City of Bay City

Utility Department

Water Conservation Plan

Code of Ordinances, Sec. 114-64. Drought Contingency Plan and Water Conservation Plan Adopted

May 2024 ~~*November 2019*~~

Table of Contents

Section I: Introduction and Objectives

This Water Conservation Plan is presented by the City of Bay City pursuant to the requirements of the Texas Water Development Board (TWDB) and the Texas Commission on Environmental Quality (TCEQ). This plan was created in an effort to efficiently manage our existing water supplies and encourage our residents to conserve one of our most important natural resources. Water supply has been a key issue in the development of Texas. In recent years, increase in population and economic development in our region have led to growing demands for water.

Texas Commission on Environmental Quality (TCEQ) has developed guidelines and requirements governing the development of water conservation plans for public water suppliers. Those guidelines can be found in **Appendix A** (Texas Administrative Code, Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2). For the purpose of these rules, a water conservation plan is defined as:

> *"A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water and for preventing the pollution of water. A water conservation plan may be a separate document identified as such or may be contained within another water management document."*

The objectives of the Water Conservation Plan are:

- Reduce water consumption
- Reduce the loss and waste of water
- Identify levels of water reuse
- Improve efficiency in the use of water
- Extend the life of our current water supplies through public education

Section II: Service Area Description

The City of Bay City is situated in Matagorda County, Texas along the Texas Gulf Coast. It is a Governmental Agency of the State of Texas operating under the provisions of Chapter 54, of the Texas Water Code and the Authority of Article XVI, Section 59, of the Constitution of Texas. By vote of the people, the City of Bay City's form of government changed ~~on May 4,~~ in 2019 from Mayor-Council to City Manager-Council. The City Manager has the managing control and operation of the City of Bay City's water system. Mayor and Council Members are elected to three-year terms. The City's water system serves an area of approximately 10.5 square miles and has approximately ~~8,000~~ 7,500 connections. The water system consists of six water wells, providing 100% of the City's water demand. The City's water supply is pumped from the Chiqot Aquifer, which is a component of the Gulf Coast Aquifer. The City's water system serves approximately 17,500 citizens, based upon the 2010 Census. The City of Bay City is located within Region K of the Lower Colorado Regional Planning Area.

Section III: Utility Profile

The current Utility Profile is attached to this plan, see **Appendix E**. The Utility Profile is a snapshot of the City's water system that documents system descriptors and information such as current and historical water production and consumption data as well as data on treated wastewater. The system descriptions, population and demand projections and other related

sections are drawn primarily from the City's 2016 Water Master Plan and 2016 Wastewater Master Plan as well as the Vision Bay City 2040 Plan to ensure continuity between City planning efforts and documents.

The City's water system is comprised of approximately 113 miles of water distribution lines (sized ¾" to 12"), 360 hydrants and 400 isolation valves. The 5-year historical annual average (2019~~94~~-20~~18~~23) of water produced is ~~792,118,357~~ 890,874,785 or approximately 2.~~17~~44 MGD. Single family residential make up most water use retail connections (6~~8~~9%), followed by multi-family residential (2~~2~~1%), commercial (8%) and institutional (1%). In 2016, Tenaris Steel Manufacturing and Dunn Heat Exchangers became the first industrial retail connections on Bay City's system (less than 1%).

Section IV: 5-year and 10-year Goals

The City of Bay City continues to pursue a multi-faceted approach to encouraging water conservation and combating water loss. The City expects to increase per capita savings in water use by continuing and improving educational program efforts, inducing water savings by utilizing conservation-oriented rate structures and conducting periodic rate structure analysis as well as continued vigilance in preventative maintenance and active efforts to reduce losses in line breaks and consumer side leaks.

Specific goals for this plan include the following:

- Maintain the per capita municipal water use below the specified amount in gallons per day in a normal climate year, as shown in the table below.
- Maintain the level of unaccounted water use (water loss) in the system below 15 percent annually.
- Continue and maintain efforts in timely repairs of reported leaks.
- Implement and maintain a program of universal metering and meter replacement and repair, as discussed below in Section V(c), *Universal Metering*.
- Continue funding through budget or seek other funding sources for water line capital improvement plans as identified in the 2016 Water System Analysis and Master Plan to replace aging infrastructure.
- Utilize the City's AMI system to identify potential water leaks at customer's homes or businesses and notify customers accordingly in a timely manner.
- Raise public awareness of water conservation and encourage responsible water use by public education.
- Decrease water waste in lawn irrigation by demonstrating and educating the public on Xeriscape landscaping and use of native plants and grasses.

Five-Year and Ten-Year Water Savings Targets				
Description	Historical 5-year Average	20~~19~~24	2024~~9~~	20~~29~~34
Population	~~17,614 (2010 Census)~~18,061 (2020 Census)	~~18,797~~19,285	~~19,285~~-20,300	~~20,300~~20,607
Total - GPCD	123	~~108~~106	~~106~~105	~~105~~105
Residential - GPCD	~~74~~67	~~67~~65	~~65~~64	~~64~~64
Water Loss - GPCD	~~23~~44	~~16~~30	~~14~~14	~~14~~13
Water Loss – Percentage	~~18.64%~~31.98%	~~13%~~20%	~~12%~~11%	~~11%~~10%

Section V: Water Conservation Program Elements

The City of Bay City recognizes not only the value of water conservation as a tool for managing our current water resources but also as an important aspect of safeguarding our future water supply. The Water Conservation Plan identifies elements that are essential to an effective Water Conservation program. Those elements include the following:

a. *Classification of Water Sales and Detailed Water Use Data*
As required by TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(2)(B) The City of Bay City maintains a customer billing and record management system that allows for the separation of water sales and uses into:

- Single family and multi-family residences
- Commercial
- Institutional
- Industrial
- Agricultural
- Wholesale

Should additional customer classes be required in the future, the City of Bay City will add the required classes to its billing and records management system.

b. *Accurate Metering*
The City of Bay City meters the quantity of water that is pumped from each of the system's six water wells. Each meter has an accuracy of plus or minus three percent which, is below the minimum requirement of five percent as set forth in TAC, Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(1)(D). The meters are verified and calibrated on an annual basis by an independent contractor. ~~Meters are repaired or replaced as needed~~All production meters were replaced in 2022.

c. *Universal Metering*
The City of Bay City Utility Department meters all water sales and public uses. In 20~~12~~21-20~~12~~23, the City of Bay City underwent a city-wide meter change out program. All residential, commercial buildings and City-owned facilities are now equipped with fixed base AMI (Advanced Metering Infrastructure) read meters. Meters are read at 15-minute intervals throughout the day with billings made monthly to each residential and commercial customer. Meters registering any unusual or questionable readings are flagged in the billing process to be tested and repaired to full functionality. The AMI system is also equipped with a customer engagement tool that allows water customers to monitor their consumption daily and to set leak indicators which will notify them when leak conditions occur. In 2014 the City implemented a meter replacement program with the objective to replace 10% of meters yearly, based on a 10-year meter age cycle. The replacement program will begin with the oldest meters documenting the highest consumption. Annually, a representative sampling of residential meters will be tested to determine accuracy. In addition, all meters that are 3 inch or larger will be tested annually and will be repaired or replaced as necessary.

d. *Measures to Determine and Control Water Loss*

City of Bay City staff performs yearly water audits to determine unaccounted water loss using the International Water Association / American Water Works Association (IWA/AWWA) method required by the TWDB. Unaccounted water is the difference between water pumped by the City's water system and metered water sales to customers plus authorized, unmetered uses which includes water uses such as fire-fighting and flushing of water lines. The City of Bay City strives to maintain an unaccounted water loss percentage of 15 percent or lower. If unaccounted water exceeds this goal, the City of Bay City will implement a more intensive audit to determine the source(s) and reduce the unaccounted water.

