

**CITY OF ALICE, TEXAS
WATER CONSERVATION PLAN
FOR
MUNICIPAL USE AND WHOLESALE**



April 2019

Prepared for

**Texas Commission on
Environmental Quality**



**CITY OF ALICE, TEXAS
WATER CONSERVATION PLAN
FOR MUNICIPAL USE AND WHOLESALE
Adoption – April 16, 2019**

SECTION 1.0 – GENERAL

1.1 Definitions

Conservation - Those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.

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

Irrigation - The agricultural use of water for the irrigation of crops, trees, and pastureland, including, but not limited to, golf courses and parks which do not receive water through a municipal distribution system.

Municipal per capita water use - The sum total of water diverted into a water supply system for residential, commercial, and public and institutional uses divided by actual population served.

Municipal use - The use of potable water within or outside a municipality and its environs whether supplied by a person, privately owned utility, political subdivision, or other entity as well as the use of sewage effluent for certain purposes, including the use of treated water for domestic purposes, fighting fires, sprinkling streets, flushing sewers and drains, watering parks and parkways, and recreational purposes, including public and private swimming pools, the use of potable water in industrial and commercial enterprises supplied by a municipal distribution system without special construction to meet its demands, and for the watering of lawns and family gardens.

Municipal use in gallons per capita per day - The total average daily amount of water diverted or pumped for treatment for potable use by a public water supply system. The calculation is made by dividing the water diverted or pumped for treatment for potable use by population served. Indirect reuse volumes shall be credited against total diversion volumes for the purpose of calculating gallons per capita per day for targets and goals.

Pollution - The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or to the public health, safety, or

welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

Public water supplier - An individual or entity that supplies water to the public for human consumption

Regional water planning group - A group established by the Texas Water Development Board to prepare a regional water plan under Texas Water Code, '16.053

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

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

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

Water loss - The difference between water diverted or treated and water delivered (sold). Water loss can result from:

1. inaccurate or incomplete record keeping;
2. meter error;
3. unmetered uses such as firefighting, line flushing, and water for public buildings and water treatment plants;
4. leaks; and
5. water theft and unauthorized use.

Wholesale public water supplier - An individual or entity that for compensation supplies water to another for resale to the public for human consumption The term does not include an individual or entity that supplies water to itself or its employees or tenants as an incident of that employee service or tenancy when that water is not resold to or used by others, or an individual or entity that conveys water to another individual or entity, but does not own the right to the water which is conveyed, whether or not for a delivery fee.

SECTION 2.0 - MUNICIPAL WATER CONSERVATION PLAN

2.1 Objective

The objectives of this water conservation plan are to reduce water consumption from the levels that would prevail without conservation efforts, reduce the loss and waste of water, improve efficiency in the use of water, and to document the level of recycling and reuse in the water supply.

2.2 Continuing Public Education & Information

The City of Alice periodically provides the public with information by means of press releases. The City plans to further educate the public with water bill inserts, press releases, educational events promoting water conservation, and information posted on the City's Official Website. This will promote additional community awareness of the City's plans. The City will provide education programs within the Alice Independent School District. The program is intended to increase use of these curricula within the wholesale customer boundaries. The City will also form a Committee to discuss, assess and provide direction for the conservation programs outlined in this document. The committee will include residential, commercial, and any other interested customers.

2.3 Plan Review and Update

This water conservation plan will be reviewed and updated, as appropriate, based on an assessment of previous five year and ten-year targets and any other new or updated information. The City will review and update the next revision of its water conservation plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. The revised plan will also include an implementation report.

2.4 Enforcement Procedure & Plan Adoption

The City shall adopt an Ordinance which prohibits wasting water and authorized the City Manager, or his/her designee, to implement and enforce this Water Conservation Plan. The Ordinance shall outline the implementation and enforcement authority of the City Manager and provide the most recent updates to the plan. Implementation of the City's Water Conservation Plan shall be by resolution as adopted by the City of Alice's City Council.

