

Water Conservation Plan

CITY OF MANOR
May 2024

1. Introduction

The City of Manor (the "City") has developed this Water Conservation Plan (the "Plan") for its wholesale and retail treated water utility systems to manage public water resources effectively and to plan appropriate responses to emergency and drought conditions. The Plan recognizes that conservation is valuable in managing water and wastewater utility systems. Benefits of water conservation include extending available water supplies; reducing the risk of shortage during periods of extreme drought; reducing water and wastewater utility operating costs; improving the reliability and quality of water utility service; reducing customer costs for water service; reducing wastewater flows; improving the performance of wastewater treatment systems; and enhancing water quality and the environment.

This Plan applies to all City of Manor's retail and wholesale treated water customers. This Plan adopted on May 1, 2024, was last amended on April 15, 2009, and will be updated at least every five (5) years to account for changes in water usage due to water supply issues and growth in the customer base.

2. Authorization, Implementation and Enforcement

The City Manager of the City, or his/her designee, is hereby authorized and directed to implement the applicable provisions of this Plan. The City Manager, or his/her designee, will act as administrator of the City's water conservation Program (the "Water Conservation Program" or "Program"). He/she will oversee the execution and implementation of the Program and will be responsible for keeping adequate records for Program verification.

This Plan was presented to the City Council of the City (the "City Council") for approval on May 1, 2024.

The following methods will enforce this Plan:

- a. The City Council is adopting this Plan by ordinance. The ordinance adopting this Plan is included as Exhibit E;
- b. The water rate structure will be enforced; water service will be discontinued for any customers not paying the monthly bill; and
- c. The Building Official of the City (the "Building Official"), or his/her designee, will not certify new construction unless it meets adopted building and plumbing codes.

3. Utility Profile--Baseline Evaluation of Water and Wastewater Utility System and Customer Use

- a. Population and Service Area: The City currently bills 5,652 water service connections with an estimated water service population of 20,939. The City experienced a population growth of 61%. The City's population will continue to grow, with the water service population estimated to be at 28,240 by the year 2030. The water service area has grown as well. The City's current water service area is presented in Exhibit A.
- b. Water Produced and Treated by the City: The City's water system serves 5,652 connections with an estimated water service population of 20,939. Residential customers comprise nearly 93% of total connections and nearly 74% of yearly consumption. Detailed water and wastewater utility data is found in Exhibit C.

4. Water Conservation Plan Elements

- a. A summary of the City’s baseline and future water conservation goals per gallon per person per day is summarized in the table below.

	Historic 5yr Average	Baseline	5yr Goal	10yr Goal
Total GPCD		81	74	74
Residential GPCD		19	12	12
Water Loss GPCD		8	8	8
Water Loss %		9.5%	9.5%	9.5%

The City will measure its progress in reducing water use by comparing the current daily per-resident use to per-resident use multiplied by the population each year. Manor unaccounted water for 2023 was less than 10%. The City’s goal is to maintain unaccounted-for water at 10% or less.

i. Water Conservation Measures

- (1) Universal Metering and Meter Replacement and Repair. All utility customers shall be metered. A regularly scheduled maintenance program of meter repair and replacement will be performed in accordance with the following schedule:

Production (master) meters:	Test once a year
Meters larger than 1":	Test once a year
Meters 1" or smaller:	Tested if reading is unusual or if requested by the homeowner.

Zero consumption accounts: meters will be flow tested to see if water is being used and not recorded. In addition, the meters will be checked for proper sizing.

- (2) Distribution System Leak Detection and Repair. The City's unaccounted water loss is due to sections of the water distribution system being polybutylene pipe, which has a known history of leakage. The City will expand on this in the coming years to more targeted areas by bringing in a third party to identify areas of concern throughout the distribution system by taking the current data the City collects via the City’s SCADA system and comparing that to historical usage to identify neighborhoods where leaks appear to be present.
- (3) Water Pricing Incentives. The City charges a volumetric increasing block rate to all customers. A copy of the City's current rate structure is found in Exhibit B.
- (4) Continuing education program on water conservation.

- (a) As part of a continuing public education and information campaign based on this Plan, the City will:
- (i) Develop and provide water conservation brochures and handouts to water customers.
 - (ii) Staff local events to provide water customers with water-saving tips, low-flow shower heads, faucet aerators, and other information.
 - (iii) The City will continue to promote a landscape water management information program.
 - (iv) The City will continue to provide information and instructions on its website so that residents can perform evaluations for irrigation systems to ensure they are properly functioning. This helps educate the water customers on how to operate their irrigation system more efficiently and helps reduce water waste.
- (b) Measures to determine and control unaccounted-for uses of water and for universal metering of customer and public uses of water. The City is using INCODE Utility Billing software for meter reading reports. Monthly readings are done using Neptune drive-by unit or hand-held devices and software. When necessary, City staff conduct visual inspections to determine if the system distributes to illegal connections or connections where service has been abandoned.
- (c) Other Conservation Strategies. The City will also pursue adopting codes or ordinances that promote water-conserving technologies, promote water efficiency, or avoid water waste. In addition, the City provides recycled wastewater to golf courses and contractors for dust irrigation and dust control.