Measures to control water loss are part of routine operations of the City of Bay City. Crews and personnel observe for, test and report evidence of leaks in the distribution system. Water Operators, Code Compliance staff, Customer Service Technicians, Utility Maintenance Technicians, building inspection staff and other City crews watch for and report signs of water loss and illegal connections.

e. *Public Education and Information Program*

The City of Bay City has designated the Code Compliance Division to administer the City's water conservation program, under the direction of the Director of Public Works. The activities of the program may include conducting water conservation presentations at various community organizations; and conducting or sponsoring exhibits on water conservation and water saving devices to promote water conservation and efficiency.

Implementation schedules for water conservation efforts are reviewed every year but may change from year to year based on available funding, economic conditions, and workload. The City's intent is to continue educational efforts as implemented while at the same time evaluating enhancement to the program.

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

- Promote the City's water conservation measures as outlined in this Plan
- Utilize public education materials available through the Texas Water Development Board or similar organizations
- Include water conservation information with water bills periodically throughout the year
- Provide and distribute water conservation brochures to citizens, local organizations, schools and civic groups
- Promote Xeriscape landscaping and provide related brochures and materials
- Make information concerning water conservation and irrigation conservation available on the City's website at www.cityofbaycity.org

f. *Non-promotional Water Rate Structure*

In October 2013, the City of Bay City introduced and adopted new water conservation-oriented rates. This new rate structure was developed with the intent of encouraging water conservation while discouraging waste and excessive use of water. A base rate is charged for each residential customer; volumetric rates are then charged for use over 2,001 gallons per month. Non-residential customers are charged a base rate based upon meter size; a standard volumetric is charged per 1,000 gallons. The current rate structure can be found in **Appendix B**. ~~The City will be conducting a rate structure analysis in 2020.~~

g. *Reservoir System Operation Plan, if applicable*
The City of Bay City's water system relies solely on ground water. No reservoir system operation plan is required.

h. *Leak Detection, Repair and Water Loss Accounting*
Various measures to control ~~unaccounted~~ water loss are part of the City of Bay City's routine operations. Customer Service and Utility Maintenance Technicians, other City employees and the public report leaks in the system. Utility Maintenance crews are on call 24-hours a day and respond as quickly as possible to repair reported leaks.

The City of Bay City takes proactive steps in decreasing water loss through the waterline replacement program. Each year, the City budgets funds specifically to repair and replace aging water distribution lines. In addition, regular inspections of all water main fittings, connections and valves are conducted during periods of maintenance and repair.

i. *Requirements of Wholesale Customers to Implement a Water Conservation Plan*
Currently, the City of Bay City does not sell water to wholesale customers. In the event this status changes, the City of Bay City will ensure that each contract for sale of wholesale water will include the requirement for the wholesale customer to develop and implement a water conservation plan meeting the requirements of the Texas Administrative Code, Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(2)(B).

j. *Recycling of Wastewater*
The City of Bay City's Water Resource Division underwent several changes in 2013. One of the changes focused on recycling of wastewater for on-site plant wash down. This new reuse system ~~has encountered mechanical difficulties since installation~~encountered mechanical problems but was brought back online in 2024. ~~However, the~~The City will utilize the reuse system ~~continue to seek ways to repair the system and~~ as well as evaluate new and evolving strategies to ~~consistently utilize~~ ensure ~~re-use~~reuse water is available for on-site plant wash down.

k. *Ordinances, Plumbing Codes or Rules on Water-Conserving Fixtures*
The City of Bay City has adopted the International Plumbing Code (IPC) which requires the use of water saving low-flow fixtures to be installed in new construction and in the renovation of plumbing in existing structures. Through the educational program, the City educates residents, plumbers and contractors of benefits in retrofitting existing facilities with these water saving devices. In addition, the City will work to encourage water conservation in new developments.

l. *Program for Landscape Water Management for Parks and Athletic Fields*
The Texas Water Development Board Water Conservation Best Management Practices Guide includes guidelines for water conservation in parks and athletic fields. In 2013, the irrigation system of the City's largest athletic field was replaced to reduce costs and water loss. The City will evaluate the efficiency of the new system and assess if the same measures should be applied to other City-owned parks, athletic fields and landscaped areas.

m. *Future Water Conservation Measures*
In an on-going effort to encourage water conservation, when resources are available, the City of Bay City may offer rebates to its citizens for the purchase of water conserving

devices. The items for the rebate program may change from as the Water Conservation Rebate Program evolves. Some items may include:

- Low-flow toilet replacement rebate
- Low-flow showerhead and sink aerator replacement rebate
- Rebates for rain and freeze sensors and/or ET or smart controllers on irrigation systems
- Water efficient clothes washer rebates
- On-demand hot water heater rebates
- Rainwater harvesting rebate
- Other incentive programs that may prove beneficial to water conservation

Section VI: Plan Adoption

The City of Bay City holds regularly scheduled public meetings twice monthly. The City Council meetings are open to the public and citizens are free to offer public comment. The Water Conservation and Drought Contingency Plans were brought before Mayor and City Council for approval at which time citizens had an opportunity to voice their opinion. **Appendix C** contains a copy of the resolution and/or ordinance adopting this Water Conservation Plan and Drought Contingency Plan.

Section VII: Coordination with Regional Water Planning Group

The City of Bay City will provide a copy of the Water Conservation and Drought Contingency Plans to the Region K Planning Group in accordance with Texas Water Development Board and Texas Commission on Environmental Quality. **Appendix D** includes a copy of the notification letter sent to the Chair of the Region K Planning Group.

Appendix A
TAC, Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2

Texas Administrative Code

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 288	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
SUBCHAPTER A	WATER CONSERVATION PLANS
RULE §288.2	**Water Conservation Plans for Municipal Uses by Public Water Suppliers**

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

(1) Minimum requirements. All water conservation plans for municipal uses by public 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 gray water;

(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.

Appendix B
Water and Sewer Rates

Appendix B
Water and Sewer Rates

City of Bay City Water and Sewer Rates Effective October 1, 2023

INDUSTRIAL

Monthly Industrial Water Bills October 2023	
00.625 Inch	$ 36.46
00.750 Inch	$ 36.46
01.000 Inch	$ 45.54
01.500 Inch	$ 91.23
02.000 Inch	$ 145.99
03.000 Inch	$ 273.83
04.000 Inch	$ 456.88
06.000 Inch	$ 912.23
08.000 Inch	$ 1,493.20
10.000 Inch	$ 2,367.64
Volumetric Rate	
0-900,000 Gallons	$ 7.98
900,001 - 4,500,000 Gallons	$ 9.75
Over 4,500,000 Gallons	$ 12.20

Monthly Industrial Sewer Bills October 2023	
00.625 Inch	$ 30.46
00.750 Inch	$ 30.46
01.000 Inch	$ 45.56
01.500 Inch	$ 86.30
02.000 Inch	$ 134.93
03.000 Inch	$ 265.86
04.000 Inch	$ 494.31
06.000 Inch	$ 1,023.35
08.000 Inch	$ 1,472.23
10.000 Inch	$ 2,368.67
Volumetric Rate	
0-900,000 Gallons	$ 6.34
900,001 - 4,500,000 Gallons	$ 6.68
Over 4,500,000 Gallons	$ 8.35

