

# Water Conservation & Drought Contingency Plan

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Water Availability Division

2019

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# WATER CONSERVATION & DROUGHT CONTINGENCY PLAN

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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, 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 of Center hereby adopts the following practices, regulations, and restrictions on the delivery, use, and consumption of water by City Ordinance.

Water uses regulated or prohibited under this Water Conservation and Drought Contingency Plan are considered to be wasteful, non-essential, or discretionary. Uses of water considered wasteful or violations of restricted uses during times of water shortage or other emergency water supply conditions subjects the offender(s) to penalties as defined in the Implementation and Enforcement section of this Plan.

## AUTHORIZATION

The City Manager or his/her designee is hereby authorized and directed to implement this Water Conservation Plan and the applicable provisions of this Drought Contingency 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.

## APPLICATION

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

## OVERVIEW

### GEOGRAPHY

The City of Center is located on seven square miles in the center of Shelby County and is seventeen miles from the Louisiana border. The City is in the Sabine River Basin within the geographical boundaries of the Region I East Texas Regional Water Planning Group. Currently, there are approximately 5,300 residents.

### CLIMATE

The average annual rainfall during 2018 for Center is 54.24 inches with the month December typically having the most rainfall (5.5 inches). The City averages 93 days with rainfall each year. Monthly temperature averages range from 52.2°F in January to 97.3°F in July. On average, there are 100 days per year where the temperature exceeds 90°F and 40 days where the temperature falls below 32°F.

### WATER RESOURCES

The City of Center obtains 100% of its water from Lake Pinkston and Center Lake and holds Certificates of Adjudication 06-4404 and 05-4657 respectively for a combined total of 5,260 acre-feet authorized for municipal use. The water rights certificates can be found in Appendix A.

Lake Pinkston



Center Lake





## INTRODUCTION

### OBJECTIVE

The objective of Center's Water Conservation and Drought Contingency Plan is to increase efficiency of water use and reduce water demands without adversely affecting the population and economic growth of the City. The fundamental strategy for this Plan is to promote and publicize water conservation activities and drought management strategies in order to meet our water conservation goals and respond appropriately to water supply concerns or emergencies.

The City of Center recognizes that the amount of water available to the City and its water utility customers may be limited and subject to depletion during periods of extended drought. Representing the best interests of the citizens of Center, Texas, the City deems it expedient and necessary to establish and maintain 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.

### STATUTORY REQUIREMENTS

Texas Water Code §11.1271. **ADDITIONAL REQUIREMENTS: WATER CONSERVATION PLANS.** (b) The commission shall require the holder of an existing permit, certified filing, or certificate of adjudication for the appropriation of surface water in the amount of 1,000 acre-feet a year or more for municipal, industrial, and other uses, and 10,000 acre-feet a year or more for irrigation uses, to develop, submit, and implement a water conservation plan, consistent with the appropriate approved regional water plan, that adopts reasonable water conservation measures as defined by Subdivision (8)(B), Section 11.002, of this code.

Texas Water Code §11.1272. **ADDITIONAL REQUIREMENT: DROUGHT CONTINGENCY PLANS FOR CERTAIN APPLICANTS AND WATER RIGHT HOLDERS.** (a) The commission 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.

## RULE REQUIREMENTS

Title 30 Texas Administrative Code, Chapter 288.30 **REQUIRED SUBMITTALS.**

(1) Water conservation plans for municipal, industrial, and other non-irrigation uses. The holder of an existing permit, certified filing, or certificate of adjudication for the appropriation of surface water in the amount of 1,000 acre-feet a year or more for municipal, industrial, and other non-irrigation uses shall develop, submit, and implement a water conservation plan meeting the requirements of Subchapter A of this chapter (relating to Water Conservation Plans). The water conservation plan must be submitted to the executive director not later than May 1, 2005. Thereafter, the next revision of the water conservation plan for municipal, industrial, and other non-irrigation uses must be submitted not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group.

(5)(B) For all the retail public water suppliers, the drought contingency plan must be prepared and adopted not later than May 1, 2005 and must be available for inspection by the executive director upon request. Thereafter, the retail public water suppliers shall prepare and adopt 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. Any new retail public water supplier providing water service to less than 3,300 connections shall prepare and adopt a drought contingency plan within 180 days of commencement of operation, and shall make the plan available for inspection by the executive director upon request.

