



TOWN OF HIGHLAND PARK

WATER CONSERVATION PLAN



May 1, 2024

APRIL 23, 2024

PREPARED BY:

NDM NATHAN D. MAIER
CONSULTING ENGINEERS, INC.
12801 North Central Expressway, Ste 1710 | Dallas, TX 75243
Texas Reg. No. F-356 | 214.739.4741 | 214.739.5961 (F)

TABLE OF CONTENTS

1.	INTRODUCTION AND OBJECTIVES	2
2.	APPLICABLE RULES BY THE COMMISSION AND BOARD	3
2.1	Texas Commission on Environmental Quality.....	3
2.2	Texas Water Development Board Rules	3
2.3	Minimum Conservation Plan Requirements	3
3.	SPECIFICATION OF WATER CONSERVATION GOALS	5
4.	MINIMUM CONSERVATION PLAN REQUIREMENTS	6
4.1	Water Utility Profile	6
4.2	Record Management System.....	6
4.3	Specification of Goals.....	6
4.4	Accurate Metering of Treated Water Delivery from the District	6
4.5	Universal Metering, Meter Testing and Repair, and Periodic Meter Replacement	6
4.6	Determination and Control of Unaccounted-For Water	7
4.7	Continuing Public Education and Information Campaign	8
4.8	Water Rate Structure.....	8
4.9	Town of Highland Park’s Reservoir System Operation Plan.....	9
4.10	Implementation and Enforcement.....	9
4.11	Coordination with Region C Water Planning Group.....	9
4.12	Leak Detection, Repair, and Water Loss Accounting.....	9
4.13	Potential Wholesale Water Customers.....	9
4.14	Drought Contingency Plan	10
4.15	Methodology and Implementation Schedule.....	10
4.16	Conservation Coordinator	11
4.17	Review, Update and Submittal of the Plan	12
5.	ADDITIONAL WATER CONSERVATION STRATEGIES	13
5.1	Conservation-Oriented Water Rates	13
5.2	Ordinances, Plumbing Codes, or Rules on Water-Conserving Fixtures.....	13
5.3	Landscape Water Management Regulations	13

APPENDICES

APPENDIX A	List of References
APPENDIX B	Texas Commission on Environmental Quality Rules on Water Conservation Plans
APPENDIX C	Texas Water Development Board Rules on Water Conservation Plans
APPENDIX D	Town of Highland Park TCEQ & TWDB Water Utility Profiles
APPENDIX E	TCEQ Implementation Report
APPENDIX F	Region C Water Planning Group Documentation
APPENDIX G	Adoption of Water Conservation Plan

Water Conservation Plan for

The Town of Highland Park

April 2024

1. INTRODUCTION AND OBJECTIVES

Water supply has always been a key issue in the development of Texas. Additional supplies to meet increased demand will be difficult and expensive to develop. It is important that the Town of Highland Park (the Town) make efficient use of its water supplies. The Town procures its water from the Dallas County Park Cities Municipal Utility District (the District) who maintains senior water rights in Grapevine Lake. Since Grapevine Lake is the sole source of supply for the District and since the supply is of a limited volume, conservation of the limited supply is vital to the Town and the District.

Recognizing the need for efficient use of existing water supplies, the Texas Commission on Environmental Quality (TCEQ) and the Texas Water Development Board (TWDB) has developed guidelines and requirements governing the development of water conservation plans for public water suppliers. TCEQ and TWDB guidelines and requirements are included in Appendix B and Appendix C, respectively. The objectives of this water conservation plan (Plan) are as follows:

- Reduce seasonal peak demands.
- Reduce the loss and waste of water.
- Improve the efficient use of water.
- Decrease unaccounted for water.
- Utilize Best Management Practices (BMPs) to achieve objectives.

2. APPLICABLE RULES BY THE COMMISSION AND BOARD

2.1 Texas Commission on Environmental Quality

The TCEQ rules governing the development of water conservation plans for municipal uses by public water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code (30 TAC §288.2), effective December 6, 2012. Required submittals for retail public water suppliers are found in Code 30 TAC §288.30, effective August 16, 2018. A complete copy of these rules is included in Appendix B. The TCEQ defines a water conservation plan as:

“A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water. A water conservation plan may be a separate document identified as such or may be contained within another water management document(s).” 30 TAC §288.1(24)

2.2 Texas Water Development Board Rules

The TWDB rules governing the development of water conservation plans for municipal uses by public water suppliers are contained in Title 31, Part 10, Chapter 363, Subchapter A, Division 2, Rule 363.15 of the Texas Administrative Code (31 TAC §363.15), effective December 5, 2012. A complete copy of these rules is included in Appendix C.

2.3 Minimum Conservation Plan Requirements

TCEQ rules generally govern Water Conservation Plans associated with a surface water right or if the water provider has greater than 3,300 connections. TWDB rules generally govern Water Conservation Plans required when requesting financial assistance greater than \$500,000. The TCEQ and TWDB contain reciprocity rules that allow a Water Conservation Plan that meets the requirements of one agency to be submitted to meet requirements of the other agency.

Many rules established by the TCEQ and TWDB are concurrent. For the purposes of this Plan, the governing TCEQ rule will be referred to unless only a TWDB Rule applies. Cross-references between the TCEQ and TWDB rules may be found in the tables in this section.

This Water Conservation Plan meets the minimum requirements of both the TCEQ and TWDB for municipal uses by public water suppliers.

The minimum requirements in 30 TAC §288 & 31 TAC §363.15 for Water Conservation Plans are covered in this report as follows:

TCEQ Rule	TWDB Rule	Location in Plan	Description
288.2(a)(1)(A)	363.15(b)(1)(A)	Section 4.1	Utility Profile
288.2(a)(1)(B)	363.15(b)(1)(A)	Section 4.2	Record Management System
288.2(a)(1)(C)	363.15(b)(1)(B)	Section 3	Specification of Goals
288.2(a)(1)(D)	363.15(b)(1)(E)	Section 4.4	Accurate Metering
288.2(a)(1)(E)	363.15(b)(1)(F)	Section 4.5	Universal Metering
288.2(a)(1)(F)	363.15(b)(1)(G)	Section 4.6	Determination and Control of Unaccounted for Water
288.2(a)(1)(G)	363.15(b)(1)(I)	Section 4.7	Public Education and Information Program
288.2(a)(1)(H)	363.15(b)(1)(J)	Section 4.8	Non-Promotional Water Rate Structure
288.2(a)(1)(I)	N/A	Section 4.9	Reservoir System Operation Plan
288.2(a)(1)(J)	363.15(b)(1)(K)	Section 4.10	Means of Implementation and Enforcement
288.2(a)(1)(K)	363.15(b)(1)(L)	Section 4.11	Coordination with the Regional Water Planning Group
288.2(a)(2)(A)	363.15(b)(1)(H)	Section 4.12	Leak Detection, Repair, and Water Loss Accounting
288.2(a)(2)(B)	363.15(d)(3)	Section 4.13	Provisions for New or Amended Wholesale Water Contract(s)
288.20	363.15(b)(1)(M)	Section 4.14	Drought Contingency Plan
288.2.(a)(3)(G) (Optional Strategy)	363.15(b)(1)(D)	Section 4.15	Method of Tracking the Plan's Implementation and Effectiveness
N/A	363.15(b)(1)(C)	Section 4.15	Implementation Schedule
288.30(10)(B)		Section 4.16	Conservation Coordinator
288.2(b)	363.15(e) & 363.15(f)	Section 4.17	Must Meet either TCEQ or TWDB Requirements
288.2(c)	363.15(b)	Section 4.17	Review and Update of Plan
288.30(1), 288.30(10)(A) & (C)	363.15(b)	Section 4.17	Submittal of Plan
288.30(2)	363.15(g)	Section 4.17	Implementation Reports*

*The TCEQ requires an Implementation Report be submitted every five years with the Water Conservation Plan Update.

Additional Conservation Strategies

The TCEQ rules also list optional conservation strategies, which may be adopted by suppliers. The TWDB does not list specific optional conservation strategies in 31 TAC §363.15(b)(2), but does provide water conservation Best Management Practices (BMPs) that may be utilized in addition to the minimum requirements. The Town has adopted the following optional strategies:

TCEQ Rule	Location in Plan	Description
288.2(a)(3)(A)	Section 5.1	Conservation-oriented water rates
288.2(a)(3)(B)	Section 5.2	Ordinances, Plumbing Codes or Rules on Water-Conserving Fixtures
288.2(a)(3)(F)	Section 5.3	Adoption of Ordinances and/or Programs for Landscape and Water Management
288.2(a)(3)(G)*	Section 4.15	Method for Monitoring the Effectiveness and Efficiency of the Plan

*This is required under the current TWDB regulations but optional per TCEQ regulations.

3. SPECIFICATION OF WATER CONSERVATION GOALS

Rule 288.2(a)(1)(C) requires the adoption of specific water conservation goals for a water conservation plan. The Town has developed 5-year and 10-year goals for the reduction of per capita municipal use in total gallons per capita per day (GPCD) and residential GPCD, following TCEQ procedures described in the water utility profile (Appendix D).