EXHIBIT A

WATER SERVICE AREA MAP

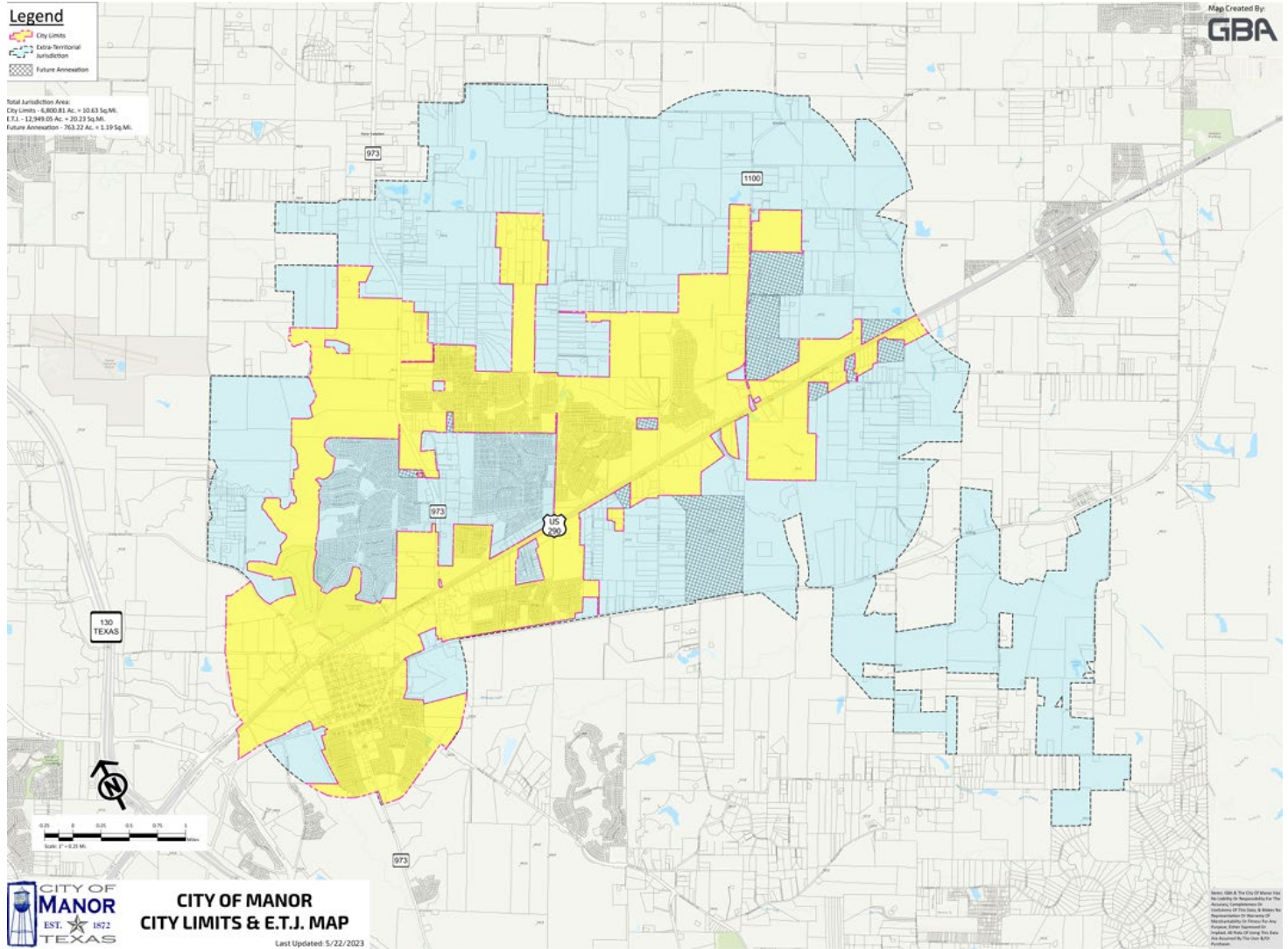


EXHIBIT B

UTILITY RATE STRUCTURE

Water and Wastewater Rates

*Rates from the City's Code of Ordinances, Article A7.000 Utility Service
Charges and Fees*

Water Rates

Base Fee (Minimum Monthly Fee)	Manor
Residential - 5/8" Meter	\$29.06
Residential - 5/8" Meter Senior Citizen	\$24.75
Commercial - 5/8" Meter	\$10.79
Commercial - 3/4" Meter	\$16.18
Residential - 1" Meter	\$48.54
Commercial - 1" Meter	\$26.96
Commercial - 1.5" Meter	\$53.93
Commercial - 2" Pos. Displacement Meter	\$86.28
Commercial - 2" Compound Meter	\$86.28
Commercial - 2" Turbine Meter	\$107.86
Commercial - 3" Compound Meter	\$172.57
Commercial - 3" Turbine Meter	\$258.85
Commercial - 4" Compound Meter	\$269.64
Commercial - 4" Turbine Meter	\$453.00
Commercial - 6" Compound Meter	\$539.28
Commercial - 6" Turbine Meter	\$992.28
Commercial - 8" Compound Meter	\$862.85
Commercial - 8" Turbine Meter	\$1,725.70
Commercial - 10" Compound Meter	\$1,240.34
Commercial - 10" Turbine Meter	\$2,696.40
Commercial - 12" Turbine Meter	\$3,559.25