Appendix B
Water and Sewer Rates

City of Bay City Water and Sewer Rates Effective October 1, 2023

RESIDENTIAL

Monthly Residential Water Bills - October 2023	
00.625 Inch	$ 31.06
00.750 Inch	$ 31.06
01.000 Inch	$ 38.92
01.500 Inch	$ 38.92
02.000 Inch	$ 38.92
03.000 Inch	$ 38.92
04.000 Inch	$ 38.92
06.000 Inch	$ 38.92
08.000 Inch	$ 38.92
10.000 Inch	$ 38.92
Volumetric Rate	
0-2,000 Gallons	$ -
2,0001 – 5,000 Gallons	$ 2.32
5,0001 – 10,000 Gallons	$ 4.06
10,001+ Gallons	$ 5.12

Monthly Residential Sewer Bills - October 2023	
00.625 Inch	$ 30.46
00.750 Inch	$ 30.46
01.000 Inch	$ 45.56
01.500 Inch	$ 45.56
02.000 Inch	$ 45.56
03.000 Inch	$ 45.56
04.000 Inch	$ 45.56
06.000 Inch	$ 45.56
08.000 Inch	$ 45.56
10.000 Inch	$ 45.56
Volumetric Rate	
0-2,000 Gallons	$ -
2,0001 – 5,000 Gallons	$ 7.16
5,0001 – 10,000 Gallons	$ 7.50
10,001+ Gallons	$ 7.50

Appendix B
Water and Sewer Rates

City of Bay City Water and Sewer Rates Effective October 1, 2023

NON-RESIDENTIAL

Monthly Non-Residential Water Bills - October 2023	
00.625 Inch	$ 31.06
00.750 Inch	$ 31.06
01.000 Inch	$ 38.92
01.500 Inch	$ 77.71
02.000 Inch	$ 124.37
03.000 Inch	$ 233.27
04.000 Inch	$ 389.21
06.000 Inch	$ 777.15
08.000 Inch	$ 1,272.04
10.000 Inch	$ 2,016.97
Volumetric Rate	
0-2,000 Gallons	$ 6.57
2,0001 – 5,000 Gallons	$ 6.57
5,0001 – 10,000 Gallons	$ 6.57
10,001+ Gallons	$ 6.57

Monthly Non-Residential Sewer Bills - October 2023	
00.625 Inch	$ 30.46
00.750 Inch	$ 30.46
01.000 Inch	$ 45.56
01.500 Inch	$ 86.30
02.000 Inch	$ 134.93
03.000 Inch	$ 265.86
04.000 Inch	$ 494.31
06.000 Inch	$ 1,023.35
08.000 Inch	$ 1,472.23
10.000 Inch	$ 2,368.67
Volumetric Rate	
0-2,000 Gallons	$ 7.21
2,0001 – 5,000 Gallons	$ 7.21
5,0001 – 10,000 Gallons	$ 7.21
10,001+ Gallons	$ 7.21

City of Bay City Industrial Water and Sewer Rates Effective October 1, 2018

Monthly Industrial Water Bills - October 2018

00.625 Inch	$ 21.48
00.750 Inch	$ 21.48
01.000 Inch	$ 26.86
01.500 Inch	$ 53.70
02.000 Inch	$ 85.91
03.000 Inch	$ 161.09
04.000 Inch	$ 268.48
06.000 Inch	$ 536.97
08.000 Inch	$ 859.15
10.000 Inch	$ 1,235.02
Volumetric Rate	
0-900,000 Gallons	$ 4.46
900,001 - 4,500,000 Gallons	$ 4.01
Over 4,500,000 Gallons	$ 3.56

Monthly Industrial Sewer Bills - October 2018

00.625 Inch	$ 19.69
00.750 Inch	$ 19.69
01.000 Inch	$ 24.62
01.500 Inch	$ 49.22
02.000 Inch	$ 78.75
03.000 Inch	$ 147.67
04.000 Inch	$ 246.10
06.000 Inch	$ 492.23
08.000 Inch	$ 787.55
10.000 Inch	$ 1,132.11
Volumetric Rate	
0-900,000 Gallons	$ 4.46
900,001 - 4,500,000 Gallons	$ 4.01
Over 4,500,000 Gallons	$ 3.56

City of Bay City Water and Sewer Rates Effective October 1, 2018

Water Rates - Residential

Meter size (by inch)	0.625	0.75	1.00	1.50	2.00	3.00	4.00	6.00	8.00	10.00
Base Monthly Bill	$ 21.48	$ 21.48	$ 21.48	$ 21.48	$ 21.48	$ 21.48	$ 21.48	$ 21.48	$ 21.48	$ 21.48
Volumetric Rate										
1 - 1,000 Gallons	-	-	-	-	-	-	-	-	-	-
1,001- 2,000 Gallons	-	-	-	-	-	-	-	-	-	-
2,001 - 5,000 Gallons	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00
5,001 - 10,000 Gallons	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51
10,001 - 15,000 Gallons	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02
15,001 - 20,000 Gallons	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02
20,001 - 25,000 Gallons	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02
Over 25,000 Gallons	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02	$ 3.02
Water Rates - Non - Residential										
Meter size (by inch)	0.625	0.75	1.00	1.50	2.00	3.00	4.00	6.00	8.00	10.00
Base Monthly Bill	$ 21.48	$ 21.48	$ 26.86	$ 53.70	$ 85.91	$ 161.09	$ 268.48	$ 536.97	$ 859.15	$ 1,235.02
Volumetric Rate										
1 - 1,000 Gallons	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51
1,001- 2,000 Gallons	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51
2,001 - 5,000 Gallons	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51
5,001 - 10,000 Gallons	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51
10,001 - 15,000 Gallons	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51
15,001 - 20,000 Gallons	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51
20,001 - 25,000 Gallons	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51
Over 25,000 Gallons	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51	$ 2.51
Sewer Rates - Residential										
Meter size (by inch)	0.625	0.75	1.00	1.50	2.00	3.00	4.00	6.00	8.00	10.00
Base Monthly Bill	$ 19.69	$ 19.69	$ 19.69	$ 19.69	$ 19.69	$ 19.69	$ 19.69	$ 19.69	$ 19.69	$ 19.69
Volumetric Rate										
1 - 1,000 Gallons	-	-	-	-	-	-	-	-	-	-
1,001- 2,000 Gallons	-	-	-	-	-	-	-	-	-	-
2,001 - 5,000 Gallons	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86
5,001 - 10,000 Gallons	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86
10,001 - 15,000 Gallons	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86
15,001 - 20,000 Gallons	-	-	-	-	-	-	-	-	-	-
20,001 - 25,000 Gallons	-	-	-	-	-	-	-	-	-	-
Over 25,000 Gallons	-	-	-	-	-	-	-	-	-	-
Sewer Rates - Non - Residential										
Meter size (by inch)	0.625	0.75	1.00	1.50	2.00	3.00	4.00	6.00	8.00	10.00
Base Monthly Bill	$ 19.69	$ 19.69	$ 24.62	$ 49.22	$ 78.75	$ 147.67	$ 246.10	$ 492.23	$ 787.55	$ 1,132.11
Volumetric Rate										
1 - 1,000 Gallons	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86
1,001- 2,000 Gallons	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86
2,001 - 5,000 Gallons	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86
5,001 - 10,000 Gallons	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86
10,001 - 15,000 Gallons	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86

15,001 - 20,000 Gallons	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86
20,001 - 25,000 Gallons	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86
Over 25,000 Gallons	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86	$ 4.86

Appendix C
Resolution and/or Ordinance Adopting the Water Conservation Plan and Drought Contingency Plan

