

## **ARTICLE 13.07 WATER CONSERVATION PLAN**

### **Sec. 13.07.001 Introduction and objectives**

(a) Water supply has always been a key issue in the development of the state. In recent years, the growing population and economic development of North Central Texas have 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 NTMWD and its member cities and customers 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.

(b) 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 and drought contingency plans for public water suppliers. The best management practices established by the Water Conservation Implementation Task Force, established pursuant to SB1094 by the 78th Legislature, were also considered in the development of the water conservation measures. The North Texas Municipal Water District (NTMWD) also developed a model water conservation plan for its member cities and customers following TCEQ guidelines and requirements. The town's water conservation plan was developed in concert with that model and with the NTMWD's own water conservation plan.

(c) This plan includes measures that are intended to result in ongoing, long-term water savings. The Drought Contingency and Water Emergency Response Plan addresses strategies designed to temporarily reduce water use in response to specific conditions. The objectives of this model water conservation plan are as follows:

- (1) To reduce water consumption from the levels that would prevail without conservation efforts;
- (2) To reduce the loss and waste of water;
- (3) To improve efficiency in the use of water;
- (4) To document the level of recycling and reuse in the water supply; and
- (5) To extend the life of current water supplies by reducing the rate of growth in demand.
- (6) To preserve supplies for essential uses under drought or water emergency conditions.

### **Sec. 13.07.002 Texas commission on environmental quality rules**

Conservation plans. 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. For the purpose of these rules, a water conservation plan is defined as “A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water.” The elements in the TCEQ water conservation rules covered in this conservation plan are listed below.

(1) 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:

- (A) 288.2(a)(1)(A): Utility profile.
- (B) 288.2(a)(1)(B): Specification of goals.
- (C) 288.2(a)(1)(C): Specific, quantified goals.
- (D) 288.2(a)(1)(D): Accurate metering.
- (E) 288.2(a)(1)(E): Universal metering.
- (F) 288.2(a)(1)(F): Determination and control of unaccounted water.
- (G) 288.2(a)(1)(G): Public education and information program.
- (H) 288.2(a)(1)(H): Nonpromotional water rate structure.
- (I) 288.2(a)(1)(I): Reservoir system operation plan.
- (J) 288.2(a)(1)(J): Means of implementation and enforcement.
- (K) 288.2(a)(1)(K): Coordination with regional water planning group.
- (L) 288.2(c): Review and update of plan.

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

- (A) 288.2(a)(2)(A): Leak detection, repair, and water loss accounting.
- (B) 288.2(a)(2)(B): Record management system.

(C) 288.2(a)(2)(C): Requirement for water conservation plans by wholesale customers.

(3) 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 A.

(A) In addition to the TCEQ required water conservation strategies, the NTMWD also requires the following strategy:

(i) 288.2(a)(3)(F): Considerations for landscape water management regulations.

(B) TCEQ rules also include optional, but not required, conservation strategies, which may be adopted by suppliers. The NTMWD recommends that the following strategies:

(i) 288.2(a)(3)(A): Conservation oriented water rates.

(ii) 288.2(a)(3)(B): Ordinances, plumbing codes or rules on water-conserving fixtures.

(iii) 288.2(a)(3)(C): Replacement or retrofit of water-conserving plumbing fixtures.

(iv) 288.2(a)(3)(D): Reuse and recycling of wastewater.

(v) 288.2(a)(3)(F): Considerations for landscape water management regulations.

(vi) 288.2(a)(3)(G): Monitoring method.

(vii) 288.2(a)(3)(H): Additional conservation ordinance provisions.

### **Sec. 13.07.003 Water utility profile**

Appendix B to this water conservation plan is based on the format recommended by the TCEQ for a water utility profile. In adopting this plan, the town will provide a draft utility profile to NTMWD for review and comment. A final water utility profile will be provided to NTMWD upon adoption of and any updates to this plan.

### **Sec. 13.07.004 Specification of water conservation goals**

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

- (1) Maintain the per capita municipal water use below the specified amount in gallons per capita per day in a dry year, as shown in the completed table 4.1.
- (2) Maintain the level of unaccounted water in the system below twelve percent annually in 2013 and subsequent years.
- (3) Implement and maintain a program of universal metering and meter replacement and repair.
- (4) Increase efficient water usage through a water conservation ordinance, order or resolution. (This ordinance is required by the NTMWD.)
- (5) Decrease waste in lawn irrigation by implementation and enforcement of landscape water management regulations.
- (6) Raise public awareness of water conservation and encourage responsible public behavior by a public education and information program.
- (7) Develop a system specific strategy to conserve water during peak demands, thereby reducing the peak use.

