



Water Conservation & Drought Contingency Plan

Crystal Clear SUD

Committed to Providing Clean, Safe Water for All Our Residents

2019

ADDRESS

2370 FM 1979, San Marcos, TX 78666

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CRYSTAL CLEAR

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CRYSTAL CLEAR

Introduction

Crystal Clear Special Utility District “Crystal Clear” or “The District” is a Public Water System (PWS) in South Central Texas that provides water service to approximately 15,000 residents and 5,500 retail connections over 205.37 square miles in portions of Comal, Guadalupe, Hays, and Caldwell Counties. The service area extends across Interstate Highway 35 to the northwest and is bordered by Interstate Highway 10 to the south, State Highway 46 to the southwest, and the San Marcos River to the northeast.

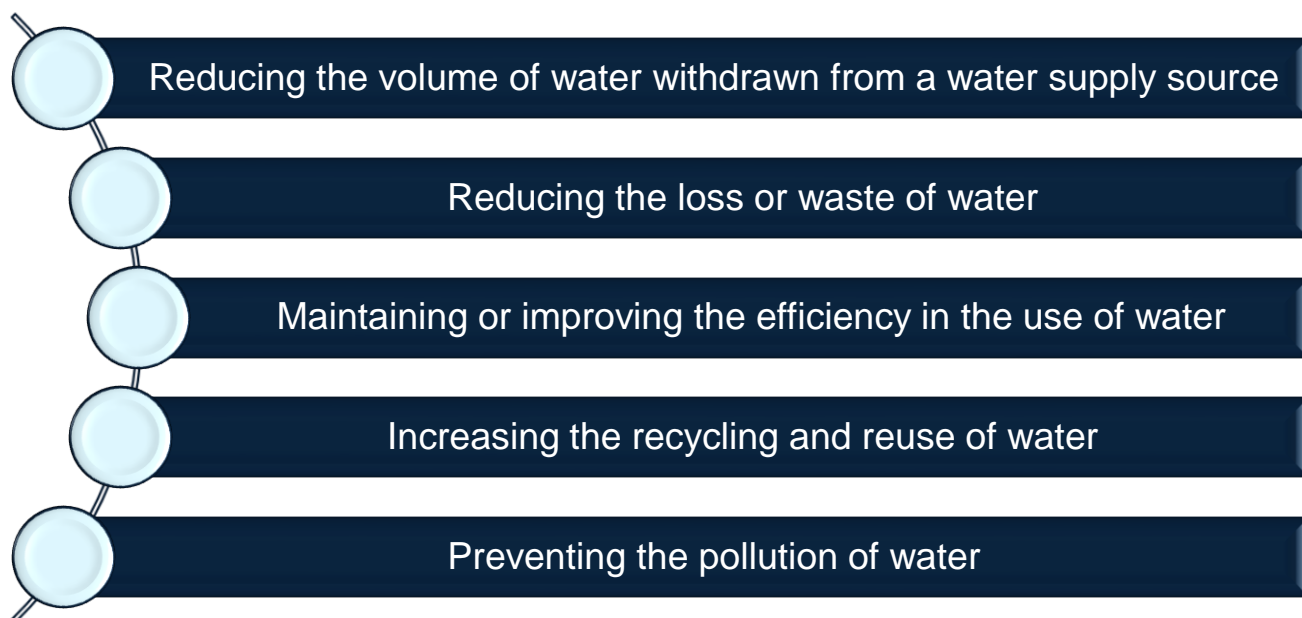
Crystal Clear primarily serves single-family residential units including the communities of Hunter, Kingsbury, Redwood, and Zorn as well as portions of the extra territorial jurisdictions and within the city limits of the Cities of New Braunfels, San Marcos, Seguin, and Staples. Currently, 82.5% of the service area is located in Guadalupe County, 9.0% is in Hays County, 8.0% is in Comal County, and 0.5% is in Caldwell County. Crystal Clear has territory within the boundaries of the Edwards Aquifer Authority and the Guadalupe County Groundwater Conservation District. The entire service area is located in the Region L South Central Texas Regional Water Planning Group (SCTRWPG).

Currently, Crystal Clear has water sources of 5,804 acre-feet per year (AF/yr) of water supply from wells in the Edwards, Edwards/Uvalde and Carrizo aquifers as well as water supply contracts with the Guadalupe-Blanco River Authority (GBRA), Canyon Regional Water Authority (CRWA), and Springs Hill WSC. Future water supply strategies include the development of groundwater in the Trinity and Wilcox aquifers. Crystal Clear is also a member of the Hays Caldwell Public Utility Agency (PUA) owning a 10.3% share of the production dedicated and owned by CRWA in the Hays Caldwell PUA Phase 1 and 2 projects scheduled for the years 2022-2025 and 2030-2035 respectively. The Alliance Regional Water Authority projects are located within the Gonzalez County Underground Water Conservation District (UWCD) boundaries and are specifically recommended for the District by the SCTRWP Regional Water Plan.

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WATER CONSERVATION PLAN

A Water Conservation Plan is a combination of strategies for:



Crystal Clear recognizes that the amount of water available to supply its water utility customers may be limited and subject to depletion during periods of extended drought. Representing the best interests of its customers, Crystal Clear deems it expedient and necessary to establish certain rules and policies for the ongoing conservation of water and the orderly and efficient management of limited water supplies during drought and other water supply emergencies.

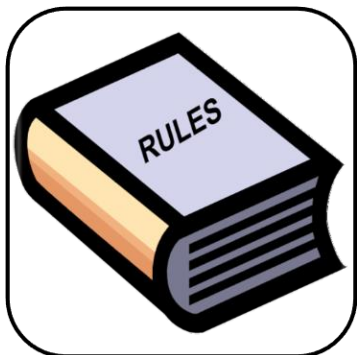
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Statutory & Rule Requirements



Texas Water Code §13.146.

WATER CONSERVATION PLAN. The commission (TCEQ) shall require a retail public utility that provides potable water service to 3,300 or more connections to submit to the executive administrator of the board (TWDB) a water conservation plan based on specific targets and goals developed by the retail public utility and using appropriate best management practices, as defined by Section 11.002, or other water conservation strategies.