(6) Drought contingency plans for wholesale public water suppliers. Wholesale public water suppliers shall submit a drought contingency plan meeting the requirements of Subchapter B of this chapter to the executive director not later than May 1, 2005, after adoption of the drought contingency plan by the governing body of the water supplier. Thereafter, the wholesale public water suppliers 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. Any new or revised plans must be submitted to the executive director within 90 days of adoption by the governing body of the wholesale public water supplier. Wholesale public water suppliers shall also provide a copy of the drought contingency plan to the regional water planning group for each region within which the wholesale water supplier operates.



## REPORTING REQUIREMENTS

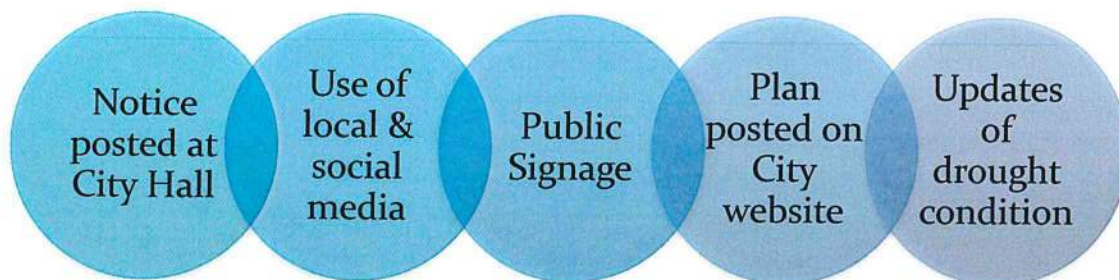
The Texas Water Development Board (TWDB) requires that the City submit a Water Conservation Plan every five years to coincide with the Regional Water Planning Cycle. The TWDB also requires that the City submit the following information annually:

1. Water Loss Audit
2. Annual Report
3. Water Use Survey

The Texas Commission on Environmental Quality (TCEQ) requires that the City submit a Water Conservation & Drought Contingency Plan every five years to coincide with the Regional Water Planning Cycle.

## PUBLIC EDUCATION

Opportunity for public input is always available at City Council meetings, City events, telephone, and email. The City of Center will periodically provide the public with information about this Plan, including information, and/or notification, about ongoing water conservation efforts, the conditions under which each drought stage would be initiated or terminated, and the drought response measures to be implemented in each stage. This information will be provided by means of posted notices, local radio and television announcements, public signage, and other public activities.



## WATER WASTE AND NON-ESSENTIAL USES

### WATER WASTE

The following shall be unlawful once a drought response stage has been initiated and until rescinded for any person, firm, corporation, business, or other entity:

- Failing to repair a controllable leak, including a broken sprinkler head, a leaking valve, leaking or broken pipes, or a leaking faucet. Operating a permanently installed irrigation system with a broken head, out of adjustment or misting due to high water pressure.
- Operating an automated in-ground irrigation system or hose-end sprinkler on any day of the week between 10:00 a.m. and 6:00 p.m.
- Irrigation or landscape watering during any form of precipitation.
- Allowing water to pond in a street or parking lot to a depth of greater than one quarter ( $\frac{1}{4}$ ) of an inch. Allowing water to run off a property and form a stream of water in a street for a distance of fifty (50) feet or greater.

### NON-ESSENTIAL/DISCRETIONARY USES OF WATER

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

- Irrigation of landscape areas including yards, parks, athletic fields, and golf courses.
- Use of water to wash any motor vehicle, boat, trailer, airplane, or other vehicle.
- Use of water to wash down any sidewalks, walkways, driveways, parking lots, athletic courts, or buildings or other structures for purposes other than immediate fire protection, other hard surfaced areas.
- Flushing gutters or permitting water to run or accumulate in any gutter or street.
- Use of water to fill, refill, or add to any swimming pools or Jacuzzi type pools or any outdoor recreational use of water.
- Use of water in an outside fountain or pond for aesthetic or scenic purposes, except where necessary to support aquatic life.

