) The amount of water used exceeds that allowed by the drought contingency plan; or

(3) The manner or amount used violates the terms and conditions of a compliance agreement made pursuant to a variance granted by the Public Works Director pursuant to section 118-118.

Section 118-118. Variances.

Variances will be considered only under extreme circumstances for health or public safety reasons. The City Manager or official designee will be responsible for making this determination.

Sections 118-117—118-145 Reserved.

SECTION 2. That any person violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined up to $500.00 and/or discontinuance of water service by the City. A separate offense shall be deemed committed upon each day during or on which a violation occurs or continues.

SECTION 3. That all ordinances or any parts thereof in conflict with the terms of this ordinance shall be and hereby are deemed repealed and of no force or effect; provided, however, that the ordinance or ordinances under which the cases currently filed and pending in the Municipal Court of the City of Bedford, Texas, shall be deemed repealed only when all such cases filed and pending under such ordinance or ordinances have been disposed of by a final conviction or a finding not guilty or nolo contendere, or dismissal.

SECTION 4. That if any section, article, paragraph, sentence, clause, phrase or word in this ordinance, or application thereto any person or circumstance is held invalid or unconstitutional by a Court of competent jurisdiction, such holding shall not affect the validity of the remaining portions of this ordinance; and the City Council hereby declares it would have passed such remaining portions of the ordinance despite such invalidity, which remaining portions shall remain in full force and effect.

SECTION 5. That this ordinance shall be in full force and effect after its passage and publication as required by law, and it is so ordained.

PRESENTED AND PASSED on this 14th day of April 2009, by a vote of 7 ayes, 0 nays and 0 abstentions, at a regular meeting of the City Council of the City of Bedford, Texas.

_____
Jim Story, Mayor

ATTEST:

_____
Shanae Jennings, City Secretary

APPROVED AS TO FORM:

_____
Stan Lowry, City Attorney

APPENDIX G

ORDINANCE NO. 05-2812
ILLEGAL WATER CONNECTIONS
AND THEFT OF WATER

ORDINANCE NO. 05-2812

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BEDFORD, TEXAS, PERTAINING TO ILLEGAL WATER CONNECTIONS AND/OR THE THEFT OF WATER FROM THE WATER SUPPLY OF THE CITY OF BEDFORD; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A PENALTY; AUTHORIZING PUBLICATION; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, The City of Bedford 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 of Bedford is authorized to adopt such policies necessary to preserve and conserve available water supplies; and

WHEREAS, the City of Bedford seeks to minimize water losses to its supply of water from illegal connections and theft through the adoption of an ordinance pertaining to illegal water connections and theft of water.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BEDFORD, TEXAS:

Section 1: THAT, the above findings are hereby found to be true and correct and are incorporated herein in their entirety.

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, meter box lids, hydrants, lines, pump stations, ground storage tanks, and elevated storage tanks. This shall include diect or indirect efforts to initiaite 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 knowlingly causes, suffers or allows the initiation or restoration of water sevice to the property after termination of services(s). For purposes of this section, it shall be asumed that the owner, occupant, or person in control of the property caused, suffered, or allowed the unlawful initiation or restoration of services(s).

(c) A person may not knowlingly 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: THAT, any person, firm or corporation violating any provision of this article shall be deemed guilty of a Class C misdeameanor and shall, upon final conviction thereof, be fined in an amount not to exceed $2,000.00 (Two Thousand Dollars) and any subsequent offense shall be a minimum of $500. and not to exceed $2,000. and/or discontinuance of water service by the City.

Section 4: THAT, if any section, paragraph, clause or provision of this Ordinance shall for any reason be held to be invalid or unenforceable, the invalidity or

unenforceability of such section, paragraph, clause or provision shall not effect any of the remaining provisions of this Ordinance.

Section 5: THAT, the City Secretary is hereby authorized and directed to cause publication of the descriptive caption and penalty clause of this Ordinance as an alternative method of publication provided by law.

Section 7: THAT, this Ordinance shall become effective upon its adoption and publication provided by law.

PASSED AND APPROVED this 8th day of November, 2005, by a vote of 6 ayes, 0 nays and 0 abstentions, at a regular meeting of the City Council of the City of Bedford, Texas.

_____
Jim Story, Mayor

ATTEST:

_____
Rita Frick, City Secretary

APPROVED AS TO FORM:

_____
Stan Lowry, City Attorney