EXHIBIT B

UTILITY RATE STRUCTURE CONTINUED

**Residential Water Usage Fees (Per 1,000 gallons
monthly**

0 - 2,000	\$0.56
2,000 - 5,000	\$3.02
5,001 - 10,000	\$3.78
10,001 - 15,000	\$4.72
15,001 - 25,000	\$5.90
25,001 - and Over	\$7.37

**Commercial Water Usage Fees (per 1,000 gallons
monthly**

\$6.74

Fire Hydrant Water Usage Fees (Per 1,000 gallons monthly

\$9.00

Effluent Water Usage Fees (Per 1,000 gallons Monthly

\$1.95

EXHIBIT B

UTILITY RATE STRUCTURE CONTINUED

Wastewater Rates

Base Fee (Minimum Monthly Fee)	Manor
Residential - 5/8" Meter	\$20.33
Residential - 5/8" Meter Senior Citizen	\$13.94
Commercial - 5/8" Meter	\$16.05
Commercial - 3/4" Meter	\$24.08
Commercial - 1" Meter	\$40.13
Commercial - 1.5" Meter	\$80.25
Commercial - 2" Pos. Displacement Meter	\$128.40
Commercial - 2" Compound Meter	\$128.40
Commercial - 2" Turbine Meter	\$160.50
Commercial - 3" Compound Meter	\$256.80
Commercial - 3" Turbine Meter	\$385.20
Commercial - 4" Compound Meter	\$401.25
Commercial - 4" Turbine Meter	\$674.10
Commercial - 6" Compound Meter	\$802.50
Commercial - 6" Turbine Meter	\$1,476.60
Commercial - 8" Compound Meter	\$1,284.00
Commercial - 8" Turbine Meter	\$2,568.00
Commercial - 10" Compound Meter	\$1,845.75
Commercial - 10" Turbine Meter	\$4,012.50
Commercial - 12" Turbine Meter	\$5,296.50

Residential Wastewater Usage Fees (Per 1,000 gallons monthly)

0 - 8,000	\$3.75
8,000 - or More	\$4.40

Commercial Wastewater Usage Fees (Per 1,000 gallons monthly)

\$6.00

EXHIBIT C

WATER AND WASTEWATER UTILITY DATA

Monthly Volume of Water Treated (Gallons)					
	2019	2020	2021	2022	2023
January	27,043,000	28,768,000	31,105,000	40,647,000	59,469,000
February	25,182,000	28,431,000	34,480,000	33,615,000	51,939,000
March	26,348,000	30,410,000	36,820,000	37,374,000	63,666,000
April	25,117,000	33,565,000	36,601,000	38,558,000	60,457,000
May	26,635,000	35,639,000	38,984,000	44,668,000	53,889,000
June	28,443,000	43,732,000	39,766,000	53,391,000	58,584,000
July	31,738,000	46,100,000	38,620,000	58,326,000	73,891,000
August	35,938,000	48,748,000	38,814,000	54,787,000	76,424,000
September	39,232,000	37,390,000	43,678,000	49,081,000	64,673,000
October	36,543,000	60,934,200	40,574,000	52,401,000	56,948,000
November	30,670,000	34,529,000	40,672,000	47,159,000	44,870,000
December	30,449,000	34,302,000	39,249,000	47,710,000	46,300,000
TOTALS	363,338,000	462,548,200	459,363,000	557,717,000	711,110,000

Monthly Volume of Wastewater Treated Average Flow					
	2019	2020	2021	2022	2023
January	0.64	0.64	0.80	0.80	1.52
February	0.50	0.46	0.91	1.23	1.41
March	0.47	0.63	0.77	1.11	1.44
April	0.53	0.67	0.80	1.07	1.77
May	0.62	0.72	1.33	1.31	1.65
June	0.52	0.62	1.13	1.08	1.38
July	0.56	0.56	0.97	1.27	1.07
August	0.56	0.62	0.91	1.36	1.11
September	0.53	0.81	0.78	1.38	1.09
October	0.52	0.72	1.05	1.42	1.01
November	0.48	0.52	1.28	2.98	1.00
December	0.45	0.55	0.95	1.64	0.97
TOTALS	6.38	7.52	11.68	16.65	15.42

EXHIBIT D

WATER CONSERVATION STRATEGIES

Conservation Program Strategies

Water Use Management

Manor Water Conservation implements and enforces a comprehensive plan for all retail water customers. This plan includes a baseline Conservation Stage.

The City of Manor will regulate outdoor watering use by having their customers on a set watering schedule, depending on drought conditions. Customers can track the usage of their water by using a billing chart within their account. The City can also monitor changes in customer usage and send out notices on possible leaks on the customer side.

EXHIBIT E

ORDINANCE