Title 30 Texas Administrative Code § 288.30(5)(A)

For retail public water suppliers providing water service to 3,300 or more connections, the drought contingency plan must be submitted to the executive director (TCEQ) not later than May 1, 2005. Thereafter, the retail public water suppliers providing water service to 3,300 or more connections shall submit the next revision of the plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group.

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Utility Profile

A completed “TWDB Utility Profile for Retail Water Supplier” for Crystal Clear is attached in Appendix A.

Certificate of Convenience and Neccesity No.	10297
Public Water Supply Nos.	0940015, 0940017
Groundwater Conservation Districts	Edward Aquifer Authority, Guadalupe Co. GCD, Gonzales Co. UWCD
Regional Water Planning Group	South Central Texas (Region L)
Counties	Comal, Guadalupe, Hays, Caldwell
Service Area	205.37 Square Miles
Water Sources	Edwards Aquifer, Trinity Aquifer, Carrizo Aquifer, Wilcox Aquifer, Guadalupe River
System Capacity	4.1 Million Gallons per Day (MGD)
Storage Capacity	3.0 Million Gallons (MG) Ground, 1.1 MG Elevated

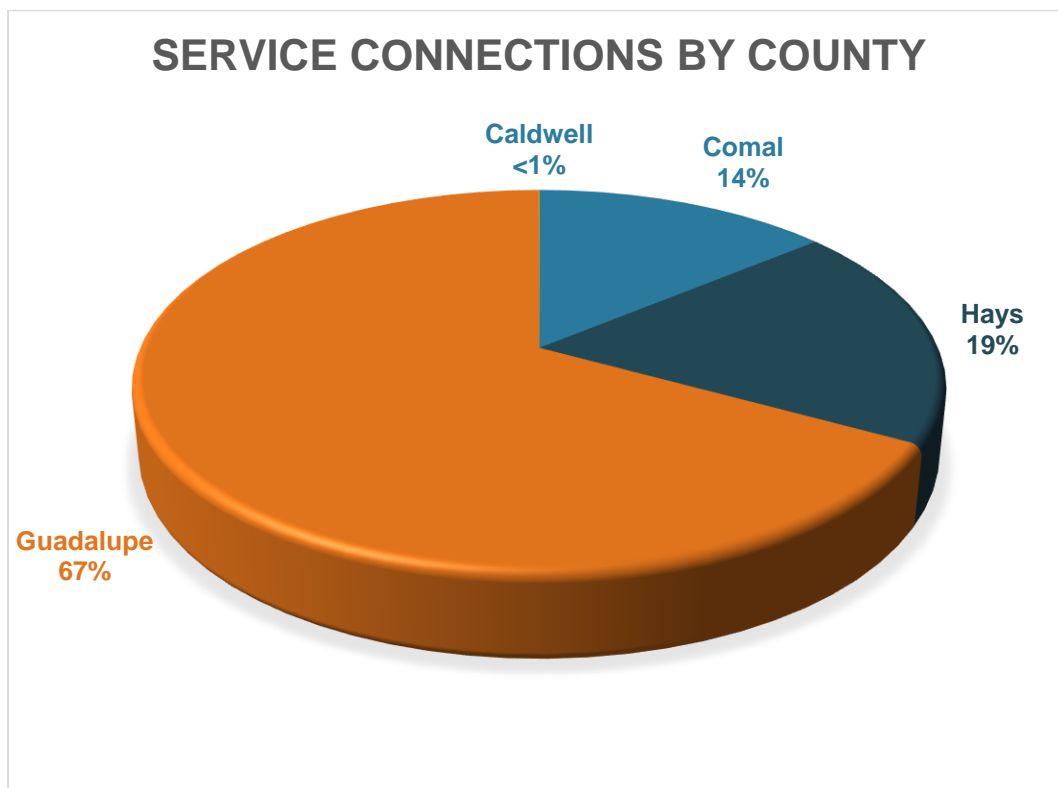


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Population & Customer Use Data

Crystal Clear serves retail customers in portions of Comal, Guadalupe, Hays, and Caldwell counties. The area is located on the northern edge of the south Texas plains and is characterized by an average of 32 inches of rain annually. Land use, historically predominated by agriculture is increasingly developing into rural and urbanized residential uses.

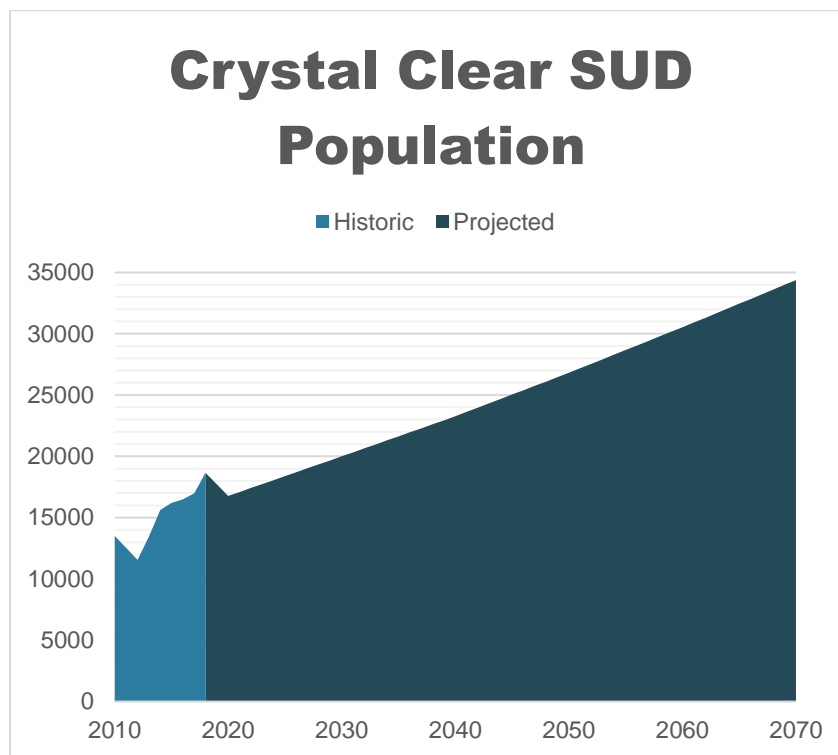
Based upon the TWDB 2018 Water Use Survey, Crystal Clear has 4,617 retail service connections. The majority of the connections (3,690) are in Guadalupe County. There are 1,046 connections in Hays County, 771 in Comal County, and 2 in Caldwell County. The distribution of service connections by county is shown below.