A revised baseline average and analysis from previous Water Conservation Plans by the Town follows. This analysis will be based on a 5-year rolling average to incorporate normal, wet, and dry year demands. The new baseline comparison year is the 2002 5-year average (includes 1998-2002 water usage). All baseline data and new 5-year and 10-year goals are summarized below.

- Baseline Average (2002 5-year rolling average)
 - Total GPCD: 407.0
 - Residential GPCD: 336.9
- 5-year goals
 - Target Date: December 31, 2028 (Reduction Phase)
 - Total water use of 287.0 GPCD (1.10% reduction per year from the baseline year)
 - Residential Water Use: 257.4 GPCD (1.00% per year from the baseline year)
 - Maintain water loss under 10% (< 30.0 GPCD)
- 10-year goals (Reduction Phase)
 - Target Date: December 31, 2033
 - Total water use of 271.5 GPCD (1.10% reduction per year from the baseline year)
 - Residential Water Use: 244.8 GPCD (1.0% reduction per year from the baseline year)
 - Maintain water loss under 10% (< 26.8 GPCD)
 - The 10-year goals will be reviewed and revised during the next Plan update, based on the Town's implementation progress.

4. MINIMUM CONSERVATION PLAN REQUIREMENTS

Applicable rules and regulations found in the Town of Highland Park Code of Ordinances may be referenced below (i.e. COO §13.02.042 or COO Article 13.02)

4.1 Water Utility Profile

Rule 288.2(a)(1)(A) requires the Town to submit Water Utility Profiles with the Plan. The completed utility profiles are provided in Appendix D, which includes data on existing and projected service populations, number of connections, historical metered water sales and water production, and general utility system information. The TWDB contains an online system for filling out the Utility Profile accessible by designated Town personnel.

4.2 Record Management System

The Town's current record management system allows for the separation of water sales and uses into residential, commercial/institutional, Town (municipal), and industrial categories. The Town's system also allows it to track water sales for landscape irrigation use for those customers who have separate irrigation meters.

Should the Town ever revise/update its existing record management system/billing software, the Town will make sure it has the ability to collect and report water use data into the water user groups defined in 30 TAC 288.2(a)(1)(B).

The Town identifies high residential water users through database management and takes actions to determine if a leak exists at the residence. If the Town finds reason to believe that a leak may exist on the customer's side of the meter, a door-hanger is provided to the customer to notify them of the possible leak and recommend actions to take.

4.3 Specification of Goals

Refer to Section 3 for the specific, quantified goals related to water savings and water loss.

4.4 Accurate Metering of Treated Water Delivery from the District

The District supplies all of the water used by the Town. Water delivery from the District is metered by a 24-inch venturi meter located at the Town's metering station. The venturi meter is calibrated to an accuracy of $\pm 1\%$ on a biannual basis.

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

The Town currently requires metering of all connections. The Town has implemented a program to ensure that all meters larger than two inches in diameter are tested at 2-year intervals and are accurate within the American Water Works Association (AWWA) standards of $\pm 2\%$. Defective meters are replaced. Meters two inches and less in diameter are replaced at 14-year intervals. In addition, if the Town or customer suspects a bad meter, the meter is checked and replaced if faulty.

The Town finished replacing all customer meters with smart meters as of 2019 that allow automatic meter reading (AMR) and allow for customer monitoring of water usage through WaterSmart.

4.6 Determination and Control of Unaccounted-For Water

Unaccounted for water is the difference between the amount of water supplied by the District and the amount of water delivered (sold) to customers plus authorized but unmetered uses such as firefighting, releases for flushing of lines, and uses associated with new construction. Unaccounted water can include several categories such as:

- Inaccuracies in the supply and the customer meters.
- Unmetered uses such as firefighting and line flushing
- Accounts that 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.
- Other.

The Town's water losses, which includes unaccounted for water, is the difference between the water purchased from the District and water sold to its customers. The Town's water loss for the last five years is reported in the Utility Profile in Appendix D. The Town's water losses have averaged 4.55% for the last five years and below 10% for the last 23 years (2001-2023). In 2023, the total water loss for water for the Town was 83,461,000 gallons, or 7.28% of the Town's purchased water. This was the highest year by far in water loss for the previous 5 years. The Town will continue current procedures that should maintain its water loss below 10%.

Yearly audits are performed to track the Town's unaccounted for water usage. As a policy, unaccounted-for water usage that is estimated by the Town's staff but unmetered and includes the following:

- Flushing of water and sewer mains during construction.
- Elevated tank drainage for inspection, maintenance and repair.
- Estimated losses due to main breaks.
- Estimated water losses due to leaks found in leak detection program (this is not an accurate estimate, as it is not known how long they were leaking before they were found.
- Flushing of water mains for water quality, purposes.
- Water used to clean sewers.
- Water used to flush fire hydrants.

The Town's five-year average (2019-2023) total for unmetered flow was 2,798,148 gallons, or 4.6% of the Town's unaccounted for water.

Unaccounted-for water usage that is metered includes routine flushing of dead end lines for water quality purposes. The Town currently has 14 lines that are flushed once a month. The Town's five-year average (2019-2023) unbilled metered water use was 332,959 gallons, or 6.8% of the Town's unaccounted for water.

4.7 Continuing Public Education and Information Campaign

The Town’s continuing public education and information campaign on water conservation is managed in conjunction with the District and includes the following elements:

- Conservation Coordinator named in 2012.
- Insert water conservation information with water bills. Inserts include material developed by the Town’s and the District’s staff and material obtained from the Texas Water Development Board (TWDB), the TCEQ, and other sources. This program was revised in 2012.
- Encourage local media coverage of water conservation issues and the importance of water conservation.
- Strategic Partnerships. Program started in 2012 with Highland Park ISD, private landscaping and irrigation companies and other commercial/institutional users to develop new ideas and strategies for water conservation (began 2012).
- Coordination with the Highland Park Department of Public Safety Information Officer to publish various water conservation information on Blue Zone, Blackboard, and press releases (began 2012)
- The Town’s staff will notify and schedule presentations on the importance of water conservation and ways to save water with local organizations, schools and civic groups.
- Make the *Texas Smartscape CD*, water conservation brochures, and other water conservation materials available to the public at Town Hall and other public places.
- Make information on water conservation available on its website and include links to the *Texas Smartscape* website and to information on water conservation on the TWDB and TCEQ web sites.
- Town of Highland Park Web Site: www.hptx.org. New Town water conservation webpage was completed in 2013 with link on [hptx.org](http://www.hptx.org) homepage (direct URL: <http://www.hptx.org/index.aspx?NID=299>).
- WaterSmart service available for all Town customers to track daily water usage, receive leak alert notifications and compare current consumption to past consumption (direct URL: <https://www.hptx.org/index.aspx?nid=830>).

4.8 Water Rate Structure

The Town presently charges customers a flat monthly fee of \$20.64 for each customer unit serviced, up to 1,000 gallons. In addition, the Town implements a non-promotional conservation-oriented structure to promote the conservation water. Water rates effective October 1, 2023 are as follows:

Range	Rate (per 1,000 gallons)
0 – 12,000 gallons	\$6.49
12,001 – 30,000 gallons	\$7.46
30,001 – 60,000 gallons	\$8.97
60,001 gallons and greater	\$11.65

These rates and surcharges are reviewed/ revised on an annual basis per COO §13.02.042. Current rates and surcharges are available on the Town web site (direct URL: <https://www.hptx.org/index.aspx?nid=686>).

4.9 Town of Highland Park’s Reservoir System Operation Plan

The Town purchases treated water from the District. The District receives daily releases from Grapevine Lake. These releases are the only source of raw water for the District therefore a Reservoir System Operation Plan is not needed. However, the District currently implements a Reservoir Accounting Plan in conjunction with the City of Dallas and the City of Grapevine, who also have permitted storage and water rights in Grapevine Lake.

4.10 Implementation and Enforcement

Appendix H contains the ordinance adopted by the Town Council regarding this water conservation plan. The ordinance provides for penalties and enforcement of the Plan.

4.11 Coordination with Region C Water Planning Group

The Town of Highland Park is located within the Region C Water-Planning Group. The Town has provided a copy of this Water Conservation Plan to the Region C Water Planning Group. Documentation on coordination with Region C may be found in Appendix G.

4.12 Leak Detection, Repair, and Water Loss Accounting

The Town currently maintains a leak detection program designed to reduce the loss of water due to leaks and water main breaks. Most leaks are discovered by the visual observation of both the public and meter readers. In 2006, after review of leak detection equipment on loan from the TWDB, the Town purchased its own leak detection equipment. The Town currently allocates three workdays per month to inspect the distribution system for leaks. Town and District maintenance crews regularly check and service transmission and storage facilities to ensure that any leaks or main breaks in these areas are quickly contained and repaired (COO §13.02.004). Efforts are increased when the Town implements any stage in the Town’s Drought Contingency Plan.

