



Trophy Club Municipal Utility District No. 1

Water Conservation Plan

DRAFT FOR CONSIDERATION APRIL 22, 2014

District Manager: Jennifer McKnight
Trophy Club Municipal Utility District No. 1
100 Municipal Drive
Trophy Club, TX 76262
(682) 831-4610

Public Water System ID TX 0610018

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1. INTRODUCTION

Trophy Club Municipal Utility District No. 1, (the “District”) has adopted this Water Conservation Plan (“Plan”) for the following purposes: (i) to establish certain rules and policies for the orderly and efficient management of limited water supplies during drought and other water supply emergencies; and (ii) to establish certain practices, techniques, and technologies that reduce the consumption of water in the District, and to improve the efficiency of use of water in the District. The District has also adopted a Drought Contingency Plan that sets forth the specific requirements that will be initiated should a water shortage occur. The District’s Drought Contingency Plan is included as **EXHIBIT 1**.

The District has adopted the drought contingency aspects of this Plan pursuant to, and in accordance with, 30 TAC §288.20 and §288.30(5)(B), which require certain retail public water suppliers to adopt a drought contingency plan by May 1, 2005, and to update the plan before May 1, 2009 and every five years after that date. The District has adopted the water conservation provisions of this Plan pursuant to its contract to purchase treated surface water from the City of Fort Worth (the “City”), in which the District agreed to adopt and enforce water conservation measures and goals similar to the City.

A violation of the mandatory provisions of this Plan shall constitute a violation of the District’s rules, and shall subject the offender(s) to penalties as defined in Section 15 of this Plan.

2. AUTHORIZATION

The District Manager is hereby authorized and directed to implement and enforce the provisions of this Plan.

The provisions of this Plan shall apply to all persons, customers, and property within the District and to all persons, customers, and property served directly by the District and classified as “out of district” customers. This Plan does not apply to any persons or entities that are directly served by the Town of Trophy Club (the “Town”) and that pay Town rates for retail water service. All such persons and entities are subject to the water conservation and drought contingency requirements promulgated by the Town. The Town of Trophy Club is required through its contract with the District to adopt its own Water Conservation and Drought Contingency Plans and to provide a copy of its adopted or amended plans to the District.

For purposes of this plan, it shall be presumed that a person, corporation, or association in whose name service was last billed and who is receiving the use or economic benefit of water provided by the District has knowingly made, caused, used, or permitted the use of water received from the District.

3. PUBLIC INVOLVEMENT

Opportunity for the public to provide input into the preparation of this Plan was provided by the Board of Directors of the District by means of a public meeting regarding the adoption of this Plan. At the meeting, interested members of the public were given the opportunity to provide input regarding the contents and requirements of this Plan. Additionally, the Plan is posted on the District website and public comments are accepted via email or through written submittals.

4. WATER CONSERVATION PLAN GOALS

The District strives to achieve significant conservation savings without burdening its customers with extra costs. By generating water savings now, the District recognizes long-term benefits to its customers through extended life of the water supplies and extended life of water system infrastructure. Under this Plan the District seeks to achieve a 5% reduction in water consumption per person in the next five years and a 10% reduction in water consumption per person over the next ten years.

2013 Gallons Per Capita Per Day Usage	Reduction Goal by 2018 5%	Reduction Goal by 2023 10%
211 gpcd	201 gpcd	190 gpcd

5. BACKGROUND INFORMATION

Trophy Club Municipal Utility District No. 1 provides retail water and wastewater services to approximately 3,020 single family residences, townhouses, and condominium units, and to Trophy Club Country Club and certain other commercial establishments. The District's boundaries encompass an area within the Town of Trophy Club and an area within the Town of Westlake. In addition to providing retail water and wastewater services to customers within its boundaries and a few out-of-district customers, the District also provides wholesale water and wastewater services to the Town of Trophy Club. The Town provides retail service to approximately 1,100 single family residences. The source of potable water supply is a wholesale water service agreement previously entered into by the District and the City

of Fort Worth and is supplemented by groundwater from four wells. Three of these wells are from the Paluxy aquifer and one is from the Trinity aquifer.