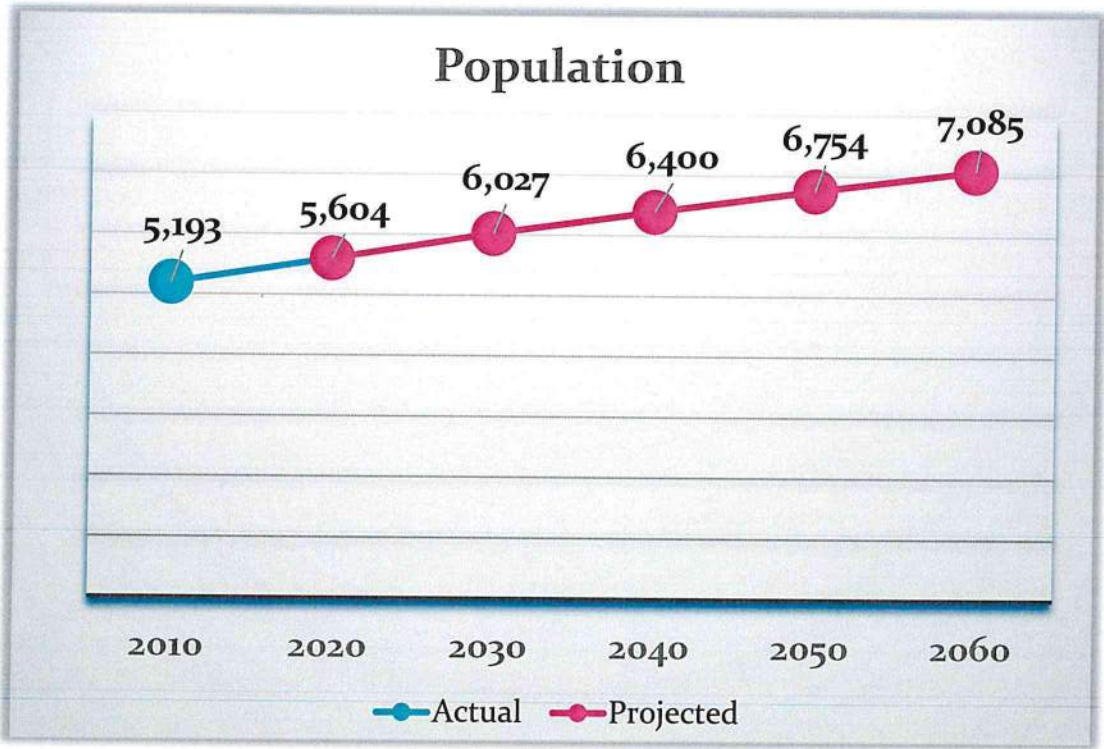


### UTILITY PROFILE

The TWDB Utility Profile form is located in Appendix B and a map of the City is located in Appendix C. Data is managed by utility staff on a daily basis and organized to be able to track water production and deliveries to the highest practicable levels.

### POPULATION

The population of the City has increased steadily throughout its history. The approved 2016 TWDB and Region I population projections, shown below, predict that the City will grow to have over 7,000 residents by 2060.



### WATER SYSTEM

The City currently has 2,421 active connections. The City operates two water treatment plants with a combined treatment capacity of 4.5 million gallons per day (MGD). The City maintains 3 storage tanks and a standpipe with a ground storage capacity of 4.75 million gallons and an elevated storage capacity of 1.50 million gallons. Wastewater is treated at the City’s East Bank Wastewater Treatment Plant, which is permitted for a design flow of 1.77 MGD and a two-hour peak flow of 4.40 MGD.