Section 4.6 includes a description on the Town’s water loss accounting practices.

4.13 Potential Wholesale Water Customers

The Town currently purchases treated water from the District and is required by the District to develop and implement a water conservation plan. The Town does not currently nor is it likely that the Town will enter into a wholesale water contract wherein the Town would supply water to a customer(s). However, as required by Rule 288.2(a)(2)(B), in the event that the Town enters into a wholesale treated water contract wherein the Town supplies treated water to a customer(s), the customer(s) will be required to develop and implement a water conservation plan.

4.14 Drought Contingency Plan

The Town has adopted and implemented a revised drought contingency plan for the May 1, 2014 submittal. The Town's drought contingency plan is a separate document that is available upon request or on the Town's website. An electronic copy of the Town's drought contingency plan has been submitted to the TCEQ, TWDB, and Region C Water Planning Group.

4.15 Methodology and Implementation Schedule

The Town monitors the water distribution system on an ongoing basis to determine if there are any problems in the system such as a water main break or faulty water meter. In order to more effectively implement and track the adopted conservation methods provided in this Plan, the Town has, or will adopt the following measures in the future to evaluate and progress towards the goals of Chapter 3:

- Measure and track unmetered water use. See Section 4.6 & 4.12 for the methods implemented by the Town to reduce the amount of water that is unaccounted for and the Town's leak detection program implemented in 2006 (BMP 1).
- Perform yearly audit of Town's water use in conjunction with annual implementation report. This will help to track water-usage for each required category and determine if additional, category-specific measures should be adopted by the Town or if current measures require modification (BMP 1).
- Include annual customer surveys as inserts in water bills to determine customer-implemented conservation measures that had a significant impact on reducing water usage and determine water use habits (BMP 8).
- Evaluate use of moisture sensors and controllers for residential use. This program will evaluate the use of existing and future soil moisture sensors in the Town's parks to determine reduction in water use and cost savings (BMP 9 addendum).
- The Town's Conservation Coordinator will monitor and track effectiveness of current conservation measures; evaluate benefits of future conservation measures, coordinate with the District to increase public and school education and awareness (BMP 15).
- Use of Town park landscaping as areas of public awareness and education. Renovate existing park landscaping to set up various water conservation demonstrations to raise the awareness of water conserving plants, practices and techniques. Based on the experience with the ET controllers and operation in the Town's parks, guidelines and ordinances will be developed for requirements for ET controllers and moisture sensors to be included in new installations and retrofits for multi-family and single-family residential applications (BMP 10 & 20).

The water conservation strategies adopted by the Town are an ongoing effort to meet the objectives and goals of this Plan. An Implementation Schedule of existing and proposed Best Management Practices, including those discussed above, is provided below.

Town of Highland Park Best Management Practices Implementation Schedule

BMP	Description	Currently Implemented	Implement Changes Before 2020
1	System Water Audit & Water Loss	✓ (2006)	
2	Water Conservation Pricing	✓ (1980s)	(Ongoing Review)
3	Prohibition on Wasting Water	✓ (2000)	
7	School Education	✓ (2006)	
8	Water Survey for Single Family and Multi-Family Customers	✓	✓
9	Evaluation of Landscape Irrigation Ordinance	✓ (1989)	(Ongoing Review)
10	Evaluation of Water Wise Landscape Design & Conversion Programs		(Ongoing Review)
13	Metering of All New Connections & Retrofit Existing	✓ (1971)	
14	Wholesale Agency Assistance Programs	✓ (1990)	
15	Conservation Coordinator	✓ (2012)	
17	Public Information	✓ (1990)	
20	Park Conservation	✓	(Ongoing Review)
22	Cost-Effectiveness Analysis		✓

4.16 Conservation Coordinator

Effective August 16, 2018, the State requires that:

Retail public water suppliers that provide potable water to 3,300 or more connections shall designate a person as the water conservation coordinator responsible for implementing the water conservation plan; and identify, in writing, the water conservation coordinator, including the contact information for that person, to the executive administrator of the Texas Water Development Board.

30 TAC §288.30(10)(B)

A named Water Conservation Coordinator has been in place for the Town since 2012. Please refer to the Water Conservation page on the Town website for the current water conservation coordinator and contact information (<https://www.hptx.org/index.aspx?NID=299>).

4.17 Review, Update and Submittal of the Plan

Review and Update of the Water Conservation Plan

The Town will continue to review and develop recognized Best Management Practices (BMPs) that are suitable for its customer water use profile over the duration of this Plan. This developmental process will include an annual evaluation of BMPs and recommend which measures should be increased, maintained, or eliminated. These will be summarized in a Letter Report to the Town in conjunction with the submittal of the Annual Implementation Report to the TWDB.

Submittal of the Plan

As required by Rule 288.30(1) & 288.30(10), the water conservation plan will be revised and resubmitted to the TCEQ & TWDB every five years, beginning May 1, 2009.

Appendix D includes the completed TCEQ and TWDB utility profiles. Appendix E includes the TCEQ implementation report for the previous planning period as required by Rule 288.30(1) & (2). In addition, a copy of the Town's adopted drought contingency plan has been submitted to the TCEQ and TWDB to fulfill the requirements of TCEQ Rule 288.20 and TWDB Rule 363.15(b)(1)(M).

5. ADDITIONAL WATER CONSERVATION STRATEGIES

5.1 Conservation-Oriented Water Rates

The Town's current water rate structure, which was implemented in the 1980s, utilizes an increasing block rate structure. Please refer to Section 4.8 of this Plan for additional information.

5.2 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 most recent State standards that went into effect January 1, 2014, call for flows of no more than 2.2 gallons per minute (gpm) for faucets, 2.5 gpm for showerheads, and 1.28 gallons per flush for toilets. Similar standards are now required nationally under Federal law. These State and Federal standards assure that new construction and renovations will use water-conserving fixtures.

The Town has adopted the International Plumbing Code, 2015 edition, with amendments as adopted in Ordinance Number 1886 and found in COO Article 3.04.

5.3 Landscape Water Management Regulations

The Town has adopted the following landscape water management regulations intended to minimize waste in landscape irrigation and are mostly found in Section 614 in COO §3.04.035, amendments to the 2015 International Plumbing Code unless otherwise stated:

- Effective March 26, 2007, time of day water restrictions from April 1 through October 31 of any year and between the hours of 10:00 a.m. and 6:00 p.m. on any day during this period. Handheld watering with a hose or use of soaker hoses are permitted within these hours. (Section 614.4(e)) in COO §3.04.035).
- Effective September 1, 2014, Town of Highland Park water customers are restricted to watering twice a week. This requirement is year round. Exceptions exist for watering foundations, new plantings, irrigation repair, handheld hoses, watering cans and drip irrigation.
- The Town has completed installation of smart meters on all customer meters. Town water customers may now track their water usage on a daily basis by utilizing their WaterSmart account. This tool not only provides Town customers the ability to monitor their water consumption and identify potential leaks. More information on the WaterSmart may be found at the following link: <http://www.hptx.org/index.aspx?nid=830>.
- Prohibition of excessive irrigation that results in run-off and irrigation systems that spray directly onto impervious surfaces or onto other non-irrigated areas (wind driven water drift will be taken into consideration).
- The Ordinance requiring all existing irrigation systems to be retrofit with rain/freeze sensors. The rain/freeze sensors prevent irrigation during precipitation and/or while temperatures near or below freezing. The Ordinance also requires all newly installed irrigation systems to be fitted with rain/freeze sensors.

- All new or substantially rebuilt irrigation systems have a separate water meter and billed separately for water consumption.
- Any new or substantially rebuilt irrigation system shall be designed by a registered professional engineer, architect, landscape architect, or licensed irrigator.
- Regulation requiring a permit for a new or substantially rebuilt irrigation system. The application for permit will be accompanied by scale drawings of the proposed installation including site boundaries, pipe location and sizes, irrigation heads with design flow rates, design pressure at the water meter, maximum flow rate, and the design application rate in inches per hour.
- No newly installed or substantially rebuilt irrigation system will have an application rate of greater than two inches per hour.
- Enforcement of the regulations by a system of warnings followed by fines for continued or repeat violations (COO §3.04.040).