The water consumption data from the District's master meter identifies water use patterns within the District combined with those from the Town. Peak water demand occurs in the summer months, reflecting increased water utilized for landscape irrigation. This demand occurs in different months and varies by as much as 30% from one year to the next, indicating demand is sensitive to rainfall variations (i.e., customers vary their demand for irrigation water based upon landscape needs).

6. WATER AND WASTEWATER UTILITY SYSTEM PROFILE

A complete Water Conservation Utility Profile, TWDB Form WRD-264 for the District is provided in **Appendix A**.

7. PUBLIC EDUCATION

The District periodically provides information to the public regarding water conservation generally, and regarding this Plan specifically. Information furnished includes information about the conditions under which each stage of the Plan is to be initiated or terminated and the drought response measures to be implemented in each stage.

The District will continue to promote water conservation and assist residents in practicing water conservation techniques by informing the public in a variety of ways including:

- Water conservation literature will be distributed at the District's offices
- Direct mail notification when the Plan is approved or amended
- New customers will receive conservation information
- Bill inserts and listing of previous 12 month's usage on bills
- Website information and links
- Articles in the District and neighborhood newsletters
- Signs posted at entrances to the District

8. PLUMBING CODES

The District has adopted the International Plumbing Code, 2003 Edition, which requires the use of water saving fixtures to be installed in new construction and in the replacement of plumbing in existing structures.

9. REBATE AND RETROFIT PROGRAMS

The District will educate the residents, plumbers, and contractors on the benefits of retrofitting existing facilities with water saving devices. This program will be encompassed in the educational and informational programs utilized by the District.

10. UNIVERSAL METERING

The supply line from the City of Fort Worth, wells, customer locations, and District water use facilities are metered. All water supply meters are calibrated annually to ensure accuracy within plus or minus 5%. All customer accounts are metered and read monthly. The District has converted 95% of all customer meters to smart meters that can be data logged to assist customers in identifying the presence of leaks. Additionally, the District's meter reading software allows for downloading a list of customers whose meters have not stopped consuming water for a full hour over a twenty four hour period. The list is used to generate a postcard to the customer letting them know there could possibly be a leak in their private plumbing.

The District will continue to provide a water meter preventive maintenance program, wherein testing, repairs, and replacement are performed in accordance with American Water Works Association (AWWA) standards.

11. WATER CONSERVING LANDSCAPE

Trophy Club Municipal Utility District No. 1 will provide information through the public education program to homeowners, business owners, landscape architects, and irrigation contractors about the methods and benefits of water conserving landscaping practices and devices. The following methods will be encouraged.

- The use of low water consuming plants and grasses for landscaping.

- The use of drip irrigation systems when possible or other water conserving irrigation systems that utilize efficient sprinklers
- The use of ornamental fountains that recycle water and use a minimum amount of water.

12. RATE STRUCTURES FOR WATER AND WASTEWATER

Water conservation is promoted by the District using an inverted block rate structure. This structure allows for higher usage customers to pay increasing rates based on usage tiers. Conservation water rates have been in place for many years and will continue to be utilized to promote the District's water conservation efforts. The District's rate structure is identified in **Appendix B**.

13. UNACCOUNTED FOR WATER USE, LEAK DETECTION, AND WATER AUDITS

Trophy Club Municipal Utility District No. 1 has aggressively implemented a leak detection and repair program and has in inventory all necessary repair materials needed to ensure prompt repairs of all leaks detected or reported. Visual inspections of the system are routinely performed and documented in operator's logs. Additionally, reported leaks are tracked through the utility automated work order system and are addressed within twenty-four hours of receiving a report. District customers can submit service requests online through the District's website or contact the District office 24 hours daily.