Appendix D
Letter to Region K Water Planning Group

Appendix E
Utility Profile

CITY OF BAY CITY

DRAFT

May 14, 2024

Lann Bookout
Texas Water Development Board
Region K Planner
The Lower Colorado Regional Water Planning Group
PO Box 220
Austin, TX 78767-0220

Re: PWS ID No. 1610001, City of Bay City
Water Conservation and Drought Contingency Plans

Dear Mr. Bookout,

Please find attached the City of Bay City's Water Conservation and Drought Contingency Plans. The City of Bay City has reviewed, updated and adopted both plans to meet requirements as set forth in Texas Administrative Code Title 30, Chapter 288. These plans have been submitted to TCEQ and TWDB.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Krystal Mason
Assistant Director of Public Works

Texas Water Development Board

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

CONTACT INFORMATION

Name of Utility: CITY OF BAY CITY

Public Water Supply Identification Number (PWS ID): TX1610001

Certificate of Convenience and Necessity (CCN) Number: 10721

Surface Water Right ID Number:

Wastewater ID Number: 20296

Contact: First Name: Krystal Last Name: Mason

Title: Assistant Director of Public Works

Address: 1901 5th Street City: Bay City State: TX

Zip Code: 77414 Zip+4: Email: kmason@cityofbaycity.org

Telephone Number: 9793231659 Date: 5/3/2024

Is this person the designated Conservation Coordinator? (•) Yes ( ) No

Regional Water Planning Group: K

Groundwater Conservation District:

Our records indicate that you:

☑ Received financial assistance of $500,000 or more from TWDB

☑ Have 3,300 or more retail connections

☐ Have a surface water right with TCEQ

A. Population and Service Area Data

1. Current service area size in square miles: 11

Attached file(s):

File Name	File Description
City of Bay City Boundary Map.pdf	City of Bay City Boundary Map

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

2. Historical service area population for the previous five years, starting with the most current year.

Year	Historical Population Served By Retail Water Service	Historical Population Served By Wholesale Water Service	Historical Population Served By Wastewater Water Service
2023	18,061	0	18,061
2022	18,061	0	18,061
2021	18,061	0	18,061
2020	17,614	0	17,614
2019	17,614	0	17,614

3. Projected service area population for the following decades.

Year	Projected Population Served By Retail Water Service	Projected Population Served By Wholesale Water Service	Projected Population Served By Wastewater Water Service
2030	20,300	0	20,300
2040	20,950	0	20,950
2050	21,453	0	21,453
2060	21,810	0	21,810
2070	22,066	0	22,066

4. Described source(s)/method(s) for estimating current and projected populations.

Projected populations were gathered from the TWDB 2022 Regional Water Plan

Attached file(s):

File Name	File Description
pop_WUG_Search.pdf	

Texas Water Development Board

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

B. System Input

System input data for the previous five years.

Total System Input = Self-supplied + Imported – Exported

Year	Water Produced in Gallons	Purchased/Imported Water in Gallons	Exported Water in Gallons	Total System Input	Total GPCD
2023	989,115,000	0	0	989,115,000	150
2022	976,451,000	0	0	976,451,000	148
2021	844,927,184	0	0	844,927,184	128
2020	871,700,297	0	0	871,700,297	136
2019	772,180,444	0	0	772,180,444	120
Historic Average	890,874,785	0	0	890,874,785	136

C. Water Supply System

Attached file(s):

File Name	File Description
Water System Description.pdf	Water System Description
Water System Description - Capacities.pdf	Water System Capacities

1. Designed daily capacity of system in gallons: 8,919,360

2. Storage Capacity

   2a. Elevated storage in gallons: 1,450,000

   2b. Ground storage in gallons: 2,750,000

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

D. Projected Demands

1. The estimated water supply requirements for the next ten years using population trends, historical water use, economic growth, etc.

Year	Population	Water Demand (gallons)
2025	19,793	866,933,400
2026	19,894	871,357,200
2027	19,996	875,824,800
2028	20,097	882,660,240
2029	20,199	884,716,200
2030	20,300	886,772,160
2031	20,403	888,828,120
2032	20,505	890,884,080
2033	20,607	892,940,040
2034	20,709	894,996,000

2. Description of source data and how projected water demands were determined.

The linear interpolation approach was utilized for projection numbers. Bay City is currently experiencing a growth in population and with that water demand is expected to increase. The growth is driven by the addition of industrial facilities in Matagorda County.

E. High Volume Customers

1. The annual water use for the five highest volume **RETAIL customers.**

Customer	Water Use Category	Annual Water Use	Treated or Raw
Tenaris	Industrial	17,443,260	Treated
City of Bay City WWTP	Institutional	17,434,040	Treated
Matagorda Regional Hospital	Commercial	12,586,580	Treated
Meadow Chase Apartments	Residential	11,288,760	Treated
Shadow Bay Apartments	Residential	9,594,880	Treated

2. The annual water use for the five highest volume **WHOLESALE customers.**

Customer	Water Use Category	Annual Water Use	Treated or Raw

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

F. Utility Data Comment Section

Additional comments about utility data.

Section II: System Data

A. Retail Water Supplier Connections

1. List of active retail connections by major water use category.

Water Use Category Type	Total Retail Connections (Active + Inactive)	Percent of Total Connections
Residential - Single Family	6,559	69.35 %
Residential - Multi-Family	2,016	21.32 %
Industrial	2	0.02 %
Commercial	792	8.37 %
Institutional	89	0.94 %
Agricultural	0	0.00 %
Total	9,458	100.00 %

2. Net number of new retail connections by water use category for the previous five years.

	Net Number of New Retail Connections						
Year	**Residential - Single Family**	**Residential - Multi-Family**	**Industrial**	**Commercial**	**Institutional**	**Agricultural**	**Total**
2023	9	0	0	0	8	0	17
2022	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0
2020	0	0	0	67	0	0	67
2019	2	0	0	11	3	0	16

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

B. Accounting Data

The previous five years' gallons of RETAIL water provided in each major water use category.

Year	Residential - Single Family	Residential - Multi-Family	Industrial	Commercial	Institutional	Agricultural	Total
2023	354,950,060	100,376,800	24,271,600	149,575,900	58,295,700	0	687,470,060
2022	338,212,716	89,136,900	15,198,200	140,631,714	17,894,100	0	601,073,630
2021	308,995,674	63,335,200	10,367,900	163,460,504	19,047,700	0	565,206,978
2020	347,835,700	36,955,000	12,785,800	148,544,300	14,378,300	0	560,499,100
2019	329,940,100	49,942,500	11,273,900	125,813,000	14,897,200	0	531,866,700

C. Residential Water Use

The previous five years residential GPCD for single family and multi-family units.

Year	Total Residential GPCD
2023	75
2022	71
2021	62
2020	64
2019	63
Historic Average	67

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

D. Annual and Seasonal Water Use

1. The previous five years' gallons of treated water provided to RETAIL customers.

Month	Total Gallons of Treated Water				
	2023	2022	2021	2020	2019
January	71,751,000	72,135,000	70,664,000	70,912,000	58,319,000
February	64,665,000	67,197,000	75,726,000	64,706,000	55,027,000
March	77,162,000	72,471,000	71,702,000	72,167,000	62,614,000
April	74,459,000	76,118,000	70,935,000	71,709,000	62,792,000
May	78,051,000	86,964,000	65,639,000	69,507,000	50,899,000
June	78,831,000	86,253,000	73,850,000	71,262,000	65,418,000
July	91,962,000	95,714,000	74,275,000	80,938,000	73,273,000
August	109,149,000	86,816,000	76,083,000	81,234,000	75,235,000
September	107,413,000	80,429,000	73,561,000	75,055,000	69,791,000
October	84,820,000	88,472,300	76,203,000	78,465,000	75,235,000
November	74,414,000	77,306,500	72,982,000	74,900,000	63,831,000
December	76,438,000	86,575,200	68,655,000	70,434,000	53,569,000
Total	989,115,000	976,451,000	870,275,000	881,289,000	766,003,000

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

2. The previous five years' gallons of raw water provided to RETAIL customers.

Month	Total Gallons of Raw Water				
	2023	2022	2021	2020	2019
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
Total					

3. Summary of seasonal and annual water use.

	Summer RETAIL (Treated + Raw)	Total RETAIL (Treated + Raw)
2023	279,942,000	989,115,000
2022	268,783,000	976,451,000
2021	224,208,000	870,275,000
2020	233,434,000	881,289,000
2019	213,926,000	766,003,000
Average in Gallons	244,058,600.00	896,626,600.00

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

E. Water Loss

Water Loss data for the previous five years.