APPENDIX A

LIST OF REFERENCES

APPENDIX A

LIST OF REFERENCES

- (1) Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter A, Rule 288.1 & 288.2, downloaded from: <https://www.tceq.texas.gov/rules/indxpdf.html>, Effective August 16, 2018 (§288.1) & December 6, 2012 (§288.2)
- (2) Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter B, Rule 288.20, downloaded from: <https://www.tceq.texas.gov/rules/indxpdf.html>, Effective October 7, 2004
- (3) Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter C, Rule 288.30, downloaded from: <https://www.tceq.texas.gov/rules/indxpdf.html>, Effective August 16, 2018
- (4) Nathan D. Maier Consulting Engineers, Inc.: *Town of Highland Park Water Conservation Plan, April 2009*, prepared for the Town of Highland Park
- (5) Alan Plummer Associates, Inc.: *Town of Highland Park Water Conservation Plan, April 2005*, prepared for the Town of Highland Park
- (6) City of Dallas Water Utilities Conservation Division: *Water Conservation and Drought Contingency Plan Updates, Briefing Materials for February 19, 2014 City Council Meeting*
- (7) City of Fort Worth: *City of Fort Worth 2005 Water Conservation Plan*, downloaded from: <http://www.fortworthgov.org/water/>
- (8) Texas Water Development Board: Report 362: *Water Conservation Best Management Practices Guide, November 2004*, developed by GDS Associates, Inc, et. al.
- (9) Texas Water Development Board: *Guidance and Methodology for Reporting on Water Conservation and Water Use, December 2012*, developed by the TWDB, TCEQ and the Water Conservation Advisory Council

APPENDIX B

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
RULES ON WATER CONSERVATION PLANS**

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER A</u>	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) Commercial use--The use of water by a place of business, such as a hotel, restaurant, or office building. This does not include multi-family residences or agricultural, industrial, or institutional users.

(6) Drought contingency plan--A strategy or combination of strategies for temporary supply and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies. A drought contingency plan may be a separate document identified as such or may be contained within another water management document(s).

(7) Industrial use--The use of water in processes designed to convert materials of a lower order of value into forms having greater usability and commercial value, and the development of power by means other than hydroelectric, but does not include agricultural use.

(8) Institutional use--The use of water by an establishment dedicated to public service, such as a school, university, church, hospital, nursing home, prison, or government facility. All facilities dedicated to public service are considered institutional regardless of ownership.

(9) Irrigation--The agricultural use of water for the irrigation of crops, trees, and pastureland, including, but not limited to, golf courses and parks which do not receive water from a public water supplier.

(10) Irrigation water use efficiency--The percentage of that amount of irrigation water which is beneficially used by agriculture crops or other vegetation relative to the amount of water diverted from the source(s) of supply. Beneficial uses of water for irrigation purposes include, but are not limited to, evapotranspiration needs for vegetative maintenance and growth, salinity management, and leaching requirements associated with irrigation.

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

(12) Municipal use--The use of potable water provided by a public water supplier as well as the use of sewage effluent for residential, commercial, industrial, agricultural, institutional, and wholesale uses.

(13) Nursery grower--A person engaged in the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or 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) Residential gallons per capita per day--The total gallons sold for residential use by a public water supplier divided by the residential population served and then divided by the number of days in the year.

(18) Residential use--The use of water that is billed to single and multi-family residences, which applies to indoor and outdoor uses.

(19) Retail public water supplier--An individual or entity that for compensation supplies water to the public for human consumption. The term does not include an individual or entity that supplies water to itself or its employees or tenants when that water is not resold to or used by others.

(20) Reuse--The authorized use for one or more beneficial purposes of use of water that remains unconsumed after the water is used for the original purpose of use and before that water is either disposed of or discharged or otherwise allowed to flow into a watercourse, lake, or other body of state-owned water.

(21) Total use--The volume of raw or potable water provided by a public water supplier to billed customer sectors or nonrevenue uses and the volume lost during conveyance, treatment, or transmission of that water.

(22) Total gallons per capita per day (GPCD)--The total amount of water diverted and/or pumped for potable use divided by the total permanent population divided by the days of the year. Diversion volumes of reuse as defined in this chapter shall be credited against total diversion volumes for the purposes of calculating GPCD for targets and goals.

(23) Water conservation coordinator--The person designated by a retail public water supplier that is responsible for implementing a water conservation plan.

(24) 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).

(25) 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.

(26) Wholesale use--Water sold from one entity or public water supplier to other retail water purveyors for resale to individual customers.

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; amended to be effective December 6, 2012, 37 TexReg 9515; amended to be effective August 16, 2018, 43 TexReg 5218

TITLE 30

ENVIRONMENTAL QUALITY

PART 1

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CHAPTER 288

WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS

SUBCHAPTER A

WATER CONSERVATION PLANS

RULE §288.2

Water Conservation Plans for Municipal Uses by Public Water Suppliers

(a) A water conservation plan for municipal water use by public water suppliers must provide information in response to the following. If the plan does not provide information for each requirement, the public water supplier shall include in the plan an explanation of why the requirement is not applicable.

(1) Minimum requirements. All water conservation plans for municipal uses by public water suppliers must include the following elements:

(A) a utility profile in accordance with the Texas Water Use Methodology, including, but not limited to, information regarding population and customer data, water use data (including total gallons per capita per day (GPCD) and residential GPCD), water supply system data, and wastewater system data;

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

(i) residential;

(I) single family;

(II) multi-family;

(ii) commercial;

(iii) institutional;

(iv) industrial;

(v) agricultural; and,

(vi) wholesale.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(3) Additional conservation strategies. Any combination of the following strategies shall be selected by the water supplier, in addition to the minimum requirements in paragraphs (1) and (2) of this subsection, if they are necessary to achieve the stated water conservation goals of the plan. The commission may require that any of the following strategies be implemented by the water supplier if the commission determines that the strategy is necessary to achieve the goals of the water conservation plan:

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

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

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

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

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

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

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

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

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

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

Source Note: The provisions of this §288.2 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective December 6, 2012, 37 TexReg 9515

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER C</u>	REQUIRED SUBMITTALS
RULE §288.30	Required Submittals

In addition to the water conservation and drought contingency plans required to be submitted with an application under §295.9 of this title (relating to Water Conservation and Drought Contingency Plans), water conservation and drought contingency plans are required as follows.

(1) Water conservation plans for municipal, industrial, and other non-irrigation uses. The holder of an existing permit, certified filing, or certificate of adjudication for the appropriation of surface water in the amount of 1,000 acre-feet a year or more for municipal, industrial, and other non-irrigation uses shall develop, submit, and implement a water conservation plan meeting the requirements of Subchapter A of this chapter (relating to Water Conservation Plans). The water conservation plan must be submitted to the executive director not later than May 1, 2005. Thereafter, the next revision of the water conservation plan for municipal, industrial, and other non-irrigation uses must be submitted not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any revised plans must be submitted to the executive director within 90 days of adoption. The revised plans must include implementation reports. The requirement for a water conservation plan under this section must not result in the need for an amendment to an existing permit, certified filing, or certificate of adjudication.

(2) Implementation report for municipal, industrial, and other non-irrigation uses. The implementation report must include:

- (A) the list of dates and descriptions of the conservation measures implemented;
- (B) data about whether or not targets in the plans are being met;
- (C) the actual amount of water saved; and
- (D) if the targets are not being met, an explanation as to why any of the targets are not being met, including any progress on that particular target.

(3) Water conservation plans for irrigation uses. The holder of an existing permit, certified filing, or certificate of adjudication for the appropriation of surface water in the amount of 10,000 acre-feet a year or more for irrigation uses shall develop, submit, and implement a water conservation plan meeting the requirements of Subchapter A of this chapter. The water conservation plan must be submitted to the executive director not later than May 1, 2005. Thereafter, the next revision of the water conservation plan for irrigation uses must be submitted not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any revised plans must be submitted to the executive director within 90 days of adoption. The revised plans must include implementation reports. The requirement for a water conservation plan under this section must not result in the need for an amendment to an existing permit, certified filing, or certificate of adjudication.

(4) Implementation report for irrigation uses. The implementation report must include:

- (A) the list of dates and descriptions of the conservation measures implemented;

(B) data about whether or not targets in the plans are being met;
(C) the actual amount of water saved; and
(D) if the targets are not being met, an explanation as to why any of the targets are not being met, including any progress on that particular target.

(5) Drought contingency plans for retail public water suppliers. Retail public water suppliers shall submit a drought contingency plan meeting the requirements of Subchapter B of this chapter (relating to Drought Contingency Plans) to the executive director after adoption by its governing body. The retail public water system shall provide a copy of the plan to the regional water planning group for each region within which the water system operates. These drought contingency plans must be submitted as follows.

(A) For retail public water suppliers providing water service to 3,300 or more connections, the drought contingency plan must be submitted to the executive director not later than May 1, 2005. Thereafter, the retail public water suppliers providing water service to 3,300 or more connections shall submit the next revision of the plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any revised plans must be submitted to the executive director within 90 days of adoption by the community water system. Any new retail public water suppliers providing water service to 3,300 or more connections shall prepare and adopt a drought contingency plan within 180 days of commencement of operation, and submit the plan to the executive director within 90 days of adoption.

(B) For all the retail public water suppliers, the drought contingency plan must be prepared and adopted not later than May 1, 2005, and must be available for inspection by the executive director upon request. Thereafter, the retail public water suppliers shall prepare and adopt the next revision of the plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any new retail public water supplier providing water service to less than 3,300 connections shall prepare and adopt a drought contingency plan within 180 days of commencement of operation, and shall make the plan available for inspection by the executive director upon request.