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Due to the nature of the service area, identification of the actual population served can be challenging. With a service area located in portions of three counties, additional efforts are required to interpret United States Census data and county appraisal records.

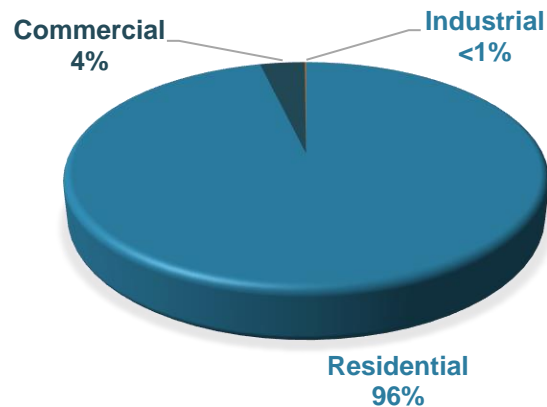
The population of Crystal Clear has fluctuated in recent years. The TWDB and Region L Water Planning Group population projections over the next 50 years, however, estimate that the Crystal Clear's population will nearly double. TWDB and Region L Water Planning Group population projections are shown below.



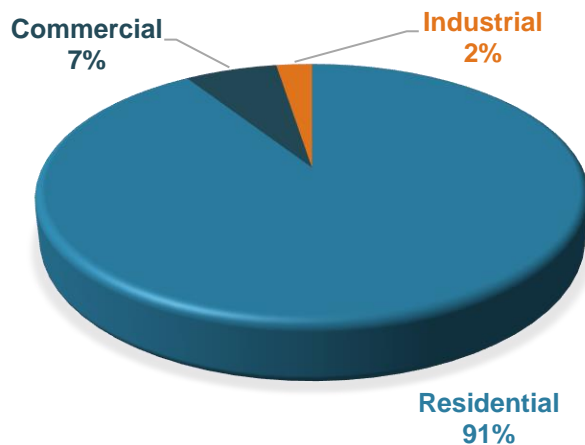
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The largest customer sector is residential use and that most of the water is used by residential customers. Service is also provided to commercial and industrial users. The distribution of water-use sectors within Crystal Clear's service area and the distribution of water usage between the sectors is shown below. While commercial use represents 4% of connections, it represents 7% of water use; and while industrial use represents less than 1% of connections, it represents 2% of water use. Commercial and industrial connections have a higher per connection usage than residential connections.