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

Water uses regulated or prohibited under this Water Conservation Plan are considered to be non-essential and continuation of such uses during times of water shortage or other emergency water supply condition are deemed to constitute a waste of water which subjects the offender(s) to penalties as referenced in this plan.

SECTION 3.0 UTILITY PROFILES

The City of Alice Municipal Utility Profile is attached to this Water Conservation Plan.

SECTION 4.0 WATER CONSERVATION PLAN

4.1 Specific, Quantified 5 & 10- Year Targets

The following five (5) and ten (10) year targets shall be established:

Five-year targets based on 5-year rolling averages

1. Reduce per capita per day consumption by 3%.
2. Reduce the level of unaccounted water losses to 15%.

Ten-year targets based on 5-year rolling averages

1. Reduce per capita per day consumption by an additional 3%.
2. Reduce the level of unaccounted water losses to 12%.

To accomplish the 5-year and 10-year targets the City of Alice shall utilize the programs and policies in this Plan such as accurate metering devices, universal metering, meter testing and repair, periodic meter replacement, control of unaccounted water, public education, non-promotional water rates, and leak detection and repair.

The 5 and 10 year targets in this Water Conservation Plan shall be in accordance with 30 TAC Part 1, Chapter 288, Subchapter C, Rule 288.2 (a) (1) (C). The water conservation plan, over the next five to ten years, shall implement existing and proposed new water efficiency programs. In addition to the programs included in the recommended plan, the City will continuously monitor and evaluate its overall water conservation effort in relation to its water supply and water and wastewater facility capacity needs. The Water Conservation Plan will require a concerted effort over the next 5 to 10 years to manage demand and meet water savings goals. In future years, based on the results of monitoring and continuing evaluation, the City shall consider implementing some of the other more aggressive programs which have been evaluated in this study in order to meet established goals.

The following programs are either currently or may be implemented before within the next five to ten years:

1. System Water Audit and Water Loss
2. Water Conservation Pricing
3. Prohibition on Wasting Water
4. School Education
5. Water Survey for Single-Family and Multi-Family Customers
6. Landscape Irrigation Conservation and Incentives
7. Athletic Field Conservation
8. Metering of All New Connections and Retrofit of Existing Connections
9. Water Reuse

10. Public Information BMP
11. New Construction BMP
12. Park Conservation BMP
13. Conservation Programs for Commercial Accounts

4.2 Metering Devices and Universal Metering

Programs meter testing, meter repair, and periodic meter replacement are already in place and have been developed using the American Water Works Association (A WWA) standards and recommendations.

The City will provide for annual replacement of meters in the system that does not register the correct amount of water flowing through them. This program will increase revenues and water accountability. Funding for the meters will come from the amount allocated for infrastructure replacement. Meter replacement will take place as described below:

Meter Infrastructure Replacement

1. Identify and report active 3/4 and 1-inch meters that register less than 200 cubic feet of flow and active 1 1/2-inch or greater meters that register less than 1500 cubic feet of flow for three consecutive months.
2. Compare the meter-reading report with the flow report to determine which meters appear to be functioning improperly.
3. After all valid reasons for low flow at a location have been identified; the remainder can be assumed to be non-functioning and can be scheduled for replacement.

4.3 Unaccounted-For Water Use

The City of Alice shall conduct periodic visual inspections along distribution lines and an annual audit of the water system to determine illegal connections and abandoned services. The system water audit is the overall figure that can be used to monitor the total level of non-revenue water in the system. The City of Alice shall conduct this audit annually as stated below.

The City of Alice shall developed regulations and targets per the new standards required by the TCEQ and proposed by the TWDB. The performance indicator approach provides an internal accountability for specific water system tasks which will improve the performance and efficiency of the system in the long-term. The audit and performance indicators will be incorporated into the City's Water Conservation Plan. The plan will be updated on a regular basis with specific portions such as the targets and goals being updated every year so that water supply performance can be to assess more accurately.