(6) Drought contingency plans for wholesale public water suppliers. Wholesale public water suppliers shall submit a drought contingency plan meeting the requirements of Subchapter B of this chapter to the executive director not later than May 1, 2005, after adoption of the drought contingency plan by the governing body of the water supplier. Thereafter, the wholesale public water suppliers shall submit the next revision of the plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any new or revised plans must be submitted to the executive director within 90 days of adoption by the governing body of the wholesale public water supplier. Wholesale public water suppliers shall also provide a copy of the drought contingency plan to the regional water planning group for each region within which the wholesale water supplier operates.

(7) Drought contingency plans for irrigation districts. Irrigation districts shall submit a drought contingency plan meeting the requirements of Subchapter B of this chapter to the executive director not later than May 1, 2005, after adoption by the governing body of the irrigation district. Thereafter, the irrigation districts shall submit the next revision of the plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any new or revised plans must be submitted to the executive director within 90 days of adoption by the governing body of the irrigation district. Irrigation districts shall also

provide a copy of the plan to the regional water planning group for each region within which the irrigation district operates.

(8) Additional submissions with a water right application for state water. A water conservation plan or drought contingency plan required to be submitted with an application in accordance with §295.9 of this title must also be subject to review and approval by the commission.

(9) Existing permits. The holder of an existing permit, certified filing, or certificate of adjudication shall not be subject to enforcement actions nor shall the permit, certified filing, or certificate of adjudication be subject to cancellation, either in part or in whole, based on the nonattainment of goals contained within a water conservation plan submitted with an application in accordance with §295.9 of this title or by the holder of an existing permit, certified filing, or certificate of adjudication in accordance with the requirements of this section.

(10) Submissions to the executive administrator of the Texas Water Development Board.

(A) Water conservation plans for retail public water suppliers. For retail public water suppliers providing water service to 3,300 or more connections, a water conservation plan meeting the minimum requirements of Subchapter A of this chapter and using appropriate best management practices must be developed, implemented, and submitted to the executive administrator of the Texas Water Development Board not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any revised plans must be submitted to the executive administrator within 90 days of adoption by the community water system. Any new retail public water suppliers providing water service to 3,300 or more connections shall prepare and adopt a water conservation plan within 180 days of commencement of operation, and submit the plan to the executive administrator of the Texas Water Development Board within 90 days of adoption.

(B) Water conservation coordinators for retail public water suppliers. Retail public water suppliers that provide potable water to 3,300 or more connections shall designate a person as the water conservation coordinator responsible for implementing the water conservation plan; and identify, in writing, the water conservation coordinator, including the contact information for that person, to the executive administrator of the Texas Water Development Board. Notification of the initial designated water conservation coordinator shall be provided as specified by the Texas Water Development Board and any changes to the water conservation coordinator shall be provided within 90 days of the effective date of the change.

(C) Water conservation plans. Each entity that is required to submit a water conservation plan to the commission shall submit a copy of the plan to the executive administrator of the Texas Water Development Board not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group.

(D) Annual reports. Each entity that is required to submit a water conservation plan to the Texas Water Development Board or the commission, shall file a report not later than May 1, 2010, and annually thereafter to the executive administrator of the Texas Water Development Board on the entity's progress in implementing the plan.

(E) Violations of the Texas Water Development Board's rules. The water conservation plans and annual reports shall comply with the minimum requirements established in the Texas Water Development Board's rules. The Texas Water Development Board shall notify the commission if the Texas Water Development Board determines that an entity has not complied with the Texas Water Development Board rules relating to the minimum requirements for water conservation plans or submission of plans or annual reports. The commission shall take

appropriate enforcement action upon receipt of notice from the Texas Water Development Board.

Source Note: The provisions of this §288.30 adopted to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective January 10, 2008, 33 TexReg 193; amended to be effective August 16, 2018, 43 TexReg 5218

APPENDIX C

**TEXAS WATER DEVELOPMENT BOARD
RULES ON WATER CONSERVATION PLANS**

[TITLE 31](#)
[PART 10](#)
[CHAPTER 363](#)
[SUBCHAPTER A](#)
[DIVISION 2](#)
RULE §363.15

NATURAL RESOURCES AND CONSERVATION
TEXAS WATER DEVELOPMENT BOARD
FINANCIAL ASSISTANCE PROGRAMS
GENERAL PROVISIONS
GENERAL APPLICATION PROCEDURES
Required Water Conservation Plan

(a) An applicant, if not eligible for an exemption under subsection (c) of this section, shall submit, with its application, a copy of its water conservation plan for approval, in accordance with Water Code §16.4021. The executive administrator shall review all water conservation plans submitted as part of an application for financial assistance for a project and shall determine if the plans meet the requirements of this section.

(b) The water conservation plan required under subsection (a) of this section must be new or revised to include five-year and ten-year targets for water savings, unless the applicant has implemented an approved water conservation plan that meets the requirements of this section, and that has been in effect for less than five years. The water conservation plan shall include an evaluation of the applicant's water and wastewater system and customer water use characteristics to identify water conservation opportunities and shall set goals to be accomplished by water conservation measures. The water conservation plan shall provide information in response to the following minimum requirements. If the plan does not provide information for each minimum requirement, the applicant shall include in the plan an explanation of why the requirement is not applicable.

(1) Minimum requirements. Water conservation plans shall 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 at the most detailed level of water use data currently available and in accordance with the methodology and guidance for calculating water use and conservation developed and maintained by the executive administrator in coordination with the commission under Water Code §16.403. The utility profile must include the classification of water sales and uses for the following sectors, as appropriate:

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

(B) specific, quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use in total gallons per capita per day and residential gallons per capita per day. As used herein, "municipal use" means the use of potable water or sewer effluent for residential, commercial, industrial, agricultural, institutional, and wholesale uses by an individual or entity that supplies water to the public for human consumption;

(C) a schedule for implementing the plan to achieve the applicant's targets and goals;

- (D) a method for tracking the implementation and effectiveness of the plan;
 - (E) a master meter to measure and account for the amount of water diverted from the source of supply;
 - (F) a program for universal metering of both customer and public uses of water, for meter testing and repair, and for periodic meter replacement;
 - (G) measures to determine and control water loss (for example, periodic visual inspections along distribution lines; annual or monthly audit of the water system to determine illegal connections, abandoned services, etc.);
 - (H) a program of leak detection, repair, and water loss accounting for the water transmission, delivery, and distribution system;
 - (I) a program of continuing public education and information regarding water conservation;
 - (J) 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;
 - (K) 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 applicant; and
 - (ii) a description of the authority by which the applicant will implement and enforce the conservation plan;
 - (L) documentation that the regional water planning groups for the service area of the applicant have been notified of the applicant's water conservation plan; and
 - (M) a current drought contingency plan which includes specific water supply or water demand management measures and, at a minimum, includes, trigger conditions, demand management measures, initiation and termination procedures, a means of implementation, and measures to educate and inform the public regarding the drought contingency plan.
- (2) Additional conservation strategies. The water conservation plan may also include any other water conservation practice, method, or technique that the applicant deems appropriate.
- (c) Pursuant to Water Code §16.4021, an applicant is not required to provide a water conservation plan if the board determines an emergency exists; the amount of financial assistance to be provided is \$500,000 or less; the applicant demonstrates and the board finds that implementation of a water conservation program is not reasonably necessary to facilitate water conservation; the application is for flood control purposes under Water Code, Chapter 17, Subchapter G; the application is for a flood project under Water Code, Chapter 15, Subchapter I; or the financial assistance is to fund a project that consists of construction outside this state.
- (1) An emergency exists when:
- (A) a public water system or wastewater system has already failed, or is in a condition which poses an imminent threat of failure, causing the health and safety of the citizens served to be endangered;
 - (B) sudden, unforeseen demands are placed on a water system or wastewater system (i.e., because of military operations or emergency population relocation);
 - (C) a disaster has been declared by the governor or president; or
 - (D) the governor's Division of Emergency Management of the Texas Department of Public Safety has determined that an emergency exists.
- (2) If the board determines that an emergency exists and commits to financial assistance without requiring a water conservation plan, the applicant must report whether the emergency continues to exist every six months after the board commits to financial assistance. If the

Executive Administrator finds that the emergency no longer exists, the applicant must submit a water conservation plan within six months of the finding.

(d) Pursuant to Water Code §16.4021(g), if the applicant will utilize the project financed by the board to furnish water or wastewater services to another entity that in turn will furnish the water or wastewater services to the ultimate consumer, the applicant shall:

(1) submit its own water conservation plan before closing on the financial assistance; and

(2) submit the other entity's water conservation plan, if one exists, before closing on the financial assistance; and

(3) require, by contract, that the other entity adopt a water conservation plan that conforms to the board's requirements and submit it to the board. If the requirement is to be included in an existing water or wastewater service contract, it may be included, at the earliest of the renewal or substantial amendment of that contract, or by other appropriate measures.

(e) The board will accept a water conservation plan determined by the commission to satisfy the requirements of 30 TAC Chapter 288 for purposes of meeting the minimum requirements of subsection (b) of this section.

(f) Water conservation plans that are submitted to the TCEQ and copied to the board under Water Code §16.402 must contain the applicable minimum requirements for water conservation plans established by the Commission in its rules at 30 TAC Chapter 288.