<u>Table 4.1</u>			
<u>Five-Year and Ten-Year Municipal Per Capita Water Use Goals (gpcd)</u>			
Description	Current Average (gpcd)	5-Year Goal (gpcd)	10-Year Goal (gpcd)
Current 5-year average per capita municipal use with credit for reuse	268	262	255
Expected reduction due to low-flow plumbing fixtures			
Projected reduction due to elements in this plan			
Water conservation goals (with credit for reuse)			

**Sec. 13.07.005 Metering, water use records, control of unaccounted water, and leak detection and repair**

One of the key elements of water conservation is tracking water use and controlling losses caused by 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.

(1) Accurate metering of treated water deliveries from NTMWD. Water deliveries from NTMWD are metered by NTMWD using meters with accuracy of  $\pm 2\%$ . These meters are calibrated on a monthly basis by NTMWD to maintain the required accuracy.

(2) Metering of customer and public uses and meter testing, repair, and replacement.

(A) The provision of water to all customers, including public and governmental users, should be metered. The town already meters all residential, retail, wholesale water users all internal water uses, parks, town facilities, special uses, firefighting and training, (where practical), etc.

(B) Prior to 2008 the town replaced a large percentage of its meters. Going forward, all customer meters should be replaced at least every fifteen years, and the town shall maintain all records necessary to ensure said replacements are completed in a timely manner.

(3) Record management system. As required by TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(2)(B), the town's record management system allows for the separation of water sales and uses into residential, commercial, public/institutional, and industrial categories. This information shall be included in an annual water conservation report.

(4) Determination and control of unaccounted water.

(A) Unaccounted water is the difference between water delivered to the town from NTMWD (and other supplies, if applicable) and metered water sales to customers plus authorized but unmetered uses. (Authorized but unmetered uses include use for firefighting, releases for flushing of lines, uses associated with new construction, etc.) Unaccounted water can include several categories:

(i) Inaccuracies in customer meters.

(ii) Accounts that are being used but have not yet been added to the billing system.

(iii) Losses due to water main breaks and leaks in the water distribution system.

(iv) Losses due to illegal connections and theft.

(v) Other.

(B) Measures to control unaccounted water shall be a part of the routine operations of the town's utility department. Maintenance crews and personnel shall look for and report evidence of leaks in the water distribution system. Meter readers shall watch for and report signs of illegal connections, so they can be quickly addressed.

(C) Unaccounted water should be calculated in accordance with the provisions of Appendix B, of this plan. With the measures described in this plan, the town hopes to maintain unaccounted water below twelve percent. If unaccounted water exceeds this goal, the town shall consider implementing a more intensive audit to determine the source(s) of and reduce the unaccounted water. The annual conservation report is the primary tool that shall be used to monitor unaccounted water.

(5) Leak detection and repair. As described above, town crews and personnel shall 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 shall be targeted for replacement as funds are available.

(6) Monitoring of effectiveness and efficiency; annual water conservation report. Appendix C, of this plan, shall be used in the development of an annual water conservation report by the town. This form shall be completed by March 31 of each year and 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 annual water conservation report shall be sent to NTMWD, which will monitor water conservation trends.

(7) Water conservation implementation report. Appendix A, of this plan, includes the TCEQ-required water conservation implementation report. The report is due to the TCEQ by May 1 of each year. This report lists the various water conservation strategies that have been implemented, including the date the strategy was implemented. The report also updates the status of the five-year and ten-year per capita water use goals from the previous water conservation plan.

**Sec. 13.07.006 Continuing public education and information campaign**

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

- (1) Utilize the "Water IQ: Know Your Water" and other public education materials produced by the NTMWD.
- (2) Insert water conservation information with water bills. Inserts will include material developed by town staff and material obtained from the TWDB, the TCEQ, and other sources.
- (3) Encourage local media coverage of water conservation issues and the importance of water conservation.
- (4) Notify local organizations, schools, and civic groups that town staff and staff of the NTMWD are available to make presentations on the importance of water conservation and ways to save water.
- (5) Promote the Texas Smartscape website ([www.txsmartscape.com](http://www.txsmartscape.com)) and provide water conservation brochures and other water conservation materials available to the public at town hall and other public places.
- (6) Make information on water conservation available on the town website 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 websites and other resources.