4.4 Public Education

The City will periodically provide the public with information about conservation measures including information about the conditions under which conservation measures are to be employed. This information will be provided by means of public notice, press releases, City's Website, and mailings.

4.5 Non-Promotional Water Rate Structure

The City of Alice has water rates in place for various rate classes. When the customer reaches a specified consumption the rate increases for all usage above the specified gallons. In the future based on the results of monitoring and additional assessments, the City shall consider increasing the water rate structure to improve their effect on water conservation and to manage cost of service more effectively. This is done by analyzing the trends of use by customers and water demands upon the water system.

The City's current rate structure consists of residential and commercial. Each customer will be assessed a meter charge based on meter size. There is an additional usage charge. The rates adopted and implemented shall include a conservation rate structure.

4.6 Reservoir Systems Operations Plan

The City has a contract with the City of Corpus Christi. The City of Corpus Christi sells untreated water from Lake Corpus Christi to the City of Alice. In subsequent years the City of Corpus Christi agrees to sell; the amount of water taken by the city of Alice in the previous twelve month period plus ten percent, or the average quantity of water taken by the City of Alice in its highest previous three years plus ten percent, whichever is greater. The City of Corpus Christi also agrees to sell whatever quantity of water the City of Alice requires in excess of the above mentioned amounts if in the opinion of the City of Corpus Christi, such water is available and can be sold to the City of Alice without endangering the water supply of the City of Corpus Christi or of holders of prior contracts.

4.7 Coordination with Regional Water Planning Groups

The water service area of the City of Alice is located within the Region N Water Planning area and a copy of this Plan has been provided to the Region N Water Planning Group (RWPG).

4.8 Additional Requirements:

4.8.1 Program for Leak Detection, Repair, and Water Loss Accounting

- a. The City shall make a monthly accounting of water delivery efficiencies. At the end of each month, the City shall calculate the difference between water pumped to the system and water sold through the meters. This calculation is reduced to a percentage of water losses. This is maintained and reviewed on an annual basis.

- b. Leaks are reported by any municipal employee as well as the general public,
- c. The Water Treatment Plant monitors system pressure at all times and sizeable leaks are noticeable and reported as soon as noted.
- d. All leaks are repaired as soon as practicable.

4.8.2 Record Management System

The Water Treatment Plant maintains records of:

- Water received from Lake Corpus Christi
- Water received into the plant for treatment
- Water pumped to the distribution system
- Water used for backwash purposes within the plant

The Water Department maintains records of:

- Water metered within the system
- Water loss calculations including residential, commercial/industrial and public/institutional

4.9 Best Management Practices Guide

The City recognizes that in order to accomplish the goals and objectives of this water conservation plan, other conservation measures may be required that are not outlined within the body of this document. The City is aware of the Water Conservation Best Management Practices Guide published by the Water Conservation Implementation Task Force in November 2004. As deemed necessary, the City will implement other measures either from the BMP guide or as otherwise seen fit to assure compliance with the plan.

SECTION 5.0 - WHOLESALE WATER CONSERVATION PLAN

5.1 Introduction

As a wholesale water supplier, the City of Alice adopts this Water Conservation Plan in conformance with the rules governing water conservation plans for wholesale water providers set forth by the Texas Commission on Environmental Quality (TCEQ) in *Texas Administrative Code* Title 30, Part I, Rule §288.5, *Water Conservation Plans for Wholesale Water Suppliers*.

5.2 Continuing Public Education & Information

The City of Alice periodically provides the public with information by means of press releases. The City plans to further educate the wholesale purchaser. This will promote

additional wholesale purchaser awareness of the City's plans. The City will provide education programs within the Alice Independent School District. The program is intended to increase use of these curricula within the wholesale customer boundaries. The City will also form a Committee to discuss, assess and provide direction for the conservation programs outlined in this document. The committee will include residential, commercial, wholesale purchasers, and any other interested customers.