A monthly water loss report provides an effective tracking system of metered production, metered consumption, accounted water losses, and unaccountable water loss. The District maintains records of unmetered water usage including water used for fire fighting, water line flushing and repairs, and water use in infrastructure construction. The District maintains an annual unaccountable rate of 8% which meets the American Water Works Association's recommended rate of less than 10%.

14. RECYCLING AND REUSE

The District provides 100% of treated effluent during the summer months and approximately 75% of treated effluent during the winter months to the Trophy Club Country Club for irrigation of its golf course.

15. IMPLEMENTATION AND ENFORCEMENT

The District Manager will administer and enforce this Plan, and will oversee and be responsible for the execution and implementation of all elements of this Plan. The District Manager shall keep adequate records for plan verification and shall report to the Board of Directors of the District regarding actions taken and which need to be taken under this Plan. Without limiting the foregoing, the District Manager shall advise the President of the Board (or if the President is unavailable to receive notification, another member of the Board) as soon as reasonably practicable when a particular Trigger Condition has been reached under the Drought Plan and when a particular drought condition no longer exists. The Resolution adopting this plan is included in **Exhibit 2**.

16. MONITORING AND REPORTING

The District Manager shall submit monthly reports to the Board of Directors showing water pumped and water sold by month for the previous 12 months. Additionally, the District Manager will conduct an annual audit to determine unaccounted water losses for the previous calendar year and shall report annually to the District's Board of Directors and the Texas Commission on Environmental Quality (TCEQ) and/or the Texas Water development Board (TWDB) if required by regulations.

17. COORDINATION WITH THE REGIONAL WATER PLANNING GROUP

The District's service area is located within the Region C water planning area, and the District has provided a copy of this Plan to the Region C water planning group. A copy of the transmittal letter to Region C is included as **Appendix C**.