SERVICE CONNECTIONS BY SECTOR



WATER USAGE BY SECTOR

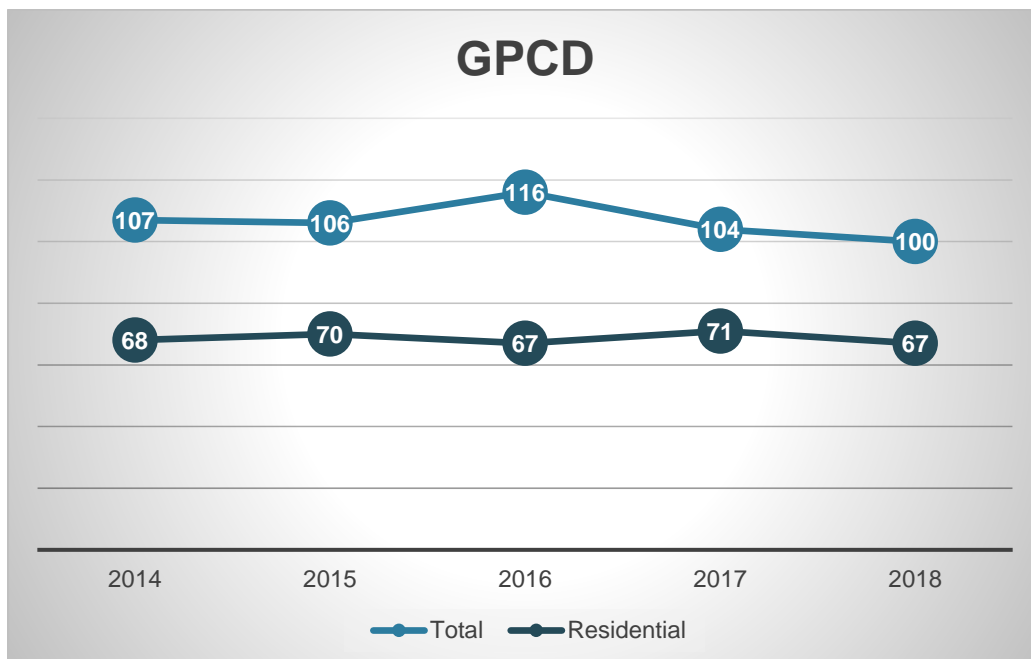


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Water Conservation Goals

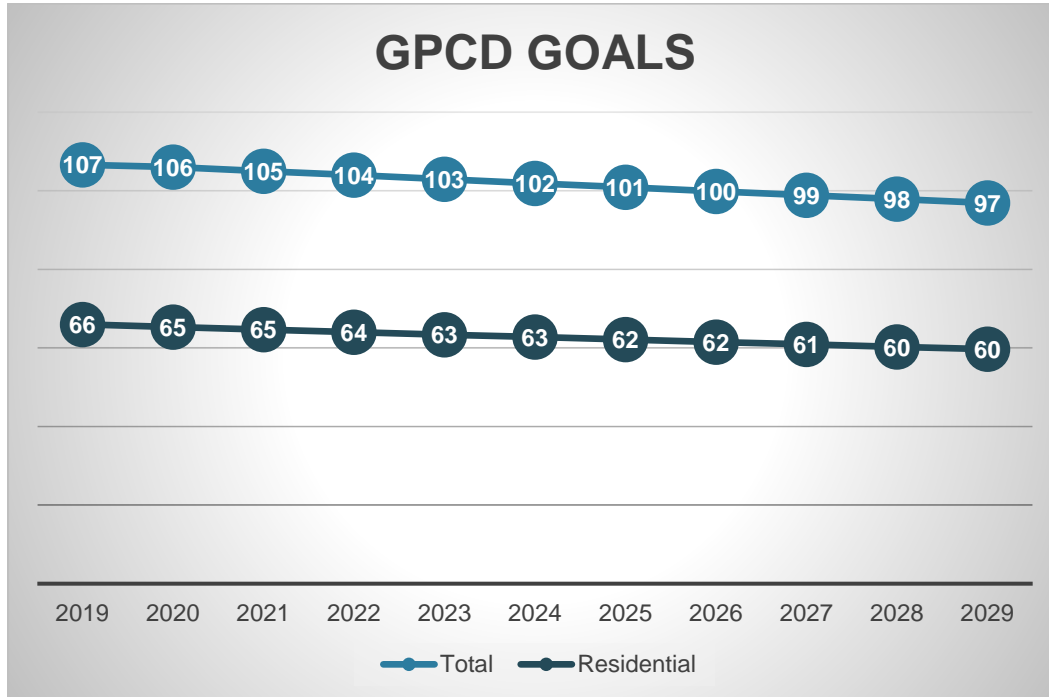
Per capita water use is generally expressed in gallons per customer per day (GPCD) and is the average amount of water used by each person in the population served by a water utility. Variable factors that can influence GPCD include the amount of non-residential water uses, the rate and type of customer growth, economics, climatic conditions, and demographics. For Crystal Clear residential GPCD is a more appropriate metric for understanding how much water each customer is actually using because it comprises 91% of customer use not including commercial, industrial, and institutional uses.

For the previous five years, the average total GPCD for the Crystal Clear was 107 and Residential use for the District was 66 GPCD. The previous five years of per capita water use are shown below.



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Crystal Clear's five and ten-year water conservation goals are based upon the Texas Water Conservation Implementation Task Force's recommendation of a reduction in per capita water use of 0.5% per year. Per capita usage and water loss goals are shown below.



The General Manager will assess the effectiveness of water conservation activities and the District's progress in achieving the stated goals on an annual basis.

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Public Education (Conservation)

Crystal Clear conducts a program of ongoing public water conservation education that includes:

Periodic distribution of water conservation brochures and information

Provision of water conservation brochures and materials at the main office and other public places

Informational presentations offered by Utility staff to local organizations, schools, and civic groups

Information available to local newspaper, television, and radio outlets

Water Conservation information posted on website

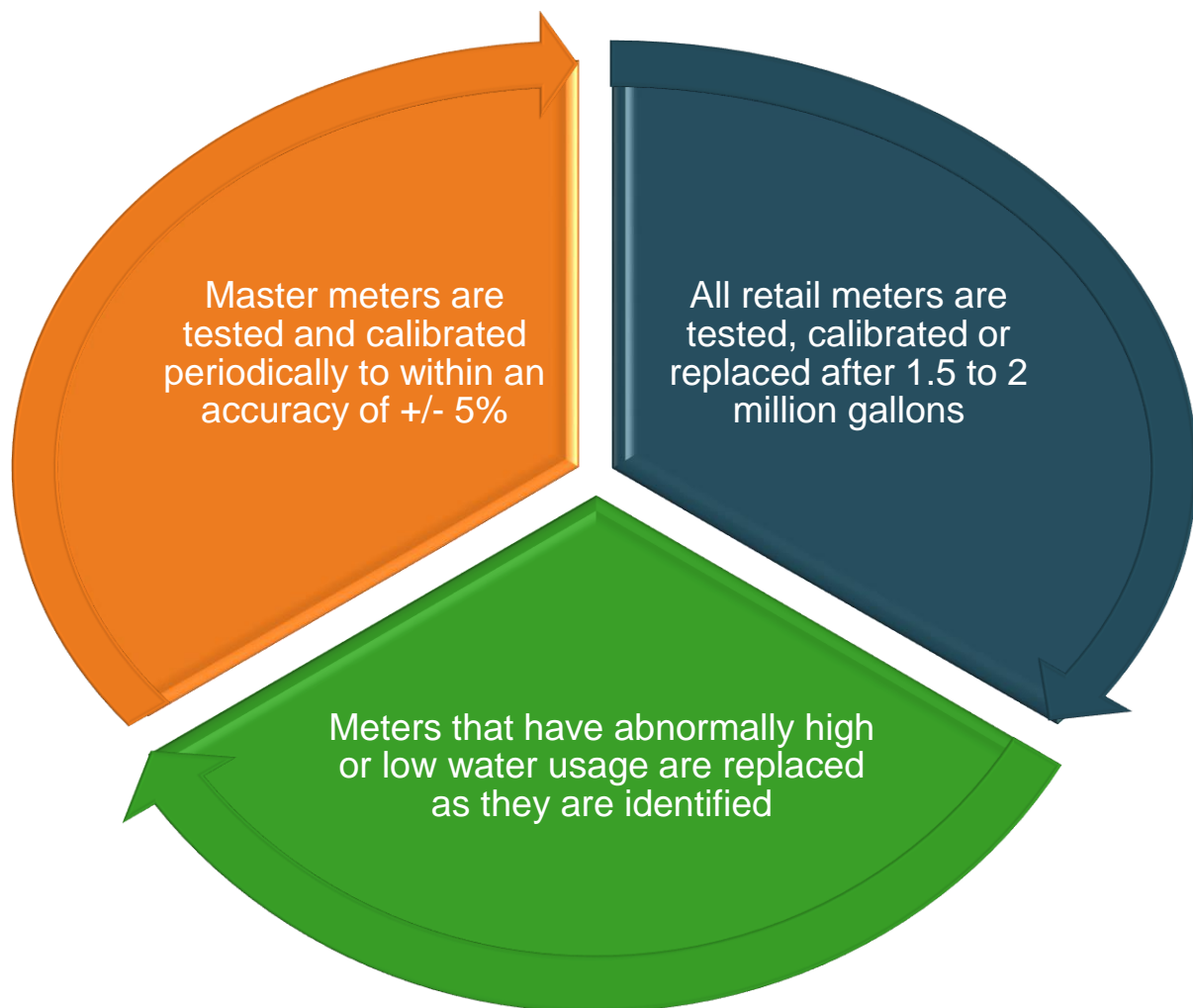
Water conservation information provided to applicants for new service