Year	Total Water Loss in Gallons	Water Loss in GPCD	Water Loss as a Percentage
2023	298,380,195	45	30.17 %
2022	342,518,840	52	35.08 %
2021	257,529,795	39	30.48 %
2020	299,520,646	47	34.36 %
2019	230,147,683	36	29.80 %
Average	285,619,432	44	31.98 %

F. Peak Day Use

Average Daily Water Use and Peak Day Water Use for the previous five years.

Year	Average Daily Use (gal)	Peak Day Use (gal)	Ratio (peak/avg)
2023	2,709,904	3042847	1.1229
2022	2,675,208	2921554	1.0921
2021	2,384,315	2437043	1.0221
2020	2,414,490	2537326	1.0509
2019	2,098,638	2325282	1.1080

G. Summary of Historic Water Use

Water Use Category	Historic Average	Percent of Connections	Percent of Water Use
Residential - Single Family	335,986,850	69.35 %	57.02 %
Residential - Multi-Family	67,949,280	21.32 %	11.53 %
Industrial	14,779,480	0.02 %	2.51 %
Commercial	145,605,083	8.37 %	24.71 %
Institutional	24,902,600	0.94 %	4.23 %
Agricultural	0	0.00 %	0.00 %

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

H. System Data Comment Section

Section III: Wastewater System Data

A. Wastewater System Data

Attached file(s):

File Name	File Description
Sanitary Sewer Description.pdf	

1. Design capacity of wastewater treatment plant(s) in gallons per day: 4,300,000

2. List of active wastewater connections by major water use category.

Water Use Category	Metered	Unmetered	Total Connections	Percent of Total Connections
Municipal	0	8,575	8,575	90.66 %
Industrial	2	0	2	0.02 %
Commercial	1	791	792	8.37 %
Institutional	0	89	89	0.94 %
Agricultural	0	0	0	0.00 %
Total	3	9,455	9,458	100.00 %

3. Percentage of water serviced by the wastewater system: 100.00 %

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

4. Number of gallons of wastewater that was treated by the utility for the previous five years.

Month	Total Gallons of Treated Water				
	2023	2022	2021	2020	2019
January	41,468,000	50,743,000	45,718,000	54,133,000	63,669,000
February	36,495,000	44,562,000	45,749,000	37,211,000	54,968,000
March	40,333,000	44,509,000	42,074,000	36,610,000	47,042,000
April	48,450,000	38,691,000	48,720,000	34,036,000	43,298,000
May	60,549,000	43,001,000	104,320,000	46,120,000	59,417,000
June	40,918,000	41,016,000	74,287,000	49,156,000	76,352,000
July	44,321,000	40,583,000	92,380,000	42,639,000	48,871,000
August	44,755,000	52,827,000	54,105,000	42,639,000	49,098,000
September	45,492,000	49,256,000	50,495,000	53,744,000	57,444,000
October	61,811,000	42,438,000	57,994,000	39,961,000	48,627,000
November	54,589,000	67,892,000	47,914,000	47,305,000	41,545,000
December	51,844,000	53,278,000	45,767,000	61,277,000	35,999,000
Total	571,025,000	568,796,000	709,523,000	544,831,000	626,330,000

5. Could treated wastewater be substituted for potable water?

( ) Yes (•) No

B. Reuse Data

1. Data by type of recycling and reuse activities implemented during the current reporting period.

Type of Reuse	Total Annual Volume (in gallons)
On-site Irrigation	
Plant wash down	
Chlorination/de-chlorination	
Industrial	
Landscape irrigation (park,golf courses)	0
Agricultural	
Discharge to surface water	
Evaporation Pond	
Other	
Total	0

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

C. Wastewater System Data Comment

Additional comments and files to support or explain wastewater system data listed below.

City of Bay City

Utility Department

Drought Contingency Plan

Code of Ordinances, Sec. 114-64. Drought Contingency Plan and Water Conservation Plan Adopted

~~*November 2019*~~*May 2024*

Table of Contents

114 - 64 Drought Contingency Plan

(a) ***Declaration of Policy, Purpose and Intent***. In order to conserve the available water supply and protect the integrity of water supply facilities, with particular regard for domestic water use, sanitation and fire protection and to protect and preserve public health, welfare and safety and minimize the adverse impacts of water supply shortage or other water supply emergency conditions, the City hereby adopts the following regulations and restrictions on the delivery and consumption of water. Water uses regulated or prohibited under this Drought Contingency Plan are considered to be non-essential and continuation of such uses during times of water shortage or other emergency water supply conditions are deemed to constitute a waste of water which subjects the offender(s) to penalties as defined in **Section (k)** of this Plan.

(b) ***Public Involvement***. Opportunity for the public to provide input into the preparation of the plan was provided by the City by posting a public meeting agenda in a visible location at City Hall whereby discussions by the City Council and acceptance was listed as an agenda item.

(c) ***Public Education***. The City will periodically provide the public with information about the Plan, including 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. This information will be provided by means of handouts, the City of Bay City website, press releases, and/or utility bill inserts.

(d) ***Coordination with Regional Water Planning Groups***. The water service area of the City is located within Region K of the Water Planning Group. The City has provided a copy of this plan to the Region K Planning Group.

(e) ***Authorization***. The City Manager or his/her designee is hereby authorized and directed to implement the applicable provision of this plan upon determination that such implementation is necessary to protect public health, safety and welfare. The City Manager or his/her designee shall have the authority to initiate or terminate drought or other water supply emergency response measures as described in this plan.

(f) ***Application***. The provisions of this Plan shall apply to all persons, customers and property utilizing water provided by the City. The terms "person" and "customer" as used in the Plan include individuals, corporations, partnerships, associations, and all other legal entities.

(g) ***Definitions.*** For the purposes of this Plan, the following definitions shall apply:

1. Aesthetic water use: water use for ornamental or decorative purposes such as fountains, reflecting pools, and water gardens.
2. Commercial and Institutional water use: water use which is integral to the operations of commercial and non-profit establishments and governmental entities such as retail establishments, hotels and motels, restaurants and office buildings.
3. Conservation: those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water or increase the recycling and reuse of water so that a supply is conserved and made available for future or alternative uses.
4. Customer: any person, company or organization using water supplied by the City.
5. Domestic water use: water use for personal needs or for household or sanitary purposes such as drinking, bathing, heating, cooking, sanitation or for cleaning a residence, business, industry or institution.