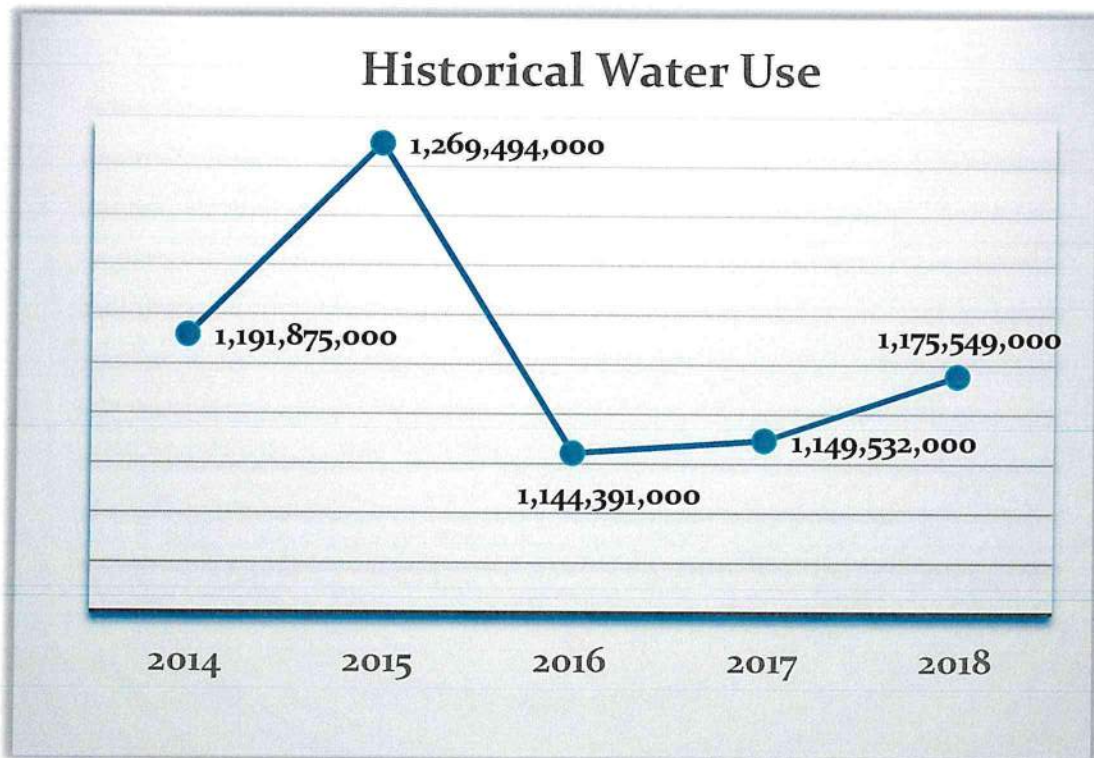


**WATER SUPPLY**

The City of Center obtains 100% of its water from Lake Pinkston and Center Lake. Lake Pinkston is located in the Neches Basin and up to 3,800 acre-feet per year can be diverted under COA 06-4404. Center Lake is located in the Sabine Basin and up to 1,460 acre-feet per year can be diverted under Certificate of Adjudication (COA) No. 05-4675. Both Certificates of Adjudications are located in Appendix A.

**WATER DEMANDS**

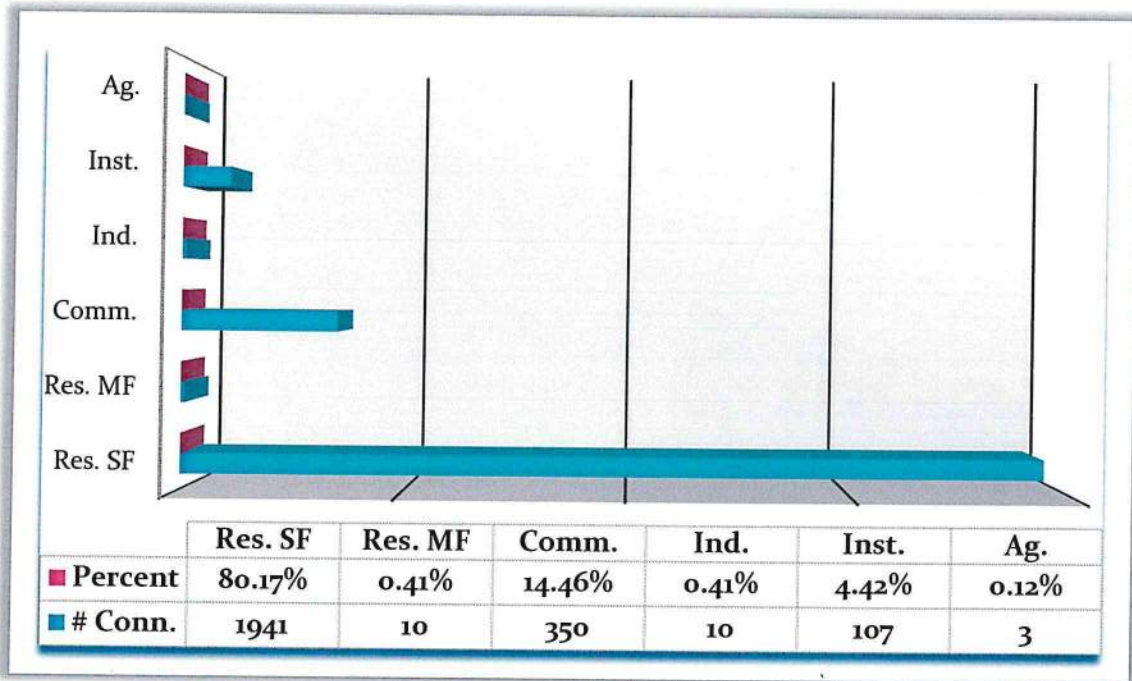
Over the previous 5 years, the City averages 1,186,164,600 gallons (3,640 acre-feet) of water use annually.