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Metering Devices

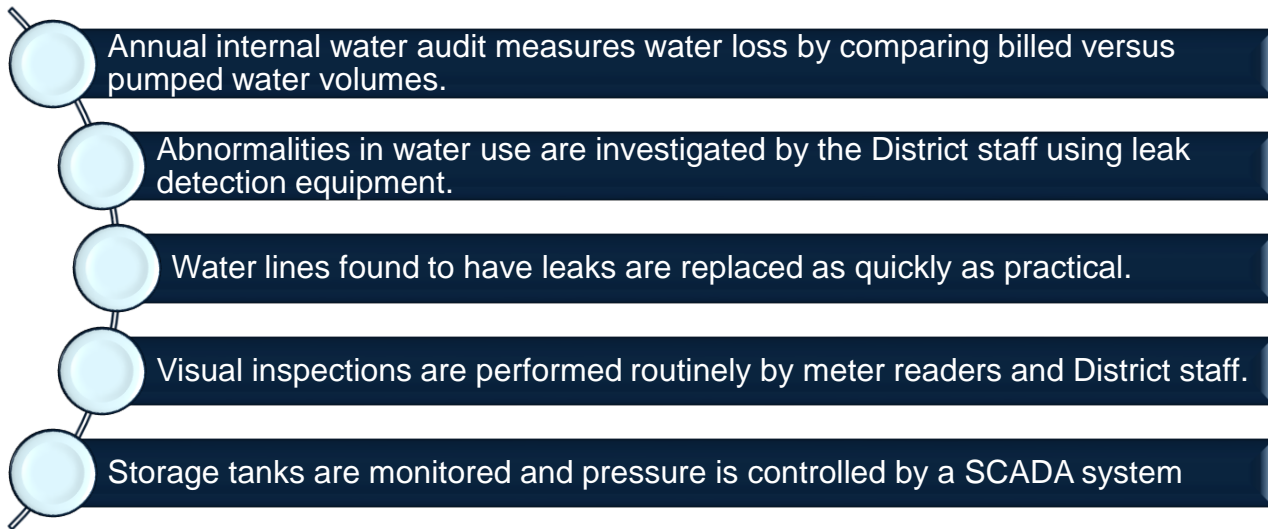
Crystal Clear meters 100% of the water used by residential, industrial, and commercial accounts. In 2013, the Crystal Clear completed a full meter replacement program exchanging old meters for smart meters. Meters are tested upon customer request. The diagram below describes the Crystal Clear's meter testing, repair, and replacement program.



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Water Loss

Crystal Clear maintains an ongoing program of leak detection and repair. In 2018, water loss for the District was calculated to be 26%. The long term goal is to maintain less than 15% water loss. The leak detection program for the District is shown below.



The District currently has seven field technicians training to identify water leaks with the use of sonic leak detection equipment. The system is divided into 11 zones that, within a five year planning window, will be equipped with pressure meters. Cloud-based software will instantly detect pressure losses within a zone and alert utility staff to the presence of a leak. Using asset management software, Crystal Clear will be able to identify the location of problem areas to make repairs. Crystal Clear continues to explore new practices and technologies to minimize the loss of water.

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Water Rates

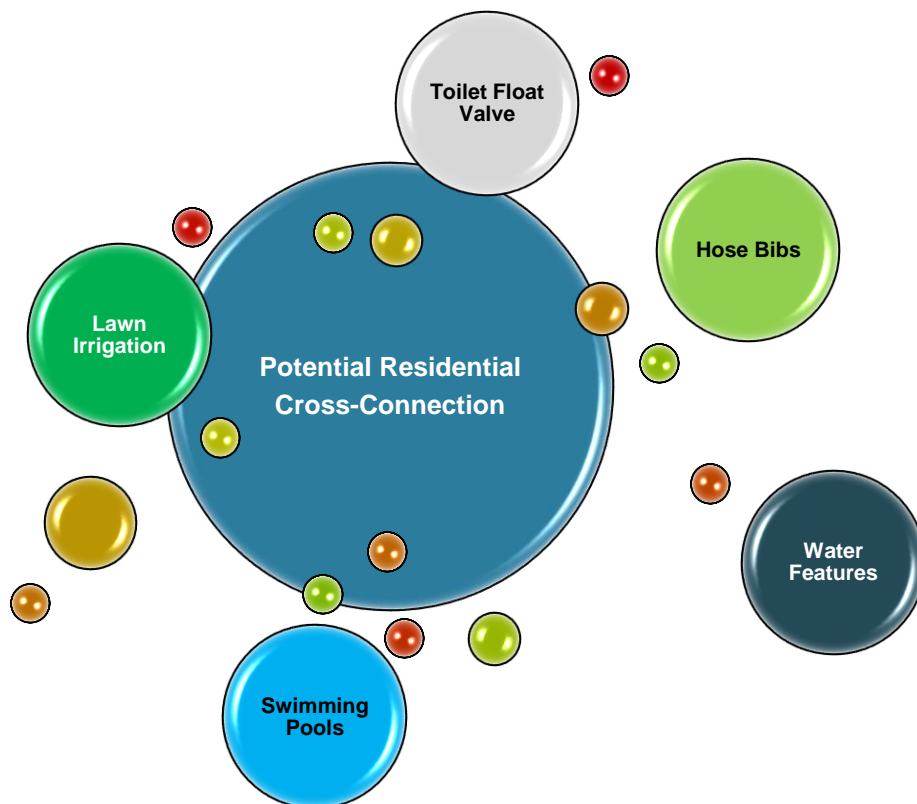
Crystal Clear uses a cost based inclining block rate that discourages the excessive use of water. There is a base rate and six inclining usage blocks (tiers) are set up in increments of ten thousand gallons. The rates for each successive inclining block are designed to encourage the conservation of water by sending a strong price signal that charges incrementally higher rates per each increasing thousand gallons of water use.