6. Even number address: street addresses, box numbers, or rural postal route numbers ending in 0, 2, 4, 6 or 8 and locations without addresses.
7. Industrial water use: the use of water in processes designed to convert material of lower value into forms having greater usability and value.
8. Landscape irrigation use: water used for the irrigation and maintenance of landscaped areas, whether publicly or privately owned, including residential and commercial lawns, gardens, golf courses, parks and rights-of-way and medians.
9. Non-essential water use: water uses that are not essential nor required for the protection of public, health, safety and welfare, including:
    a. Irrigation of landscape areas, including parks, athletic fields and golf courses, except otherwise provided under this Plan;
    b. Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle;
    c. Use of water to wash down any sidewalks, walkways, driveways, parking lots, tennis courts or other hard-surfaced areas;
    d. Use of water to wash down buildings or structures for purposes other than immediate fire protection;
    e. Flushing gutters or permitting water to run or accumulate in any gutter or street;
    f. Use of water to fill, refill, or add to any indoor or outdoor swimming pools or Jacuzzi-type pools;
    g. Use of water in a fountain or pond for aesthetic or scenic purposes except where necessary to support aquatic life;
    h. Failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and
    i. Use of water from hydrants for construction purposes or any other purposes other than firefighting.
10. Odd numbered address: street address, box numbers or postal route numbers in 1, 3, 5, 7 or 9.

(h) ***Triggering Criteria for Initiation and Termination of Drought Response Stages***. The City of Bay City's water system is comprised of six water wells and five water plants. Bay City personnel monitor these plants daily. Water usage is tracked by metering and daily reading of the water wells and water plants. This also allows the City to determine which areas have the most demand. The City Manager or his/her designee shall monitor water supply and/or demand conditions on a monthly basis and shall determine when conditions warrant initiation or termination of each stage of the Plan. Public notification of the initiation or termination of drought response stages shall be by means of publication in social media, newspaper of general circulation, direct mail to each customer, signs posted in public places, posting on the City's website, etc. The triggering criteria described below are based on average daily usage and known system capacity limits of the water system wells.

1. Stage 1 – Mild Water Shortage Conditions

a. *Requirements for Initiation:* Customers shall be requested to voluntarily conserve water and adhere to the prescribed restrictions on certain water uses, defined in **Section (g)** definitions when the total daily water demand equals or exceeds 75% of the city's water wells pumping capacity for 7 consecutive days.

b. Requirements for Termination: Stage 1 of the plan may be rescinded when all the conditions listed as triggering events have ceased to exist for a period of 30 consecutive days.

2. Stage 2 – Moderate Water Shortage Conditions

a. *Requirements for Initiation:* Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses defined in **Section (g)** definitions when the total daily water demand equals or exceeds 85% of the City's water wells pumping capacity for 7 consecutive days.
b. *Requirements for Termination:* Stage 2 of the plan may be rescinded when all the conditions listed as triggering events have ceased to exist for a period of 30 consecutive days. Upon termination of Stage 2, Stage 1 becomes operative.

3. Stage 3 – Severe Water Shortage Conditions

a. *Requirements for Initiation:* Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses for Stage 3 of this plan when the total daily water demand equals or exceeds 90% of the City's water wells pumping capacity for 7 consecutive days.
b. *Requirements for Termination:* Stage 3 of the plan may be rescinded when all the conditions listed as triggering events have ceased to exist for a period of 30 consecutive days. Upon termination of Stage 3, Stage 2 becomes operative.

4. Stage 4 – Emergency Water Shortage Conditions

a. *Requirements for Initiation:* Customers shall be required to comply with the requirements and restrictions for Stage 4 of this plan when the City Manager or his/her designee determines that water supply emergency exists based on:
    1. Major water line breaks, pump or system failures occur which cause unprecedented loss of capability to provide water service; or maintain an adequate level in the storage facilities.
    2. Natural or man-made contamination of the water supply source(s)
b. *Requirements for Termination:* Stage 4 of the plan may be rescinded when all the conditions listed as triggering events have ceased to exist for a period of 30 consecutive days.

5. Stage 5 - Water Allocation

a. *Requirements for Initiation:* Customers shall be required to comply with the water allocation plan prescribed in **Section (j)** and comply with the requirements and restrictions from Stage 4 of this plan when the City Manager or his/her designee determines that water shortage conditions threaten the public's health, safety and welfare. Conditions may include (but are not limited to): catastrophic system failure, major water line breaks which cause loss of capability to provide water service and natural or man-made disasters that affect the water supply sources(s).
b. *Requirements for Termination:* Water rationing may be rescinded when all the conditions listed as triggering events have ceased to exist for a period of 30 consecutive days.

(i) ***Drought Response Stages***. The City Manager or his/her designee, shall monitor water supply and/or demand conditions daily and in, accordance with the triggering criteria set forth in **Section (h)** of the Plan, shall determine that a mild, moderate, severe, critical or emergency condition exists and shall implement the following notification procedures:

1. Notification of the Public. The City Manager or his/her designee shall notify the public by means of some combination of the following effective and efficient communication methods as deemed necessary by the current conditions:

- Drought status on the City's homepage website with corresponding information
    - Irrigation schedule
    - Recommended water conservation methods
- Publication in a newspaper of general circulation and/or press release
- Direct mail to each customer
- Public service announcements
- Signs posted in public places, HOA and church bulletin boards
- Take-home fliers at schools/businesses
- City Emergency Notification System

2. **Additional Notifications**. The City Manager or his/her designee shall notify directly or cause to be notified direction, the following individuals and entities:
    - Mayor and members of City Council
    - Police Chief
    - Fire Chief
    - All City of Bay City Department Heads
    - County Emergency Management Coordinators
    - Texas Commission on Environmental Quality (TCEQ)
    - Critical water users such as hospitals and dialysis clinics
    - Other individuals or entities as deemed necessary

3. **Stage 1 – Mild Water Shortage Conditions**
    a. *Goal*: Achieve a voluntary 10 percent reduction in the total daily water demand.
    b. *Supply Management Measures*: The City will reduce flushing of water mains and irrigation of public landscape areas to manage limited water supplies and/or reduce water demand.
    c. *Voluntary Water Use Restrictions*:
        i. Water customers are requested to voluntarily limit the irrigation of landscaped areas to Sundays and Thursdays for customers with a street address ending in an even number (0, 2, 4, 6 or 8) and Saturdays and Wednesdays for water customers with a street address ending in an odd number (1, 3, 5, 7 or 9) and to irrigate landscapes only between the hours of midnight and 10:00 am and 8:00 pm to midnight on designated watering days.
        ii. Water customers are requested to practice water conservation and to minimize or discontinue water use for non-essential purposes.

4. **Stage 2 – Moderate Water Shortage Conditions**
    a. *Goal*: Achieve a 15 percent reduction in total daily water demand.
    b. *Supply Management Measures*: The City will reduce flushing of water mains and will reduce irrigation of public landscape areas to once per week to manage limited water supplies and/or reduce water demand.
    c. *Water Use Restrictions*: Under potential penalty for violation, the following water use restrictions shall apply to all persons:
        i. Irrigation of landscaped areas with hose-end sprinklers or automatic irrigation systems shall be limited to Sundays and Thursdays for customers with a street address ending in an even number (0, 2, 4, 6 and 8) and Saturdays and Wednesdays for water customers with a street address ending in an odd number

(1, 3, 5, 7 or 9) and irrigation of landscaped areas is further limited to the hours of midnight until 10:00 am and between 8:00 pm and midnight on designated watering days. However, irrigation of landscaped areas is permitted at any time if it is by means of a hand-held hose, a faucet filled bucket or watering can of five (5) gallons or less, or drip irrigation system.