(g) Annual reports.

(1) Each entity that is required to submit a water conservation plan to the board or the commission, other than a recipient of financial assistance from the board, shall file a report annually not later than May 1st to the executive administrator on the entity's progress in implementing each of the minimum requirements in the water conservation plan.

(2) Recipients of financial assistance from the board shall maintain an approved water conservation plan in effect until all financial obligations to the state have been discharged and shall file a report with the executive administrator on the applicant's progress in implementing each of the minimum requirements in its water conservation plan and the status of any of its customers' water conservation plans required by contract, within one year after closing on the financial assistance and annually thereafter until all financial obligations to the state have been discharged.

(3) Annual reports prepared for the Commission providing the information required by this subsection may be provided to the board to fulfill the board's reporting requirements.

(h) The following are violations of board rules for purposes of Water Code §16.402:

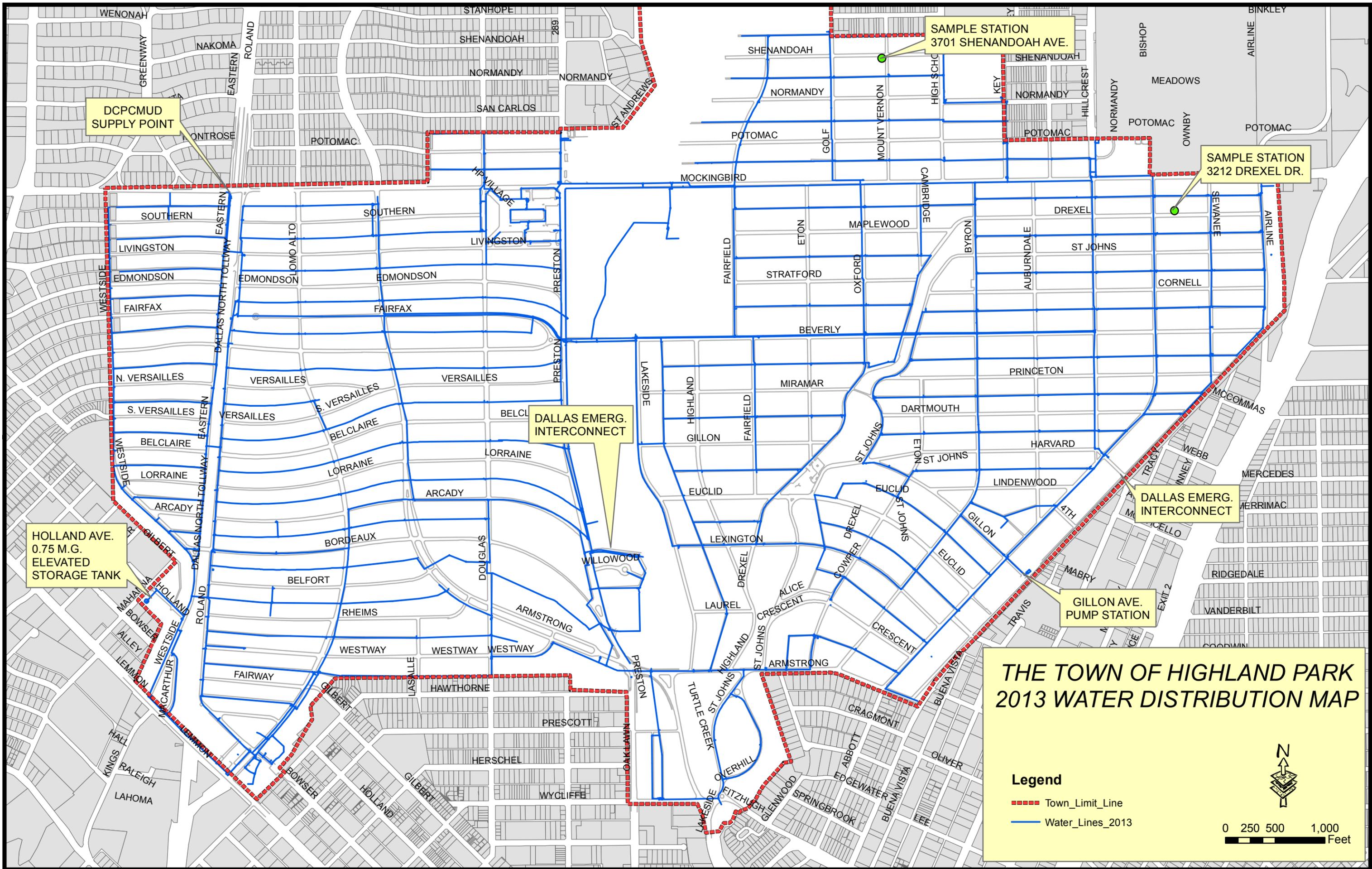
(1) failure to submit a water conservation plan containing the minimum requirements in subsections (b) and (f) of this section; and

(2) failure to timely submit a complete annual report on the entity's progress in implementing its plan that addresses each element in its water conservation plan, as required by Water Code §16.402 and subsection (g) of this section.

Source Note: The provisions of this §363.15 adopted to be effective July 19, 1991, 16 TexReg 3768; amended to be effective June 8, 1995, 20 TexReg 3898; amended to be effective December 6, 2004, 29 TexReg 11368; amended to be effective December 25, 2007, 32 TexReg 9721; amended to be effective June 1, 2008, 33 TexReg 4327; amended to be effective December 5, 2012, 37 TexReg 9522; amended to be effective February 3, 2021, 46 TexReg 832

APPENDIX D

**TOWN OF HIGHLAND PARK
TCEQ & TWDB WATER UTILITY PROFILES**



DCPCMUD
SUPPLY POINT

SAMPLE STATION
3701 SHENANDOAH AVE.

SAMPLE STATION
3212 DREXEL DR.

DALLAS EMERG.
INTERCONNECT

HOLLAND AVE.
0.75 M.G.
ELEVATED
STORAGE TANK

DALLAS EMERG.
INTERCONNECT

GILLON AVE.
PUMP STATION

**THE TOWN OF HIGHLAND PARK
2013 WATER DISTRIBUTION MAP**

Legend

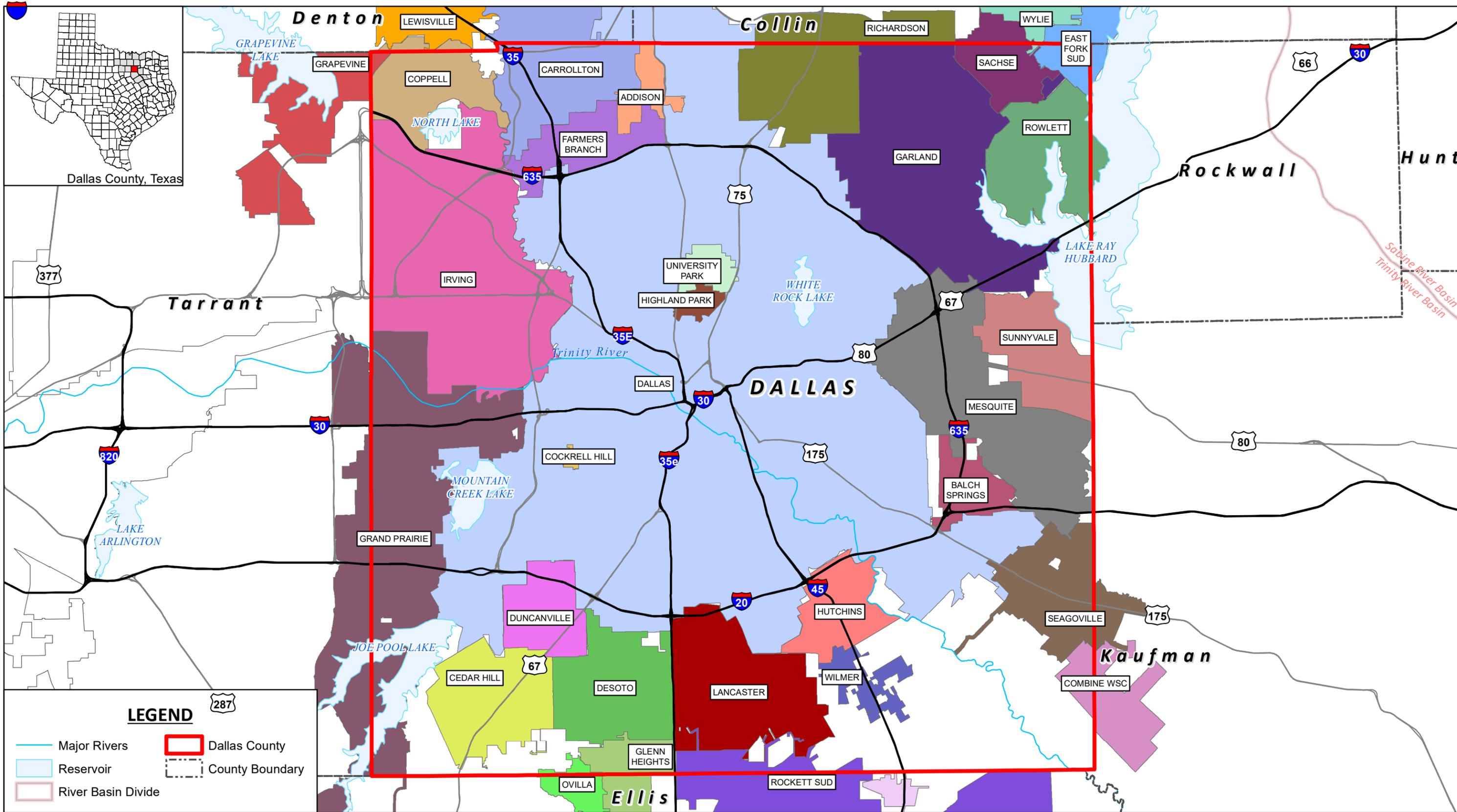
- - - - Town_Limit_Line
- Water_Lines_2013