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Cross Connection Control

Crystal Clear maintains required cross connection control. Risk of backflow is generally reduced by taking steps to ensure that system pressures do not fall during periods of emergency repairs and by performing periodic customer inspections for cross connections. Facilities and structures determined to have a high public health hazard are required to install devices that prevent back-siphonage of nonpotable water from a loss of pressure in water lines.



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Plumbing Fixtures

The State of Texas has recently adopted more stringent water saving performance measures for plumbing fixtures, found in the Texas Health and Safety Code Chapter 372. The following maximum flow standards are subsequently listed in the Texas Administrative Code Title 30 Chapter 290 Subchapter G:



Customers in existing buildings that do not have water saving plumbing fixtures are encouraged through educational materials to retrofit their old plumbing fixtures with lower gallons per minute (gpm) or gallons per flush (gpf) standards. Recently, the District has participated in a showerhead exchange program in conjunction with a local plumbing supplier.

An increasing number of water efficient clothes and dish washing machines are now available that provide the same performance, but use less water. A water efficient home can save more than 20% of annual indoor water use. Crystal Clear currently administers a program to provide free showerheads and faucet aerators for its customers.

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Discretionary Uses

The following uses of water are considered to be discretionary or non-essential:




* Commercial car washes using Best Management Practices that include recycling of water are exempt.

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Water Waste

Water waste is prohibited at all times. Water waste is defined as:



Failure to repair a controllable leak	<ul style="list-style-type: none">• Irrigation Systems• Plumbing Fixtures• Pipes
Operating an irrigation system with:	<ul style="list-style-type: none">• A broken or missing head• A head that is out of adjustment
During landscape irrigation	<ul style="list-style-type: none">• Allowing water to run off property• Allowing water to pond• Watering between 10AM and 8PM

Each instance of a violation is a separate offense and may be punishable as described in the Enforcement section of this plan.

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DROUGHT CONTINGENCY PLAN

A strategy or combination of strategies for temporary supply and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies.



Statutory & Rule Requirements



Texas Water Code, Sec. 11.1272. ADDITIONAL REQUIREMENT: DROUGHT CONTINGENCY PLANS FOR CERTAIN APPLICANTS AND WATER RIGHT HOLDERS.

The commission (TCEQ) shall by rule require wholesale and retail public water suppliers and irrigation districts to develop drought contingency plans consistent with the appropriate approved regional water plan to be implemented during periods of water shortages and drought.



Title 30 Texas Administrative Code, §288.30. REQUIRED SUBMITTALS.

For retail public water suppliers providing water service to 3,300 or more connections, the drought contingency plan must be submitted to the executive director (TCEQ) not later than May 1, 2005. Thereafter, the retail public water suppliers providing water service to 3,300 or more connections shall submit the next revision of the plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group.

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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, Crystal Clear hereby adopts the following regulations and restrictions on the delivery and consumption of water by Resolution.

Water uses regulated or prohibited under this Drought Contingency Plan are considered to be non-essential or discretionary 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 the Enforcement of Drought Contingency Plan section of this Plan.

Authorization

The Board of Directors and General Manager are hereby authorized and directed to implement the applicable provisions of this Plan upon determination that such implementation is necessary to protect public health, safety, and welfare. The Board of Directors and General Manager shall have the authority to initiate or terminate drought or other water supply emergency response measures as described in this Plan.

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Application

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

Public Involvement

Opportunity for the public to provide input into the preparation and maintenance of this Drought Contingency Plan continues to be provided by the following:

Mailing

2370 FM 1979, San Marcos, TX 78666

Telephone

(830) 372-1031

Website

CrystalClearSUD.org

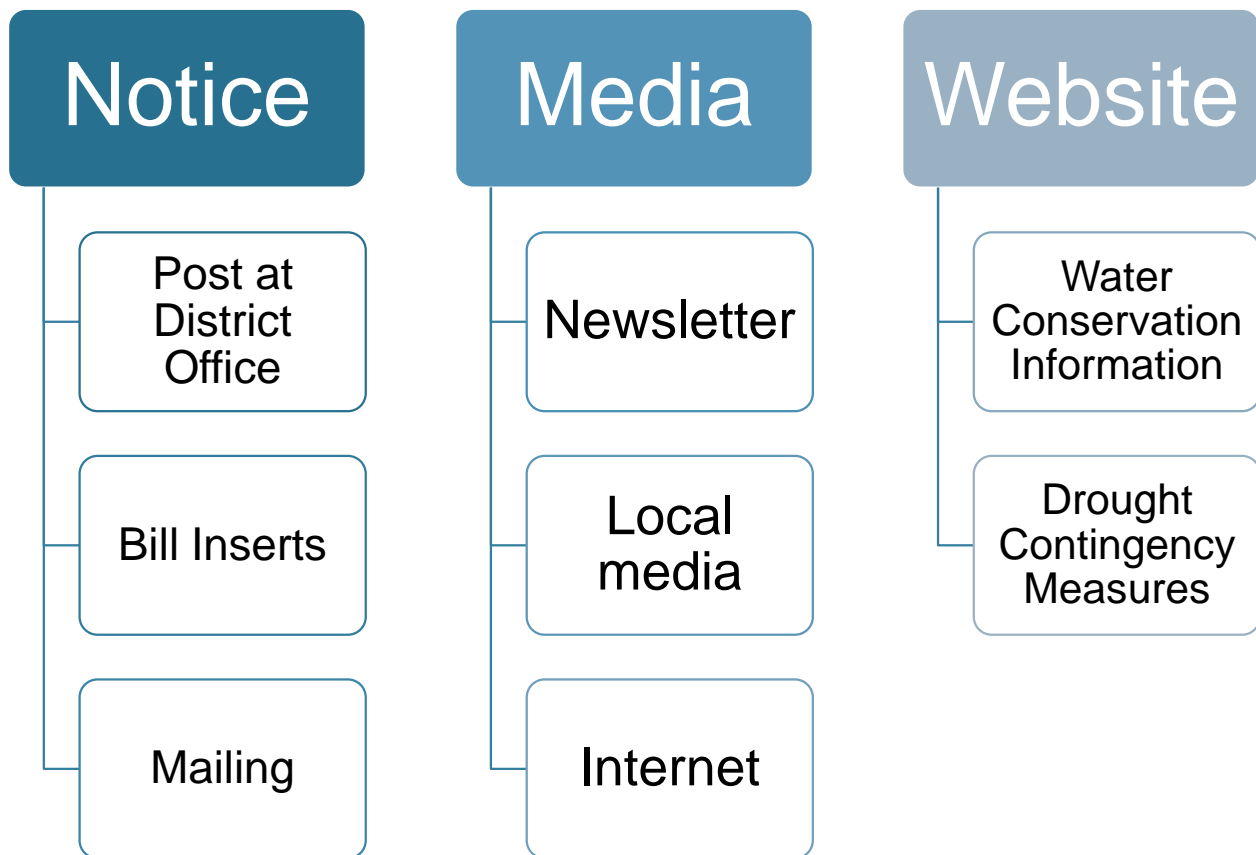
Events

Periodic water related activities

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Public Education (Drought)