ii. Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle is prohibited except on designated watering days between the hours of midnight and 10:00 am and between 8:00 pm and midnight. Such washing, when allowed, shall be done with a hand-held bucket or hand-held hose equipped with a positive shutoff nozzle for quick rinses. Vehicle washing may be done at any time on the immediate premises of a commercial car wash or commercial service station. Further, such washing may be exempted from these regulations if the health, safety and welfare of the public is contingent upon frequent vehicle cleansing, such as garbage trucks and vehicles used to transport food and perishables.

iii. Use of water to fill, refill or add to any indoor or outdoor swimming pools, wading pools, or Jacuzzi-type pools is prohibited exception designated watering days between the hours of midnight and 10:00 am and between 8:00 pm and midnight.

iv. Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculating system.

v. Use of water from hydrants shall be limited to fire-fighting related activities or other activities necessary to maintain public health, safety and welfare, except that use of water from designated fire hydrants for construction purposes may be allowed under special permit from the City of Bay City Utility Department.

vi. The following uses of water are defined as non-essential and are prohibited:
    1. Wash down of any sidewalks, walkways, driveways, parking lots, tennis courts or other hard-surfaced areas;
    2. Use of water to wash down buildings or structures for purposes other than immediate fire protection;
    3. Use of water for dust control;
    4. Flushing gutters or permitting water to run or accumulate in any gutter or street; and
    5. Failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s).

5. <u>Stage 3 – Severe Water Shortage Conditions</u>

a. Goal: Achieve a 20 percent reduction in total daily water demand.

b. Supply Management Measures: The City will cease watering all public landscape areas and will only flush main lines to prevent health risks to manage limited water supplies and/or reduce water demand.

c. Water Use Restrictions: All requirements of Stage 2 shall remain in effect during Stage 3 except:

i. Irrigation of landscaped areas shall be limited to designated watering days between the hours of 6:00 am and 10:00 am and between 8:00 pm and midnight and shall be by means of hand-held hoses, hand-held buckets or drip irrigation only. The use of hose-end sprinklers or permanently installed automatic sprinkler systems are prohibited at all times.

ii. Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle not occurring on the premises of a commercial car wash and commercial service stations and not in the immediate interest of public health, safety and welfare is prohibited. Further, such vehicle washing at commercial car washes and commercial service stations shall occur only between the hours of 6:00 am and 10:00 am and between 6:00 pm and 10:00 pm.
iii. The filling, refilling or adding of water to swimming pools, wading pools and Jacuzzi-type pools is prohibited.
iv. Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculating system.
v. No applications for new, additional, expanded or increased-in-size water service connections, meters, service lines, pipeline extensions, mains, or water service facilities of any kind shall be allowed or approved.
vi. The use of water for construction purposes from designated fire hydrants under special permit is to be discontinued.

6. <u>Stage 4 – Emergency Water Shortage Conditions</u>

a. Goal: Achieve a 40 percent reduction in daily water demand.
b. Supply Management Measures: The City will cease watering all public landscape areas, discontinue flushing main lines and will utilize alternative supply source(s) to manage limited water supplies and/or reduce water demand.
c. Water Use Restrictions:
i. Irrigation of landscaped areas is absolutely prohibited.
ii. Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle is absolutely prohibited.

(j) ***Water Allocation***. In the event that water shortage conditions threaten public health, safety and welfare the City Manager or his/her designee is hereby authorized to ration water according to the following water allocation plan:

1. <u>Single-Family Residential Customers</u>

The allocation to residential water customers residing in a single-family dwelling shall be as follows:

Persons per household	Gallons per month
1 or 2	6,000
3 or 4	7,000
5 or 6	8,000
7 or 8	9,000
9 or 10	10,000
11 or more	12,000

"Household" means the residential premises served by the customer's meter. "Persons per household" includes only those persons currently physically residing at the premises and expected to reside there for the entire billing period. It shall be assumed that a customer's household is comprised of two (2) persons unless the customer notifies the City of a greater

number of persons per household on a form prescribed by the City Manager or his/her designee. The City Manager or his/her designee shall give his best effort to see that such forms are mailed, otherwise provided, or made available to every residential customer. If, however, a customer does not receive such a form, it shall be the customer's responsibility to go to the City of Bay City Utility Department offices to complete and sign the form claiming more than two (2) persons per household. New customers may claim more persons per household at the time of applying for water service on the form prescribed by the City Manager or his/her designee. When the number of persons per household increases so as to place the customer in a different allocation category, the customer may notify the City of Bay City Utility Department on such form and the change will be implemented in the next practicable billing period. If the number of persons in a household is reduced, the customer shall notify the City of Bay City Utility Department in writing within two (2) days. In prescribing the method for claiming more than two (2) persons per household, the City Manager or his/her designee shall adopt methods to insure the accuracy of the claim. Any person who knowingly, recklessly, or with criminal negligence falsely reports the number of persons in a household or fails to timely notify the City of Bay City Utility Department of a reduction in the number of persons in a household shall be fined not less than $250.00. If a single-family residential dwelling exceeds its allocation, the customer responsible for the bill at such dwelling shall pay a surcharge of twelve (12) times the base monthly rate for water service.

2. **Master-Metered Multi-Family Residential Customers**

The allocation to a customer billed from a master meter which jointly measures water to multiple permanent residential dwelling units (i.e. apartments, mobile homes, etc.) shall be allocated 6,000 gallons per month for each dwelling unit. It shall be assumed that such a customer's meter serves two dwelling units unless the customer notifies the City of Bay City Utility Department of a greater number on a form prescribed by the City Manager or his/her designee. The City Manager or his/her designee shall give his best effort to see that such forms are mailed, otherwise provided, or made available to every such customer. If, however, a customer does not receive such a form, it shall be the customer's responsibility to go to the City of Bay City Utility Department offices to complete and sign the form claiming more than two (2) dwellings. A dwelling unit may be claimed under this provision whether it is occupied or not. New customers may claim more dwelling units at the time of applying for water service on the form prescribed by the City Manager or his/her designee. If the number of dwelling units served by a master meter is reduced, the customer shall notify the City of Bay City Utility Department in writing within two (2) days. In prescribing the method for claiming more than two (2) dwelling units, the City Manager or his/her designee shall adopt methods to ensure the accuracy of the claim. Any person who knowingly, recklessly, or with criminal negligence falsely reports the number of dwelling units served by a master meter or fails to timely notify the City of Bay City Utility Department of a reduction in the number of persons in a household shall be fined not less than $250.00. If a master-metered multi-family residential dwelling exceeds its allocation, the customer responsible for the bill at such dwelling shall pay a surcharge of twelve (12) times the base monthly rate for water service.

3. **Commercial Customers**

A monthly water usage allocation shall be established by the City Manager or his/her designee or for each non-residential commercial customer other than an industrial customer who uses water for processing purposes. The non-residential customer's allocation shall be approximately 75 percent of the customer's usage for corresponding month's billing period for the previous 12

months. If the customer's billing history is shorter than 12 months, the monthly average for the period for which there is a record shall be used for any monthly period for which no history exists. Provided, however, a customer, 75 percent of whose monthly usage is less than 2,000 gallons, shall be allocated 2,000 gallons. The City Manager or his/her designee shall give his best effort to see that notice of each non-residential customer's allocation is mailed to such customer. If, however, a customer does not receive such notice, it shall be the customer's responsibility to contact the City of Bay City Utility Department to determine the allocation. Upon request of the customer or at the initiative of the City Manager or his/her designee, the allocation may be reduced or increased if, (1) the designated period does not accurately reflect the customer's normal water usage, (2) one non-residential customer agrees to transfer part of its allocation to another non-residential customer, or (3) other objective evidence demonstrates that the designated allocation is inaccurate under present conditions. A customer may appeal an allocation established hereunder to the City Manager or his/her designee. If a non-residential customer exceeds its allocation, the customer responsible for the bill at the non-residential unit shall pay a surcharge of twelve (12) times the base monthly rate for water service.