5.3 Review and Update of Water Conservation Plan

This water conservation plan will be reviewed and updated, as appropriate, based on an assessment of previous five year and ten-year targets and any other new or updated information. The City will review and update the next revision of its water conservation plan no later than May 1, 2024 and every five years after that date to coincide with the regional water planning group. The revised plan will also include an implementation report.

Additional Conservation Strategies

The City also adopts these additional conservation strategies:

- The City will encourage and assist customers in the development of conservation pollution prevention and abatement plans through participation in water quality programs.
- The City will adopt any other water conservation practice, method, or technique which the City finds to be appropriate for achieving the stated goals of this water conservation plan.

5.4 Means for Implementation and Enforcement

This Water Conservation Plan and all plans developed hereunder are required to be followed by purchasers in all of the City's water availability agreements. Violation of the Plan is a violation of the agreement provision and will be treated as such.

SECTION 6.0 UTILITY PROFILES

The City of Alice Wholesale Utility Profile is attached to this Water Conservation Plan.

SECTION 7.0 WATER CONSERVATION PLAN

7.1 Specific, Quantified 5 & 10-Year Targets

The following five (5) and ten (10) year targets shall be established:

Five-year targets based on 5-year rolling averages

1. Reduce per capita per day consumption by 3%.
2. Reduce the level of unaccounted water losses to 15%.

Ten-year targets based on 5-year rolling averages

1. Reduce per capita per day consumption by an additional 3%.
2. Reduce the level of unaccounted water losses to 12%.

To accomplish the 5-year and 10-year targets the City of Alice shall utilize the programs and policies in this Plan such as accurate metering devices, universal metering, meter testing and repair, periodic meter replacement, control of unaccounted water, public education, non-promotional water rates, and leak detection and repair.

The 5 and 10 year targets in this Water Conservation Plan shall be in accordance with 30 TAC Part 1, Chapter 288, Subchapter C, Rule 288.2 (a) (1) (C). The water conservation plan, over the next five to ten years, shall implement existing and proposed new water efficiency programs. In addition to the programs included in the recommended plan, the City will continuously monitor and evaluate its overall water conservation effort in relation to its water supply and water and wastewater facility capacity needs. The Water Conservation Plan will require a concerted effort over the next 5 to 10 years to manage demand and meet water savings goals. In future years, based on the results of monitoring and continuing evaluation, the City shall consider implementing some of the other more aggressive programs which have been evaluated in this study in order to meet established goals.

The following programs are either currently or may be implemented before within the next five to ten years:

1. System Water Audit and Water Loss
2. Water Conservation Pricing
3. Prohibition on Wasting Water
4. School Education
5. Water Survey for Single-Family and Multi-Family Customers
6. Landscape Irrigation Conservation and Incentives
7. Athletic Field Conservation
8. Metering of All New Connections and Retrofit of Existing Connections
9. Water Reuse
10. Public Information BMP
11. New Construction BMP
12. Park Conservation BMP
13. Conservation Programs for Commercial Accounts

7.2 Metering and Leak Detection and Repair

The City will implement a program of regular inspection, maintenance and repair of pipelines and pump stations, focusing on the monitoring of unaccounted water and the detection and repair of leaks.

7.3 Description of Practices Utilized to Measure and Account for Diversions

All diversions of water by the City's water customers (excepting those uses not exceeding five acre-feet of water per year) must be metered or otherwise measured with an error of less than plus or minus 5 and reported to the City in a timely manner.

7.4 Reservoir Systems Operations Plan

The City has a contract with the City of Corpus Christi. The City of Corpus Christi sells untreated water from Lake Corpus Christi to the City of Alice. In subsequent years the City of Corpus Christi agrees to sell; the amount of water taken by the City of Alice in the previous twelve month period plus ten percent, or the average quantity of water taken by the City of Alice in its highest previous three years plus ten percent, whichever is greater. The City of Corpus Christi also agrees to sell whatever quantity of water the City of Alice requires in excess of the above mentioned amounts if in the opinion of the City of Corpus Christi, such water is available and can be sold to the City of Alice without endangering the water supply of the City of Corpus Christi or of holders of prior contracts.