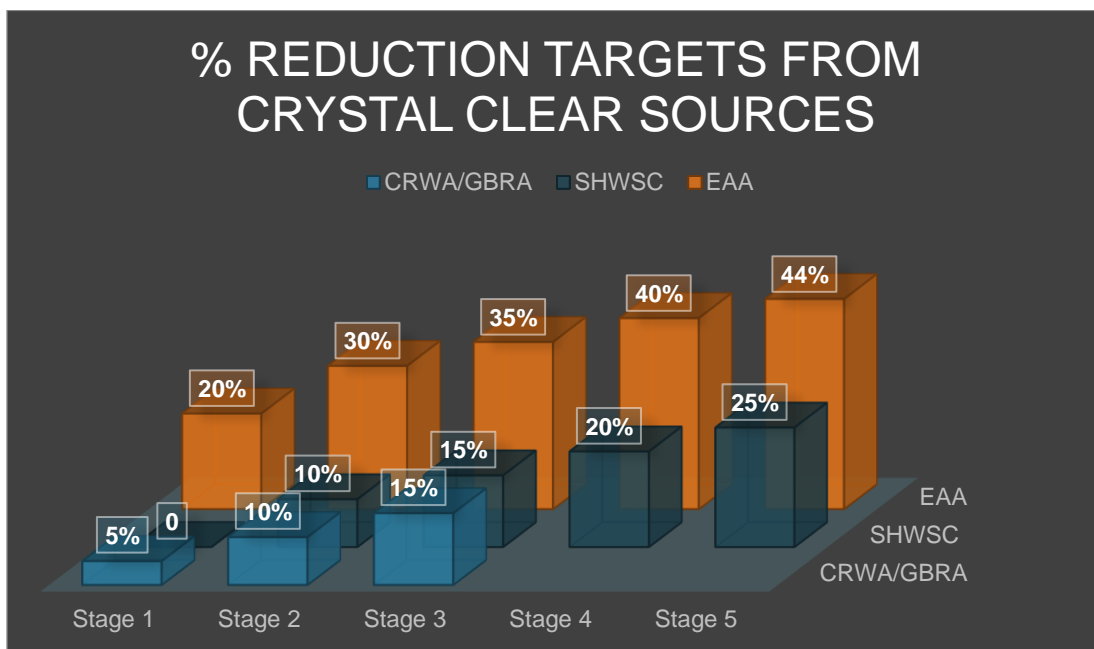
Crystal Clear will periodically provide the public with information about this Drought Contingency Plan, including information and/or notification about the conditions under which each stage of the Plan is to be initiated or terminated and the drought response measures to be implemented in each stage. Water conservation tips and information will also be provided. This information will be provided by means of:



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Supply Based Triggers

Crystal Clear obtains water from multiple sources. Each source has specific triggers and targets for water use reductions that apply. The figure below shows the targets for water use reductions for each water source. Stage 4 and Stage 5 reductions from CRWA and GBRA are variable, based upon a pro rata allocation of water between all CRWA and GBRA wholesale customers.



The triggering criteria for Crystal Clear are based upon the most restrictive targets from its multiple water sources.

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Demand Based Trigger

When tank levels reach 60% of capacity, the supervisory control and data acquisition (SCADA) system sends an alert to the District and triggers an email/phone notification program to ask customers to reduce water usage.

Contamination Trigger

In the event of a contamination event, appropriate emergency procedures will be implemented and appropriate emergency response officials will be notified immediately. In the event of a backflow incident, loss of pressure, or an acute maximum contaminant level coliform violation, a “Boiled Water Notice” will be implemented as prescribed in Title 30 TAC Chapter 290.

System Outage Trigger

In the event of a catastrophic failure due to natural or man-made events, appropriate emergency procedures will be implemented and appropriate emergency response officials will be notified.