#### **Sec. 13.07.007 Water rate structure**

The town utilizes, an increasing block rate water structure intended to encourage water conservation and discourage excessive use and waste of water. Current rates are as follows:

- (1) Residential.
  - (A) First 2,000 gallons: \$12.24 per 1,000 gallons.
  - (B) 2,001–10,000 gallons: \$2.67 per 1,000 gallons.
  - (C) 10,001–20,000 gallons: \$3.12 per 1,000 gallons.
  - (D) 20,001–30,000 gallons: \$3.39 per 1,000 gallons.
  - (E) Over 30,000 gallons: \$4.24 per 1,000 gallons.
  - (F) 40,001 and up gallons: \$6.00 per 1,000 gallons.
- (2) Shall be blank.

- (3) Commercial/industrial.
  - (A) First 1,000 gallons: \$14.69 per 1,000 gallons.
  - (B) 1,001–30,000 gallons: \$3.34 per 1,000 gallons.
  - (C) Over 30,000 gallons: \$4.24 per 1,000 gallons.
- (4) Shall be blank.
- (5) Hydro mulch (or other portable water meters): \$53.00 minimum per job plus commercial rates per gallon.
- (6) High use water conservation surcharge. Water connections that use more than 40,000 gallons of water in any one month shall be assessed a surcharge of \$2.45 for every 1,000 gallons over 40,000.

**Sec. 13.07.008 Other water conservation measures**

(a) NTMWD system operation plan. The town purchases treated water from NTMWD and does not have surface water supplies for which to implement a system operation plan. NTMWD's permits do allow some coordinated operation of its water supply sources, and NTMWD is seeking additional water rights for coordinated operation to optimize its available water supplies.

(b) Reuse and recycling of wastewater. The town neither owns nor operates a wastewater treatment plant. Wastewater is treated by NTMWD, which has the largest wastewater reuse program in the state. 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.

(c) Ordinances, plumbing codes, or rules on water-conserving fixtures. The state 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.



(d) Landscape water management measures. The following landscape water management measures are required by the NTMWD. These minimal measures are hereby adopted as part of the town's plan in order to appropriately irrigate landscaping:

- (1) Time of day restrictions prohibiting lawn irrigation watering from 10:00 a.m. to 6:00 p.m. from April 1 to October 31 of each year.
- (2) Prohibition of watering of impervious surfaces.
- (3) Prohibition of outdoor watering during precipitation or freeze events.
- (4) Lawn and landscape irrigation limited to twice per week.
- (5) 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 500 square feet or more.
- (6) 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.
- (7) "At home" car washing can be done only when using a water hose with a shut-off nozzle.
- (8) The town is responsible for developing regulations, ordinances, policies, or procedures for enforcement of water conservation guidelines.
- (9) 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.

(e) Additional water conservation measures. The following water conservation measures shall also be used by the town to encourage water conservation:

- (1) Use of xeriscaping in all municipal landscape projects.
- (2) Rebates for use of rain barrels.
- (3) Rebates for the installation of pressure reducing valves for irrigation systems.
- (4) Rebates for retrofitting irrigation systems with rain and freeze sensors and/or ET or Smart controllers capable of multiple programming.
- (5) Require all new irrigation systems to be in compliance with state design and installation regulations (TAC Title 30, Part 1, Chapter 344).

- (6) Native, drought tolerant, or adaptive plants shall be encouraged.
- (7) Drip irrigation systems shall be promoted.
- (8) Evapotranspiration (ET)/Smart controllers that only allow sprinkler systems to irrigate when necessary shall be promoted.
- (9) Rebates for water efficient clothes washers.
- (10) Other water conservation incentive programs.

(f) Requirement for water conservation plans by wholesale customers. Every contract for the wholesale sale of water by member cities and/or customers 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.

**Sec. 13.07.009 Means of implementation and enforcement**

The town shall enact all ordinances necessary to enforce and execute this plan. The town manager, public works manager, town engineer, and their designees shall be authorized to take all measures necessary to ensure compliance.

**Sec. 13.07.010 Review and update of water conservation plan**

Following adoption, this water conservation plan shall be updated every five years as required by TCEQ or as appropriate based on new and/or updated information.

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