 0 250 500 1,000
 Feet

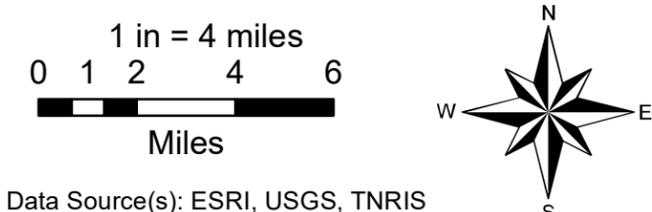


In Multiple Counties or Regions?	Final Region C Population Projections							
	County	Water User Group (WUG)	2020	2030	2040	2050	2060	2070
	COOKE	LINDSAY	1,325	1,423	1,517	1,688	2,020	3,042
Yes	COOKE	MOUNTAIN SPRING WSC	2,654	2,848	2,998	3,146	5,000	7,999
	COOKE	MUENSTER	1,564	1,564	1,614	1,614	1,665	1,665
Yes	COOKE	TWO WAY SUD	100	108	113	119	124	128
Yes	COOKE	WOODBINE WSC	6,131	6,946	7,762	8,577	9,390	10,203
	COOKE TOTAL		40,903	44,035	46,984	52,427	62,905	95,351
	DALLAS	ADDISON	14,869	15,895	16,921	17,947	18,973	20,000
	DALLAS	BALCH SPRINGS	26,418	28,974	31,600	34,449	37,226	40,010
Yes	DALLAS	CARROLLTON	51,277	51,277	51,277	51,277	51,277	51,277
Yes	DALLAS	CEDAR HILL	53,244	65,133	76,989	83,579	83,579	83,579
	DALLAS	COCKRELL HILL	4,787	5,250	5,250	5,250	6,999	14,997
Yes	DALLAS	COMBINE WSC	810	986	1,185	1,412	1,669	1,956
Yes	DALLAS	COPPELL	40,848	41,747	41,809	41,809	41,809	41,809
	DALLAS	COUNTY OTHER	1,092	798	862	917	1,318	1,617
Yes	DALLAS	DALLAS	1,141,059	1,242,191	1,420,781	1,591,937	1,722,709	1,785,569
	DALLAS	DESOTO	54,505	58,941	64,281	70,078	75,727	78,033
	DALLAS	DUNCANVILLE	43,110	47,307	47,307	47,307	47,307	47,307
Yes	DALLAS	EAST FORK SUD	3,725	3,725	3,376	4,169	4,942	5,717
	DALLAS	FARMERS BRANCH	30,582	32,477	34,420	36,531	38,586	40,648
Yes	DALLAS	FERRIS	6	10	14	19	23	27
Yes	DALLAS	GARLAND	254,381	278,659	293,920	297,792	299,655	299,509
Yes	DALLAS	GLENN HEIGHTS	13,822	18,831	23,973	29,555	34,995	45,991
Yes	DALLAS	GRAND PRAIRIE	166,208	206,781	231,491	231,491	231,491	231,491
	DALLAS	HIGHLAND PARK	9,023	9,311	9,311	9,311	9,311	9,311
	DALLAS	HUTCHINS	9,901	13,919	17,937	21,956	25,974	29,994
	DALLAS	IRVING	259,186	294,623	301,541	301,541	301,541	301,541

In Multiple Counties or Regions?	Region C Final Municipal Demand (Acre-Feet per Year)							
	County	WUG	2020	2030	2040	2050	2060	2070
	COOKE	LAKE KIOWA SUD	891	921	938	957	964	976
	COOKE	LINDSAY	173	180	188	206	245	368
Yes	COOKE	MOUNTAIN SPRING WSC	445	468	486	506	801	1,279
	COOKE	MUENSTER	268	261	263	260	267	267
Yes	COOKE	TWO WAY SUD	11	12	12	12	13	13
Yes	COOKE	WOODBINE WSC	651	707	767	835	911	989
	COOKE TOTAL		6,092	6,334	6,574	7,171	8,536	12,688
	DALLAS	ADDISON	6,137	6,486	6,856	7,248	7,657	8,069
	DALLAS	BALCH SPRINGS	2,749	2,894	3,066	3,293	3,546	3,808
Yes	DALLAS	CARROLLTON	9,532	9,329	9,173	9,087	9,070	9,069
Yes	DALLAS	CEDAR HILL	10,660	12,810	14,994	16,201	16,186	16,184
	DALLAS	COCKRELL HILL	417	431	415	405	536	1,140
Yes	DALLAS	COMBINE WSC	77	90	105	123	145	170
Yes	DALLAS	COPPELL	10,828	10,928	10,848	10,793	10,779	10,779
	DALLAS	COUNTY OTHER	2,229	2,168	2,180	2,191	2,274	2,335
Yes	DALLAS	DALLAS	252,895	269,507	303,240	337,114	364,227	377,458
	DALLAS	DESOTO	9,422	9,965	10,703	11,575	12,483	12,856
	DALLAS	DUNCANVILLE	6,091	6,464	6,322	6,244	6,230	6,229
Yes	DALLAS	EAST FORK SUD	454	435	386	472	558	646
	DALLAS	FARMERS BRANCH	9,031	9,448	9,901	10,446	11,020	11,606
Yes	DALLAS	FERRIS	1	2	2	3	3	4
Yes	DALLAS	GARLAND	41,055	43,805	45,269	45,349	45,528	45,506
Yes	DALLAS	GLENN HEIGHTS	1,513	2,002	2,516	3,083	3,644	4,783
Yes	DALLAS	GRAND PRAIRIE	26,811	32,615	36,061	35,851	35,799	35,792
	DALLAS	HIGHLAND PARK	4,055	4,139	4,105	4,090	4,087	4,087
	DALLAS	HUTCHINS	2,186	3,033	3,888	4,748	5,612	6,479



2021 Region C Water Plan
DALLAS COUNTY, TEXAS
FIGURE 5E.6



Highland Park

Highland Park is located in central Dallas County and receives its water supply from Grapevine Lake through Dallas County Park Cities MUD. The only water management strategy for Highland Park is conservation. **Table 5E.76** shows the projected population and demand, the current supplies, and the water management strategies for Highland Park.

Table 5E.76 Summary of Water User Group – City of Highland Park

(Values in Ac-Ft/Yr)	2020	2030	2040	2050	2060	2070
Projected Population	9,023	9,311	9,311	9,311	9,311	9,311
Projected Demands						
Municipal Demand	4,055	4,139	4,105	4,090	4,087	4,087
Total Projected Demands	4,055	4,139	4,105	4,090	4,087	4,087
Currently Available Supplies						
Grapevine Lake through Dallas County Park Cities MUD	4,055	4,139	4,105	4,090	4,087	4,087
Total Currently Available Supplies	4,055	4,139	4,105	4,090	4,087	4,087
Need (Demand - Supply)	0	0	0	0	0	0
Water Management Strategies						
Water Conservation	202	219	210	224	237	251
Total Supplies from Strategies	202	219	210	224	237	251
Reserve (Shortage)	202	219	210	224	237	251

APPENDIX E

TCEQ IMPLEMENTATION REPORT



WATER CONSERVATION IMPLEMENTATION REPORT FORM AND SUMMARY OF UPDATES/REVISIONS TO WATER CONSERVATION PLAN

(Texas Water Code §11.1271(b) and Title 30 Texas Administrative Code §288.30(1) to (4))

Please note, this form replaces the following forms: TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers)

This Form is applicable to the following entities:

1. **Water Right Holders of 1,000 acre-feet or more for municipal, industrial, and other non-irrigation uses.**
2. **Water Right Holders of 10,000 acre-feet or more for irrigation uses.**

The above noted entities are required by rule to submit updates to their water conservation plan(s) and water conservation implementation report(s) every five years. The most current five-year submittal deadline is **May 1st, 2019**. See 30 Texas Administrative Code (TAC) §288.30(1) to (4). Entities must also submit any revisions to their water conservation plan within 90 days of adoption when the plans are revised in between the five-year submittal deadlines. This form may be used for the five-year submittal or when revisions are made to the water conservation plans in the interim periods between five-year submittals. Please complete the form as directed below.