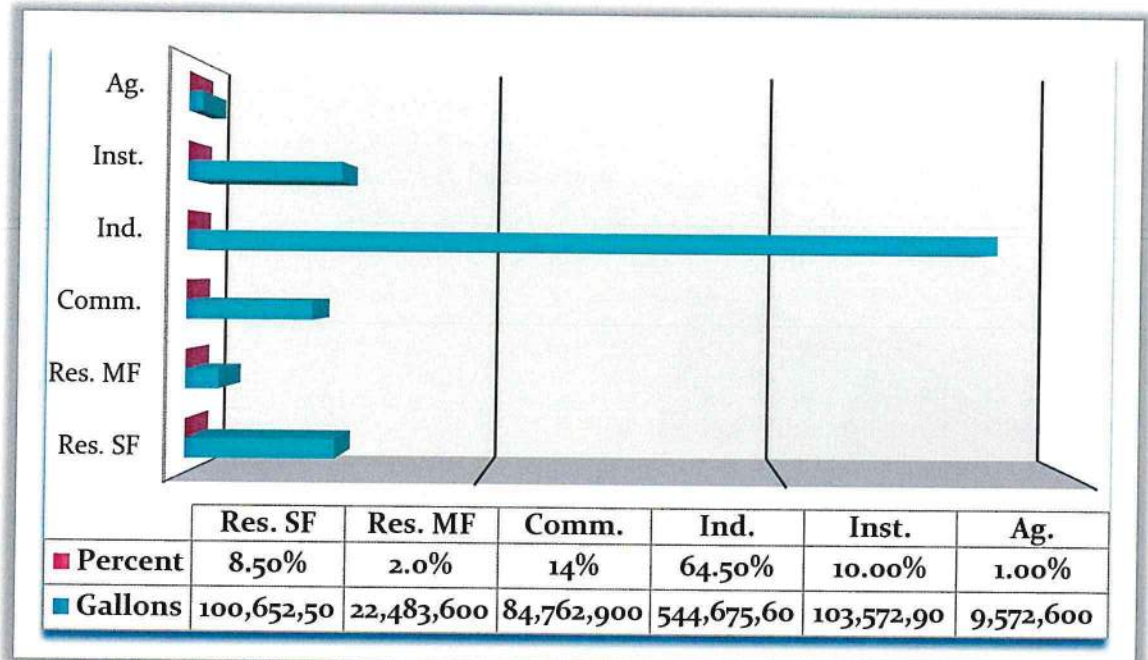
# WATER CONSERVATION & DROUGHT CONTINGENCY PLAN

## WATER USE SECTORS

2018 Distribution (number of connections and percentage) of retail service connections is shown below.



2018 Water use (gallons consumed and percentage) for each sector is shown below.



## WATER CONSERVATION & DROUGHT CONTINGENCY PLAN

Of the 2,421 retail connections, 80.17 % are Single Family (SF) Residential, 14.46 % are Commercial, 4.42 % are Institutional, 0.41 % are Multi-Family (MF) Residential, and 0.41 % are Industrial.

Water use totals, however, Industrial represents 64.5%, 10% are institutional, 8.5% are SF Residential, 14% are Commercial, and 2% are MF Residential. Residential use represents 10.5% of total water use.

### PER CAPITA WATER USE

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. Variables that can influence GPCD include the relative amount of non-residential water uses, the rate and type of growth, economics, demographics, and for Residential uses particularly the weather.