7.5 Coordination with Regional Water Planning Groups

The wholesale water service area of the City of Alice is located within the Region N Water Planning area and a copy of this Plan has been provided to the Region N Water Planning Group (RWPG).

7.6 Monitoring and Record Management Program

7.6.1 Program for Leak Detection, Repair, and Water Loss Accounting

- a. The City shall make a monthly accounting of water delivery efficiencies. At the end of each month, the City shall calculate the difference between water pumped to the system and water sold through the meters. This calculation is reduced to a percentage of water losses. This is maintained and reviewed on an annual basis.
- b. Leaks are reported by any municipal employee as well as the general public.
- c. The Water Treatment Plant monitors system pressure at all times and sizeable leaks are noticeable and reported as soon as noted.
- d. All leaks are repaired as soon as practicable.

7.6.2 Record Management System

The Water Treatment Plant shall maintain records of:

- Water received from Lake Corpus Christi
- Water received into the plant for treatment
- Water pumped to the distribution system

- Water used for backwash purposes within the plant

The Water Department shall maintain records of:

- Water metered within the system
- Water loss calculations including residential, commercial/industrial, public/institutional, and wholesale.

7.7 Conservation Requirements in Contracts

The City shall include the following clause addressing water conservation in every new and renewed contract:

Conservation of Water *It is the intent of the parties to this Agreement to provide to the maximum extent practicable for the conservation of water, and Purchaser agrees that it is a condition of this Agreement that Purchaser shall maintain and operate its facilities in a manner that will prevent the unnecessary waste of water. Purchaser agrees to implement a water conservation program in accordance with the Water Conservation Plan adopted by the City of Alice on July 10, 2008, and any subsequent amendments thereto and that the water diverted by Purchaser, pursuant to this Agreement, will be used in accordance with such Water Conservation Plan. Purchaser agrees that, in the event that Purchaser furnishes water or water services to a third party or successive parties, that, in turn, will furnish the water or water services to the ultimate consumer, the requirements of this Agreement relative to water conservation shall be met through contractual agreements between the Purchaser and the third party or successive parties, providing for the establishment and implementation of a water conservation program consistent with The City of Alice's Water Conservation Plan, in accordance with applicable law, may from time to time adopt reasonable rules and regulations relating to water conservation. Purchaser agrees to amend its water conservation program, as necessary, to reflect the City of Alice's Water Conservation Plan; as such plan may be amended from time to time.*

7.8 Best Management Practices Guide

The City recognizes that in order to accomplish the goals and objectives of this water conservation plan, other conservation measures may be required that are not outlined within the body of this document. The City is aware of the Water Conservation Best Management Practices Guide published by the Water Conservation Implementation Task Force in November 2004. As deemed necessary, the City will implement other measures either from the BMP guide or as otherwise seen fit to assure compliance with the plan.

END OF PLAN

WATER CONSERVATION TARGETS and GOALS

| | Historical 5 Year Average | Baseline | 5-Year Goal for Year 2024 | 10-Year Goal for Year 2029 |
|-----------------------|---------------------------|----------|---------------------------|----------------------------|
| Total GPCD | 164 | 158 | 176 | 173 |
| Residential GPCD | 85 | 76 | 126 | 125 |
| Water Loss GPCD | 32 | 45 | 27 | 21 |
| Water Loss Percentage | 20% | 28% | 15% | 12% |

ORDINANCE NO. 2101

AN ORDINANCE OF THE CITY OF ALICE, TEXAS, ADOPTING A CITY OF ALICE WATER CONSERVATION PLAN FOR RETAIL PUBLIC WATER SUPPLIER AND WATER CONSERVATION PLAN FOR A WHOLESALE PUBLIC WATER SUPPLIER; TO PROMOTE RESPONSIBLE USE OF WATER; ESTABLISHING UTILITY PROFILE; WATER USE DATA FOR SERVICE AREA; WATER SUPPLY SYSTEM DATA; WASTEWATER SYSTEM DATA; ADDITIONAL REQUIREMENTS FOR LARGE SUPPLIERS; ADDITIONAL CONSERVATION STRATEGIES; CRITERIA; ESTABLISHING RESTRICTIONS ON CERTAIN WATER USES; AND PROVIDING SEVERABILITY AND AN EFFECTIVE DATE.