APPENDIX A

Utility Profile

Name: Trophy Club Municipal Utility District No. 1

Address: 100 Municipal Drive, Trophy Club, TX 76262

Telephone Number: (682) 831-4600 Fax: (817) 491-9312

Water Right No.(s): N/A

Regional Water Planning Group: Region C

Form Completed by: Jennifer McKnight

Title: District Manager

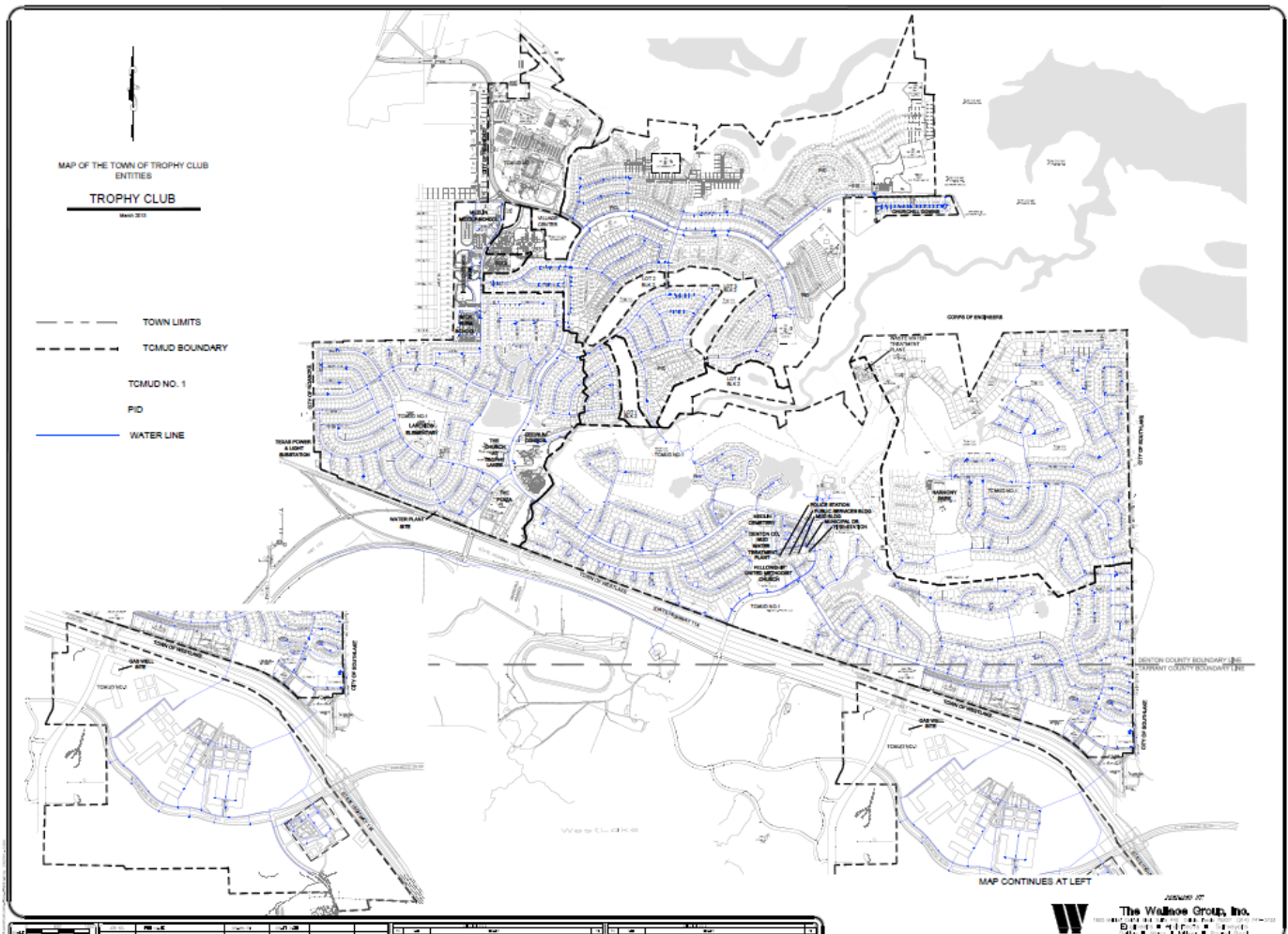
Person responsible for implementing conservation program: Jennifer McKnight Phone: (682) 831-4600

Signature: _____ Date: 04/22/2014

I. POPULATION AND CUSTOMER DATA

A. Population and Service Area Data

1. The District does not hold a CCN with the TCEQ and a service area map is below:



2. Service area size (in square miles): **4.5 SQUARE MILES**

3. Current population of service area: **8439**

4. Current population served for:

a. Water **8439**

b. Wastewater **8439**

5. Population served for previous five years:

<u>Year</u>	<u>Population</u>
<u>2009</u>	<u>8,809</u>
<u>2010</u>	<u>9,383</u>
<u>2011</u>	<u>10,030</u>
<u>2012</u>	<u>10,864</u>
<u>2013</u>	<u>8,439</u>

**Town of Trophy Club became separate public water system during 2013 and population was removed from District's population count.*

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

<u>Year</u>	<u>Population</u>
<u>2020</u>	<u>11,200</u>
<u>2030</u>	<u>11,200</u>
<u>2040</u>	<u>11,200</u>
<u>2050</u>	<u>11,200</u>
<u>2060</u>	<u>11,200</u>

7. List source or method for the calculation of current and projected population size.

District population is calculated by multiplying 2.8 times the number of connections on December 31st each year. Total build-out is expected by 2017.

B. Customer Data

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

Treated Water Users	Metered	Non-Metered	Totals
Treated Water Users			
Residential			
Single Family	2839	0	2839
Multi-Family	56	0	56
Commercial	59	0	59
Industrial/Mining	0	0	0
Institutional	60	0	60
Agricultural	0	0	0
Other/Wholesale	0	1*	1

*Town of Trophy Club is wholesale customer; individual customer sites are metered but no master meter.