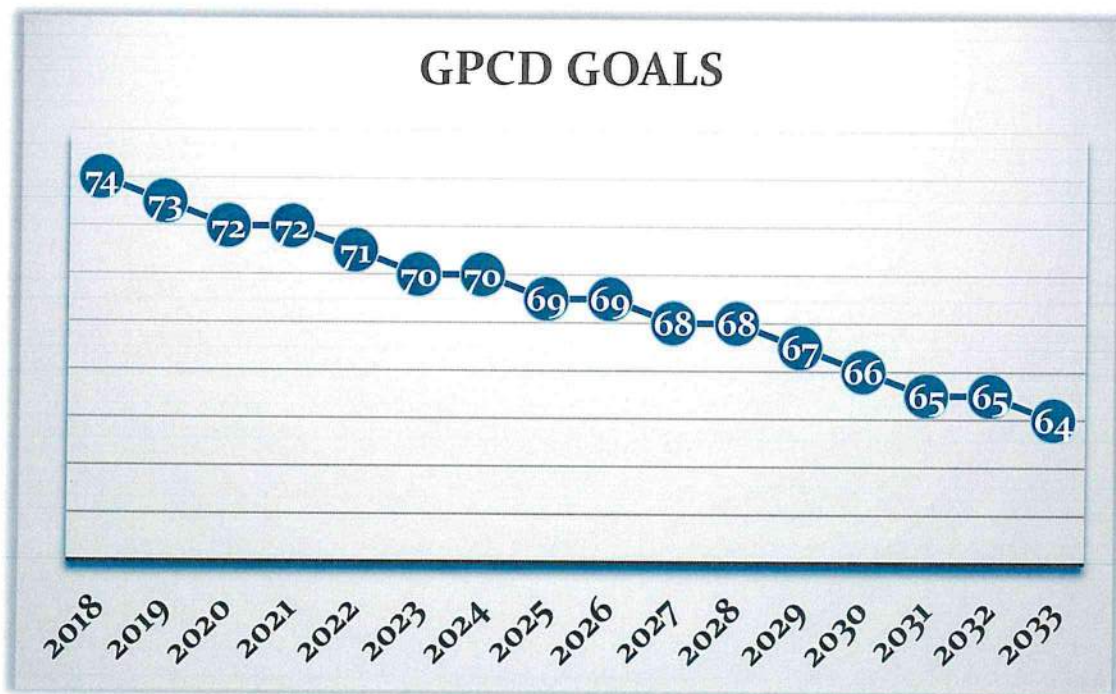
Residential GPCD is a superior metric for understanding how much water each resident is actually using and does not include commercial, institutional, or industrial uses. For the previous five years, Total and Residential GPCD for the City are shown below. At this time, Single Family and Multi-Family Residential uses are combined.

Year	Population	Residential Use (SF + MF)	Residential GPCD (SF + MF)	Total System Input	Total GPCD
2014	5,300	143,506,700	83	1,184,442,412	612
2015	5,316	133,794,200	69	1,149,457,286	525
2016	5,132	130,365,400	70	1,078,459,596	466
2017	4,850	121,587,600	69	1,048,107,696	553
2018	5,193	123,136,100	70	1,058,147,157	558



## PER CAPITA WATER USE GOALS

The City of Center's per capita water conservation goals for the next 10 years are based upon the Texas Water Conservation Implementation Task Force's recommendation of a reduction in per capita water use by 1% per year. Due to the disproportionate amount of non-population dependent water use for the City, meaningful Total GPCD goals are not possible to obtain at this time. Residential per capita usage goals, shown below, are based upon the average usage for the previous five years.



## SCHEDULE AND TRACKING

The City Manager or his designee will act as the Administrator of the water conservation program. The Administrator will oversee the execution and implementation of all elements of the program. The Administrator is responsible for maintaining adequate records for program verification.

The Administrator will monitor the progress of the Water Conservation Plan, using information from water utility records and staff. Additionally, the Administrator will be responsible for submission of an annual report to the TWDB on the progress, and any changes to, the Water Conservation Plan.

## UNIVERSAL METERING AND RECORDS MANAGEMENT

The City employs metering devices on all source water diverted capable of measuring the amount of water to within an accuracy of plus or minus 5%. The City requires all retail connections to be metered. All water metered and billed is recorded using the City's billing software, Incode.