4. Industrial Customers

A monthly water usage allocation shall be established by City Manager or his/her designee, for each industrial customer, which uses water for processing purposes. The industrial customer's allocation shall be approximately 90% percent of the customer's water usage baseline. Ninety (90) days after the initial imposition of the allocation for industrial customers, the industrial customer's allocation shall be further reduced to 85% percent of the customer's water usage baseline. The industrial customer's water usage baseline will be computed on the average water usage for the last three-month period ending prior to the date of implementation of Stage 2 of the Plan. If the industrial water customer's billing history is shorter than six months, the monthly average for the period for which there is a record shall be used for any monthly period for which no billing history exists. The City Manager or his/her designee shall give his best effort to see that notice of each industrial customer's allocation is mailed to such customer. If, however, a customer does not receive such notice, it shall be the customer's responsibility to contact the City of Bay City Utility Department to determine the allocation, and the allocation shall be fully effective notwithstanding the lack of receipt of written notice. Upon request of the customer or at the initiative of the City Manager or his/her designee the allocation may be reduced or increased, (1) if the designated period does not accurately reflect the customer's normal water usage because the customer had shut down a major processing unit for repair or overhaul during the period, (2) the customer has added or is in the process of adding significant additional processing capacity, (3) the customer has shut down or significantly reduced the production of a major processing unit, (4) the customer has previously implemented significant permanent water conservation measures such that the ability to further reduce usage is limited, (5) the customer agrees to transfer part of its allocation to another industrial customer, or (6) if other objective evidence demonstrates that the designated allocation is inaccurate under present conditions. A customer may appeal an allocation established hereunder to the City Manager or his/her designee.

Industrial customers whose allocation is less than 100,000 gallons per month:

If an industrial customer exceeds its allocation, the customer responsible for the bill at the industrial facility shall pay a surcharge of twelve (12) times the base monthly rate for water service.

Industrial customers whose allocation is 100,000 gallons per month or more:

If an industrial customer exceeds its allocation, the customer responsible for the bill at the industrial facility shall pay a surcharge as follows:

- Three (3) times the block rate for each 1,000 gallons in excess of the allocation up through 5 percent above allocation.
- Six (6) times the block rate for each 1,000 gallons from 5 percent through 10 percent above allocation.
- Nine (9) times the block rate for each 1,000 gallons from 10 percent through 15 percent above allocation.
- Twelve (12) times the block rate for each 1,000 gallons more than 15 percent above allocation.

The surcharges shall be cumulative. As used herein, "block rate" means the charge to the customer per 2,000 gallons at the regular water rate schedule at the level of the customer's allocation.

(k) ***Enforcement.***

1. No person shall knowingly or intentionally allow the use of water from the City of Bay City for residential, commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of this Plan, or in an amount in excess of that permitted by the drought response stage in effect at the time pursuant to action taken by the City Manager or his/her designee, in accordance with provisions of this Plan.

2. Any person who violates this Plan is guilty of a misdemeanor and, upon conviction shall be punished by a fine not to exceed $500.00. Each day that one or more of the provisions in this Plan is violated shall constitute a separate offense. If a person is convicted of three or more distinct violations of this Plan, the City Manager or his/her designee, shall upon due notice to the customer, be authorized to discontinue water service to the premises where such violations occur. Services discontinued under such circumstances shall be restored only upon payment of a re-connection charge, as established in the City's Code of Ordinances, as amended from time to time, and any other costs incurred by the City of Bay City in discontinuing service. In addition, suitable assurance must be given to the City Manager or his/her designee that the same action shall not be repeated while the Plan is in effect. Compliance with this plan may also be sought through injunctive relief in the district court.

3. Any person, including a person classified as a water customer of the City of Bay City Utility Department, in apparent control of the property where a violation occurs or originates shall be presumed to be the violator, and proof that the violation occurred on the person's property shall constitute a rebuttable presumption that the person in apparent control of the property committed the violation, but any such person shall have the right to show that he/she did not commit the violation. Parents shall be presumed to be responsible for violations of their minor children and proof that a violation, committed by a child, occurred on property within the parents' control shall constitute a rebuttable presumption that the parent committed the violation, but any such parent

may be excused if he/she proves that he/she had previously directed the child not to use the water as it was used in violation of this Plan and that the parent could not have reasonably known of the violation.

4. A Police Officer, Code Compliance Officer, Code Enforcement Officer or other employee so designated by the City Charter and/or ordinance, may issue a citation to a person he/she reasonably believes to be in violation of this ordinance. The citation shall be prepared in duplicate and shall contain the name and address of the alleged violator, the offense charged, and shall direct him/her to contact the Court no sooner than 3 days and no later than 12 days from the date the citation was issued. The alleged violator shall be served a copy of the citation. Service of the citation shall be complete upon delivery of the citation to the alleged violator, to an agent or employee of a violator, or to a person over 14 years of age who is a member of the violator's immediate family or is a resident of the violator's residence. The alleged violator shall appear in City of Bay City Municipal Court to enter a plea of guilty or not guilty for the violation of this Plan. If the alleged violator fails to appear in City of Bay City Municipal Court, a warrant for his/her arrest may be issued. A summons to appear may be issued in lieu of an arrest warrant. These cases shall be expedited and given preferential setting in City of Bay City Municipal Court before all other cases.

(l) ***Variance***. The City Manager or his/her designee, may, in writing, grant temporary variance for existing water uses otherwise prohibited under this Plan if it is determined that failure to grant such variance would cause an emergency condition adversely affecting the health, sanitation, or fire protection for the public or the person requesting such variance and if one or more of the following conditions are met:

1. Compliance with this Plan cannot be technically accomplished during the duration of the water supply shortage or other condition for which the Plan is in effect.

2. Alternative methods can be implemented which will achieve the same level of reduction in water use.

3. Persons requesting an exemption from the provisions of this ordinance shall file a petition for variance with the City of Bay City Utility Department within 5 days after the Plan or a drought response stage has been invoked. All petitions for variances shall be reviewed by the City Manager or his/her designee, and shall include the following:

a. Name and address of the petitioner(s)
b. Purpose of water use
c. Specific provision(s) of the Plan from which the petitioner is requesting relief
d. Detailed statement as to how the specific provision of the Plan adversely affects the petitioner or what damage or harm will occur to the petitioner or others if the petitioner complies with this ordinance
e. Description of the relief requested
f. Period of time for which the variance is sought
g. Alternative water use restrictions or other measures the petitioner is taking or proposes to take to meet the intent of this Plan and the compliance date
h. Other pertinent information

4. Variances granted by the City of Bay City Utility Department shall be subject to the following conditions, unless waived or modified by the City Manager or his/her designee:
   a. Variances granted shall include a timetable for compliance
   b. Variances granted shall expire when the Plan is no longer in effect, unless the petitioner has failed to meet specified requirements.

5. No variance shall be retroactive or otherwise justify any violation of this Plan occurring prior to the issuance of the variance.

(m) ***Severability***. It is hereby declared to be the intention of the City of Bay City, City Council (the governing body of City of Bay City) that the sections, paragraphs, sentences, clauses, and phrases of this Ordinance are severable and, if any phrase, clause, sentence, paragraph, or section of this Plan shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of this Plan, since the same would not have been enacted by the City of Bay City, City Council (governing body of the City of Bay City) without the incorporation into this Plan of any such unconstitutional phrase, clause, sentence, paragraph, or section.