WHEREAS, the City of Alice, Texas recognizes the objective of the City of Alice Water Conservation Plan for Retail Public Water Supplier and Water Conservation Plan for a Wholesale Public Water Supplier, which is to reduce water consumption from the levels that would prevail without conservation efforts, reduce the loss and waste of water, improve efficiency in the use of water, and to document the level of recycling and reuse in the water supply; and

WHEREAS, the City of Alice, Texas recognizes that the amount of water available to its water customers is limited; and

WHEREAS, the City of Alice, Texas recognizes that due to natural limitations, drought conditions, system failures and other acts of God which may occur, the City cannot guarantee an uninterrupted water supply for all purposes at all times; and

WHEREAS, the Texas Water Code and applicable rules of the Texas Commission of Environmental Quality requires the City of Alice, Texas to prepare a City of Alice Water Conservation Plan for Retail Public Water Supplier and a Water Conservation Plan for a Wholesale Public Water Supplier; and

WHEREAS, as authorized under law, and in the best interest of the citizens of Alice, Texas, the City Council deems it expedient and necessary to adopt these City of Alice Water Conservation Plan for Retail Public Water Supplier and the Water Conservation Plan for a Wholesale Public Water Supplier.

NOW THEREFORE, BE IT ORDAINED BY THE CITY OF ALICE, TEXAS;

Section One: That the City of Alice Water Conservation Plan for Retail Public Water Supplier and Water Conservation Plan for a Wholesale Public Water Supplier, attached hereto as Exhibit A and B, and made a part hereof for all purposes, be, and the same is hereby, adopted.

Section Two: The City Clerk shall publish the caption of this Ordinance in the official newspaper/media of the City of Alice twice within ten (10) days of passage of this ordinance. The City Clerk shall note on this Ordinance, the caption of which is required to publish and on the record thereof, the fact that same has been published as required by chapter, and the date of such publication.

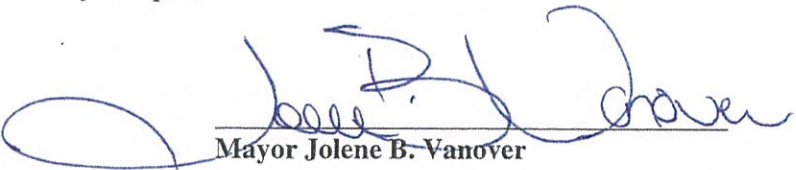
Section Four: It is the intention of the City Council that this Ordinance and every portion thereof shall be considered separable; and the invalidity of any section, clause or provision of the Ordinance shall not affect the validity of any other portion of this Ordinance.

Section Five: The repeal of any Ordinance or parts of Ordinances effectuated by the enactment of this Ordinance shall not be considered as abating, modifying or altering any penalty accruing or as affecting the liability of any person, firm or corporation as waiving any right of the municipality under any section or provision of and ordinance existing at the time of the passage of this Ordinance.

Section Six: All Ordinances or parts of Ordinances in conflict herewith are hereby repealed to the extent such conflict exists.

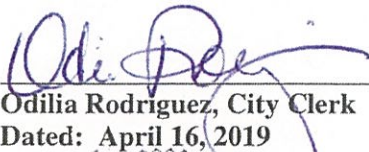
Section Seven: This Ordinance shall be effective on the 11th day after date of passage.

PASSED AND APPROVED this the 16th day of April, 2019.



Mayor Jolene B. Vanover

ATTEST:



Odilia Rodriguez, City Clerk
Dated: April 16, 2019