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

Year	2011	2012	2013
Treated Water Users			
Residential			
Single Family	45	40	48
Multi-Family	0	0	0
Commercial	1	0	4
Industrial/Mining	0	0	0
Institutional	2	0	2
Agricultural	0	0	0
Other/Wholesale	0	0	1

3. List of annual water use for the five highest volume customers.

	Customer	Use (1,000 gal/year)	Treated or Raw Water
1.	Maguire Thomas	101,198,000	Treated
2.	Town of Trophy Club	23,824,000	Treated
3.	Byron Nelson High School	20,614,000	Treated
4.	Marriott - Solana	12,391,000	Treated
5.	The Vineyards of Trophy Club	10,656,000	Treated

II. WATER USE DATA FOR SERVICE AREA

A. Water Accounting Data

1. List the amount of water use for the previous five years (in 1,000 gallons). Indicate whether this is diverted or treated water.

<i>Year</i>	2009	2010	2011	2012	2013
<i>Month</i>					
January	37,160	33,207	37,678	39,487	39,283
February	37,009	31,561	38,922	36,919	37,867
March	45,027	28,780	62,101	53,380	56,743
April	50,204	46,925	79,255	72,651	60,969
May	39,645	67,932	71,744	117,231	87,168
June	68,746	122,164	129,550	133,497	96,602
July	121,675	103,610	168,300	179,681	119,414
August	98,582	144,788	195,284	169,679	145,988
September	85,605	84,919	134,996	148,689	120,342
October	43,332	78,384	97,742	105,122	81,909
November	43,984	56,852	63,852	94,018	51,769
December	34,412	48,974	48,315	64,553	39,769
TOTALS	705,381	848,096	1,127,739	1,214,907	937,823

Diverted water is measured through a master meter at the water treatment plant site.

Years 2009-2012 include Town of Trophy Club Improvement District. In 2013 they obtained a PWS ID and became a wholesale customer of the District.

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

Year	2009	2010	2011	2012	2013
<i>Account Types</i>					
Residential					
<i>Single Family</i>	420,939	471,399	569,661	543,388	469,884
<i>Multi-Family</i>	14,731	14,575	17,419	16,987	15,698
Commercial	166,703	148,421	149,573	130,781	130,648
Industrial/Mining	0	0	0	0	0
Institutional	42,786	64,423	66,805	70,397	55,530
Agricultural	0	0	0	0	0
Other/Wholesale	0	0	0	0	198,038*

*Town of Trophy Club previously included as retail customers. They obtained a PWS ID in 2013 and are a wholesale customer.

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

<i>Year</i>	<i>Amount (gallons)</i>	<i>Percent %</i>
2009	<i>60,222,000</i>	<i>9%</i>
2010	<i>149,278,000</i>	<i>18%</i>
2011	<i>324,281,000</i>	<i>29%</i>
2012	<i>453,354,000</i>	<i>37%</i>
2013	<i>68,025,000</i>	<i>7%</i>

B. Projected Water Demands

The District will participate in a regional project with the City of Fort Worth to increase purchased treated surface water by an additional 2.4 MGD. This additional water is expected to be sufficient to meet the future demands of the District and will allow for a total daily water capacity of 11.2 MGD (10.3 MGD treated surface water and 0.9 MGD groundwater).

III. WATER SUPPLY SYSTEM DATA

A. Water Supply Sources

List all current water supply sources and the amounts authorized (in acre feet) with each.