1. Water Right Holder Name: _____
2. Water Right Permit or Certificate Nos. _____

3. Please Indicate by placing an 'X' next to all that Apply to your Entity:

Water Right Holder of 1,000 acre-feet or more for non-irrigation uses

- _____ Municipal Water Use by Public Water Supplier
- _____ Wholesale Public Water Supplier
- _____ Industrial Use
- _____ Mining Use
- _____ Agriculture Non-Irrigation

Water Right Holder of 10,000 acre-feet or more for irrigation uses

- _____ Individually-Operated Irrigation System
- _____ Agricultural Water Suppliers Providing Water to More Than One User

Water Conservation Implementation Reports/Annual Reports

4. Water Conservation Annual Reports for the previous five years were submitted to the Texas Water Development Board (TWDB) for each of the uses indicated above as required by 30 TAC §288.30(10)(C)? Yes _____ No _____

TCEQ no longer requires submittal of the information contained in the detailed implementation report previously required in Forms TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers). However, the Entity must be up-to-date on its Annual Report Submittals to the TWDB.

Water Conservation Plans

5. For the five-year submittal (or for revisions between the five-year submittals), attach your updated or revised Water Conservation Plan for each of the uses indicated in Section 3, above. Every updated or revised water conservation plan submitted must contain each of the minimum requirements found in the TCEQ rules and must be duly adopted by the entity submitting the water conservation plan. Please include evidence that each water conservation plan submitted has been adopted.
- Rules on minimum requirements for Water Conservation Plans can be found in 30 TAC 288.
http://texreg.sos.state.tx.us/public/readtac%24ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288
 - Forms which include the minimum requirements and other useful information are also available to assist you. Visit the TCEQ webpage for Water Conservation Plans and Reports. https://www.tceq.texas.gov/permitting/water_rights/wr_technical-resources/consERVE.html

Call 512-239-4691 or email to wcp@tceq.texas.gov for assistance with the requirements for your water conservation plan(s) and report(s).

6. For each Water Conservation Plan submitted, state whether the five and ten-year targets for water savings and water loss were met in your *previous* water conservation plan.
Yes_____ No_____
- If the targets were not met, please provide an explanation.

7. For each five-year submittal, does each water conservation plan submitted contain *updated* five and ten-year targets for water savings and water loss?
Yes_____ No_____

If yes, please identify where in the water conservation plan the updated targets are located (page, section).

8. In the box below (or in an attachment titled "Summary of Updates or Revisions to Water Conservation Plans), please identify any other revisions/updates made to each water conservation plan that is being updated or revised. Please specify the water conservation plan being updated and the location within the plan of the newly adopted updates or revisions.

9. Form Completed by (Point of Contact): _____
(If different than name listed above, owner and contact may be different individual(s)/entities)

Contact Person Title/Position: _____

Contact Address: _____

Contact Phone Number: _____ Contact Email Address: _____

Signature: _____

Date: _____

APPENDIX F

**REGION C WATER PLANNING
GROUP DOCUMENTATION**

Texas Commission on Environmental Quality
Resource Protection Team, MC-160
P.O. Box 13087
Austin, Texas, 78711-3087

April 23, 2024

Re: *Town of Highland Park*
Water Conservation and Drought Contingency Plans

Dear Sir/Madam,

Pursuant to Texas Administrative Code, Title 30, Chapter 288, the Town of Highland Park respectfully submits the attached updated Water Conservation Plan and Drought Contingency Plan for the City. Both plans were approved by the Town on April 22, 2019.

Copies of the approved plans have also been submitted to the Texas Water Development Board and the Chair of the Region C Water Planning Group.

Sincerely,

XXXXXX
Director of Town Services
Town of Highland Park

Attachments

Texas Water Development Board
ATTN: Conservation Plan
1700 North Congress Avenue
P.O. Box 13231
Austin, Texas 78711-3231.

April 23, 2024

Re: *Town of Highland Park*
 Water Conservation and Drought Contingency Plans

Dear Sir/Madam,

Pursuant to Texas Administrative Code, Title 30, Chapter 288, the Town of Highland Park respectfully submits the attached updated Water Conservation Plan and Drought Contingency Plan for the City. Both plans were approved by the Town on April 22, 2019.

Copies of the approved plans have also been submitted to the Texas Commission on Environmental Quality and the Chair of the Region C Water Planning Group.

Sincerely,

XXXXXX
Director of Town Services
Town of Highland Park

Attachments

Kevin Ward, Chair
Region C Planning Group
c/o TRA
P.O. Box 60
Arlington, TX 76004

April 23, 2024

Re: *Town of Highland Park*
 Water Conservation and Drought Contingency Plans

Dear Mr. Ward,

Pursuant to Texas Administrative Code, Title 30, Chapter 288, the Town of Highland Park respectfully submits the attached updated Water Conservation Plan and Drought Contingency Plan for the City. Both plans were approved by the Town on April 22, 2019.

Copies of the approved plans have also been submitted to the Texas Water Development Board and the Texas Commission on Environmental Quality.

Sincerely,

XXXXXXXXX
Director of Town Services
Town of Highland Park

CC: Sarah Backhouse

Attachments

APPENDIX G

ADOPTION OF THE WATER CONSERVATION PLAN

ORDINANCE NO. 2129

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF HIGHLAND PARK, TEXAS, AMENDING THE CODE OF ORDINANCES OF THE TOWN OF HIGHLAND PARK, CHAPTER 13 UTILITIES, AMENDING SEC. 13.04.001 AND ADOPTING THE 2024 WATER CONSERVATION PLAN FOR THE TOWN OF HIGHLAND PARK PROMOTING RESPONSIBLE USE OF WATER; PROVIDING A VALIDITY CLAUSE; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR INCORPORATION IN THE CODE OF ORDINANCES; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Town of Highland Park, Texas (“Town”) recognizes the need to make efficient use of its water supply; and

WHEREAS, the Texas Commission on Environmental Quality (the “Commission”) and the Texas Water Development Board (“TWDB”) have developed guidelines and requirements governing the development of water conservation plans; and

WHEREAS, Title 30, Chapter 288 of the Texas Administrative Code and the regulations of the Commission require that the Town adopt a water conservation plan; and

WHEREAS, the Town Council desires to adopt the Town’s 2024 Water Conservation Plan (the “Plan”) as the official Town policy for the conservation of water; and

WHEREAS, the Town is authorized by law to adopt the provisions contained herein, and has complied with all the prerequisites necessary for the passage of this ordinance; and

WHEREAS, all statutory and constitutional requirements for the passage of this ordinance have been adhered to, including, but not limited to the Open Meetings Act; and

WHEREAS, the purpose of this ordinance is to promote the public health, safety, and general welfare of the citizens of the Town of Highland Park.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF HIGHLAND PARK, TEXAS:

SECTION 1. That, the statements contained hereinabove are hereby adopted as findings of fact and as a part of the operative provisions hereof as if copied in their entirety.

SECTION 2. That, Section 13.04.001(a) of the Code of Ordinances is amended in its entirety and replaced as follows:

“(a) The 2024 Town of Highland Park Water Conservation Plan is hereby approved and adopted by reference and a true copy of such plan shall be retained by the Town Secretary and be available for public inspection during all business hours of the Town.”

SECTION 3. That, the Town 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 Town Council further ratifies, approves, and confirms such written notice and the posting thereof.

SECTION 4. That, the Town Administrator 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 5. Penalty. That, any person, firm or corporation violating any of the provisions or terms of this ordinance, shall be subject to the penalty provisions of Section 1.01.009 of the Code of Ordinances of the Town of Highland Park, Texas, as amended and/or discontinuance of water service by the Town. 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 Water Conservation Plan is a separate violation. The Town’s authority to seek injunctive or other civil relief available under the law is not limited by this section.

SECTION 6. Validity. That, all ordinances of the Town of Highland Park in conflict with the provisions of this ordinance be, and the same are hereby superseded and all other provisions of the ordinances of the Town of Highland Park not in conflict with the provisions of this ordinance shall remain in full force and effect.

SECTION 7. Severability. That, 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 8. Incorporation. That, this ordinance shall be deemed to be incorporated into the Code of Ordinances of the Town of Highland Park, Texas.

SECTION 9. Effective Date. That, this ordinance shall take effect immediately following its passage, approval and publication as provided by law, and it is accordingly so ordained.

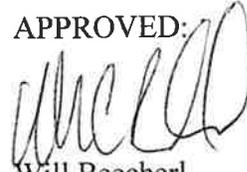
PASSED AND APPROVED this 23rd day of April 2024.

APPROVED AS TO FORM:



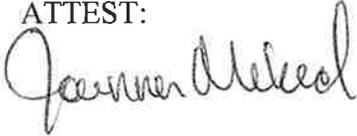
Susan Thomas
Town Attorney

APPROVED:



Will Beecherl
Mayor

ATTEST:



Joanna Mekeal
Town Secretary