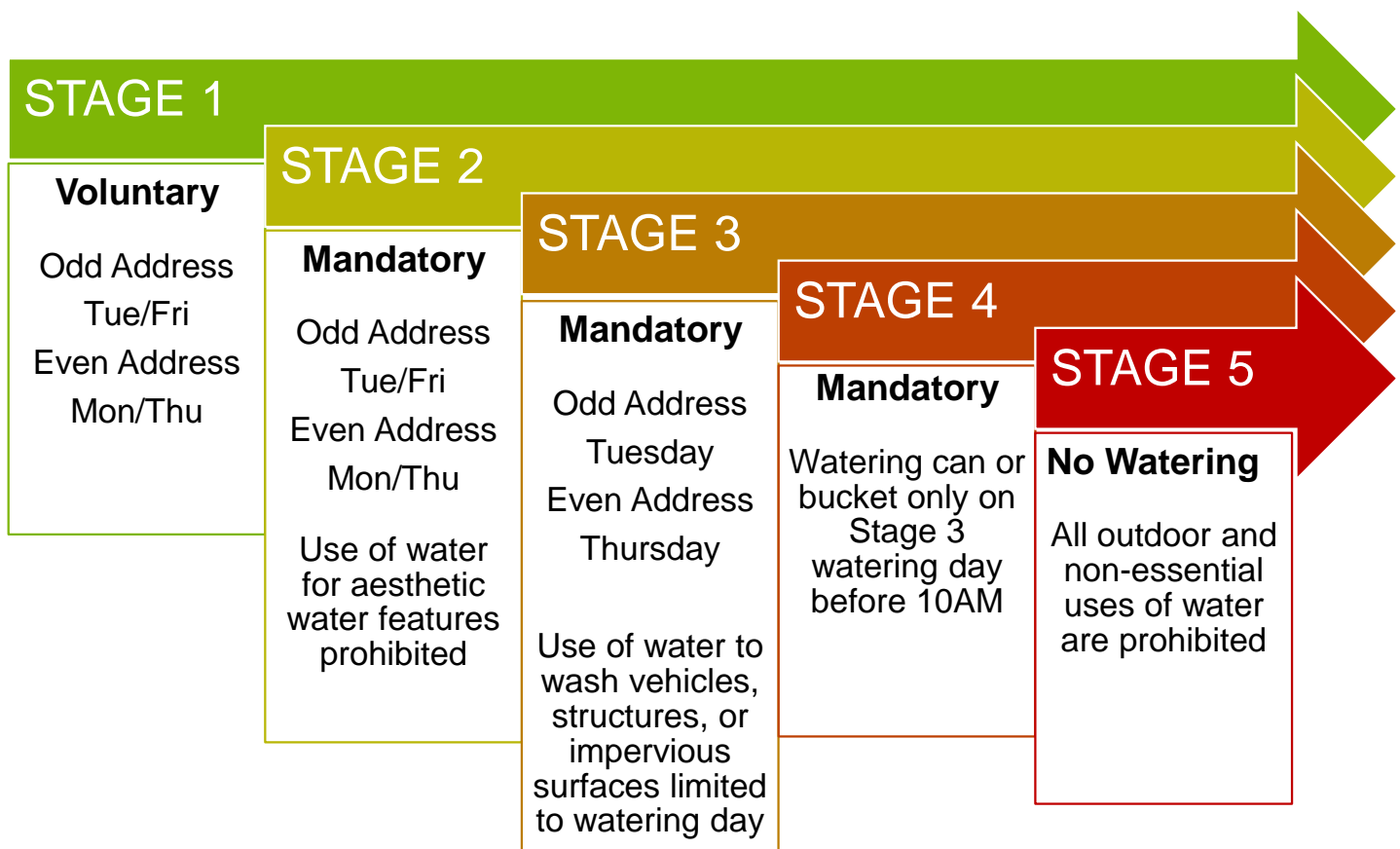
Alternative Sources

In the event of an emergency loss of water supply, the District will consider purchases of water by the truckload or in bottles for the health and public safety of the District’s residents.

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Response Stages

Crystal Clear will notify TCEQ when implementing or rescinding any stage of this plan. Use of water for landscape irrigation shall be only performed between midnight and 10AM and from 8PM to midnight. Water-use restrictions applicable to aesthetic water features and the washing of vehicles, structures, or impervious surfaces are applicable to each successively higher stage. Irrigation between 10AM and 8PM is considered water waste and is enforceable as a violation at all times. The Crystal Clear outdoor water-use schedule is as follows:



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Variances

The General Manager or designee may, in writing, grant a 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.

Persons requesting an exemption from the provisions of this Resolution shall file a petition for variance with Crystal Clear within five days after the Plan or a particular drought response stage has been invoked. All petitions for variances shall be reviewed by General Manager or designee, and shall include the following:

1. Name and address of the petitioner(s);
2. Purpose of water use;
3. Specific provision(s) of the Plan from which the petitioner is requesting relief;
4. 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 petitioner complies with this Resolution;
5. Description of the relief requested;
6. Period of time for which the variance is sought;
7. 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; and
8. Other pertinent information.

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Enforcement

First Violation

- The customer will be notified by written notice of their specific violation.
- Crystal Clear may assess a penalty.

Second Violation

- The customer may be assessed a penalty.
- Crystal Clear may install a flow restricting device for seven (7) days.
- Crystal Clear may charge the customer for the cost of installing and removing the flow restricting device.

Third Violation

- Crystal Clear may discontinue service at the meter for a period of seven (7) days.
- The normal reconnect fee of Crystal Clear will apply for restoration of service.

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Coordination with Region L Planning Group

The service area of the Crystal Clear is located within the South Central Texas (Region L) Regional Water Planning Group and the District will provide a copy of this Plan to the Region L Planning Group at:

San Antonio River Authority
P.O. Box 839980
San Antonio, TX 78238-9980



CRYSTAL CLEAR

Resolution

RESOLUTION FOR ADOPTION OF A WATER CONSERVATION & DROUGHT CONTINGENCY PLAN

RESOLUTION NO. 042519

A RESOLUTION OF THE BOARD OF DIRECTORS OF CRYSTAL CLEAR SPECIAL UTILITY DISTRICT ADOPTING A WATER CONSERVATION & DROUGHT CONTINGENCY PLAN.

WHEREAS, the Board recognizes that the amount of water available to the Crystal Clear Special Utility District and its water utility customers is limited and subject to depletion during periods of extended drought;

WHEREAS, the Board recognizes that natural limitations due to drought conditions and other acts of God cannot guarantee an uninterrupted water supply for all purposes;

WHEREAS, the Water Code and the regulations of the Texas Commission on Environmental Quality (the "Commission") and the Texas Water Development Board (the "Board") require that the District adopt a water conservation and drought contingency plan;

WHEREAS, as authorized under law, and in the best interests of the customers of the Crystal Clear Special Utility District, the Board deems it expedient and necessary to establish certain rules and policies for the orderly and efficient management of limited water supplies during drought and other water supply emergencies;

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE CRYSTAL CLEAR SPECIAL UTILITY DISTRICT:

SECTION 1. That the Water Conservation and Drought Contingency Plan attached hereto as Exhibit "A" and made part hereof for all purposes be, and the same is hereby, adopted as the official policy of the Crystal Clear Special Utility District.

SECTION 2. That the General Manager is hereby directed to implement, administer, and enforce the Water Conservation & Drought Contingency Plan.

SECTION 3. That this resolution shall take effect immediately upon its passage.

2019, DULY PASSED BY THE BOARD OF DIRECTORS OF THE 25th, ON THIS ___ day of April.

President, Board of Directors

ATTESTED TO:

Secretary, Board of Directors