Water Type	Source	Amount Authorized
Purchased Surface Water	City of Fort Worth	24.24 acre-feet
Groundwater Well (1)	Trinity Aquifer	2.40 acre-feet
Groundwater Well (3)	Paluxy Aquifer	0.61 acre-feet

***Groundwater “amount authorized” based on production capacity.**

B. Treatment and Distribution System

1. Design daily capacity of system (MGD): 8.5

2. Storage capacity (MGD):
 - a. Elevated 0.9 MG

 - b. Ground 6.0 MG

3. If surface water, do you recycle filter backwash to the head of the plant? **N/A**
 Yes **No** If yes, approximate amount (MGD): **N/A**

IV. WASTEWATER SYSTEM DATA

A. Wastewater System Data (if applicable)

1. Design capacity of wastewater treatment plant(s) (MGD): **1.75 MGD**

2. Treated effluent is used for on-site irrigation, off-site irrigation, for plant wash-down, and/or for chlorination/dechlorination.

If yes, approximate amount (in gallons per month): **24,000,000 gallons**

3. Briefly describe the wastewater system(s) of the area serviced by the water utility. Describe how treated wastewater is disposed. Where applicable, identify treatment plant(s) with the TCEQ name and number, the operator, owner, and the receiving stream if wastewater is discharged.

Trophy Club Municipal Utility District No. 1 Wastewater Treatment Facility is permitted for 1.75 MGD and is a conventional activated sludge plant that consists of preliminary, secondary, and tertiary treatment with ultraviolet disinfection. Wastewater is disposed by thickening the sludge and hauling offsite to a landfill. The District operates and maintains the plant which operates under TPDES No. WQ0011593001 and discharges to Lake Grapevine via the Marshall Creek Branch of the Trinity Basin. During the summer months, 100% of treated effluent is sold to the Trophy Club Country Club for golf course irrigation and most is sold to them during the winter months.

B. Wastewater Data for Service Area (if applicable)

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

Year:	2009	2010	2011	2012	2013
Month					
<i>January</i>	19.719	21.021	18.054	18.054	18.871
<i>February</i>	17.805	21.672	17.181	13.934	18.722
<i>March</i>	19.453	23.390	20.389	15.776	18.722
<i>April</i>	18.687	22.030	18.000*	17.460	19.877
<i>May</i>	19.235	21.545	19.837	22.873	22.322
<i>June</i>	18.489	22.551	23.955	21.044	23.888
<i>July</i>	19.006	21.638	23.731	24.341	25.035
<i>August</i>	19.009	22.531	23.024	24.451	24.647
<i>September</i>	18.486	20.121	15.270	21.929	24.647
<i>October</i>	19.397	18.249	18.000*	19.245	21.198
<i>November</i>	19.014	17.091	15.270	18.855	17.653
<i>December</i>	19.921	17.744	15.708	17.689	19.434
TOTALS	228.221	249.583	210.419	235.651	255.016

(*April and October 2011 are estimated as no flow records can be located).

APPENDIX B

Rate Structure

Water Rates

Residential and Commercial:

Monthly Basic Fee: \$12.71

Volumetric Rates (per 1000 gallons):

0-6,000 gallons	\$2.50
6,001 to 17,000 gallons	\$3.05
17,001 to 25,000 gallons	\$3.30
25,001 to 50,000 gallons	\$3.40
50,001 or greater gallons	\$3.50

Sewer Rates

Residential:

Monthly Basic Fee: \$12.71

Volumetric Rates (per 1000 gallons): Residential sewer usage charges are capped at 12,000 gallons per month and billed at \$2.50 per 1,000 gallons used (up to maximum of 12,000 gallons)

Commercial:

Monthly Basic Fee: \$12.71

Volumetric Rates (per 1000 gallons): Commercial sewer usage is billed per 1000 gallons of water consumed (no maximum amount) at the following rates:

0-6,000 gallons	\$2.50
6,001 to 17,000 gallons	\$3.05
17,001 to 25,000 gallons	\$3.30
25,001 to 50,000 gallons	\$3.40
50,001 or greater gallons	\$3.50

APPENDIX C

Transmittal Letter of Plan to Region C

EXHIBIT 1

Drought Contingency Plan

EXHIBIT 2

Resolution Approving Water Conservation Plan