## METER TESTING, REPAIR, AND REPLACEMENT

The City's meter testing, repair, and replacement program:

- Master meters are tested and calibrated periodically to within an accuracy of plus or minus 5%.
- Meters that have abnormally high or low water usage are changed out as they are identified.
- Meters are replaced on a continuous 10-year cycle.

## LEAK DETECTION, REPAIR, AND WATER LOSS CONTROL

The City Center operates and maintains the water transmission system within the city. In order to maintain water delivery service and to reduce and control unaccounted-for water, Center staff routinely visually inspects the distribution system to identify abnormal conditions indicating leaks. The staff is equipped to respond and repair equipment and pipeline breaks or employ contract assistance as required. As a result of these measures, water loss (the difference between water purchased and water sold) has averaged 11.14% over the previous five years. The City's goals for water loss for the next five (5) and ten (10) years is to maintain less than 15% water loss.

## WATER RATE STRUCTURE

The City of Center has a uniform water rate structure that is cost based and does not encourage the excessive use of water. Minimum and per thousand gallons water rates are based upon water use sector. The current City of Center rate schedule can be found in Appendix D.

## RESERVOIR SYSTEMS OPERATIONS PLAN

The City operates two reservoirs, Lake Pinkston in the Sabine River basin and Center Lake in the Neches River basin. The two reservoirs, however, are in different river basins and cannot be coordinated.



## PLUMBING FIXTURES

The State of Texas has recently adopted more stringent water saving performance measures for plumbing fixtures, found in the Health & 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 to retrofit their old plumbing fixtures. New construction, including remodeling of existing structures, must comply with City and State plumbing fixture standards. There are a wide assortment of water efficient fixtures, clothes and dish washers that provide the same performance, but use less water. A water efficient home can save more than 20% of annual indoor water use.

## WATER-CONSERVING LANDSCAPING

Water-conserving landscaping is a development concept that encourages residents to adopt low- water- using landscaping principles and methods for use around the home. The same concepts can be applied to other landscaped areas as well, including parks and other public places.

A popular method of reducing water use for landscape irrigation is to encourage residents to use the following techniques for landscaping. Generally accepted principles when planning a water efficient yard are:

- Planning and design. During this step an appropriate plan is developed considering such variables as climate, existing vegetation, intended use of the space, and topographic features.
- Soil analysis. Examine the soil types covering the whole site.
- Appropriate plant selection. Plants should be selected which are native to the area or are adaptive to the site.
- Practical turf areas. Plan where turf areas should be located and consider increasing the area of decks, porous paving, paths, and mulched planting beds to reduce turf.
- Efficient irrigation. Landscaped areas should only be watered as needed and then usually during the early morning or late evening to avoid water loss due to evaporation, keeping in mind some plant species may experience mold and/or fungus growth if watered at night.
- Use of mulches. A three- to four-inch layer of mulch should cover all exposed soil areas and be replenished twice a year.
- Appropriate maintenance. Keep the yard well maintained to reduce the use of fertilizer, chemicals, and water.

## CUSTOMER SERVICE INSPECTIONS

A customer service inspection certification as required by the Texas Commission on Environmental Quality (TCEQ), 30 Texas Administrative Code, Chapter 290, §290.46, shall be completed prior to providing continuous water service to new construction or any existing service when the City has reason to believe that cross-connections or other unacceptable plumbing practices exist; or after any material improvement, correction, or addition to the private plumbing facilities. The existence of a serious threat to the integrity of the public water supply shall be considered sufficient grounds for immediate termination of water service.

## ADDITIONAL WATER CONSERVATION STRATEGIES

The City will select any combination of the following strategies, in addition to those strategies listed above, if they are necessary to achieve the stated water conservation goals of this Water Conservation Plan. The TCEQ may also require that any of the following strategies be implemented by the City if the TCEQ determines that the strategy is necessary to achieve the goals of this Water Conservation Plan. The additional strategies that may be implemented are:

- Revision of water rates to promote increased water conservation.
- Additional programs to encourage the retrofit of water-conserving plumbing fixtures in existing structures.
- A program for pressure control and/or reduction in the distribution system and/or for customer connections.
- Any other conservation practice, method, or technique which the City shows to be appropriate to achieving the stated goal or goals of this Water Conservation Plan.



## WHOLESALE WATER CONSERVATION PROVISION

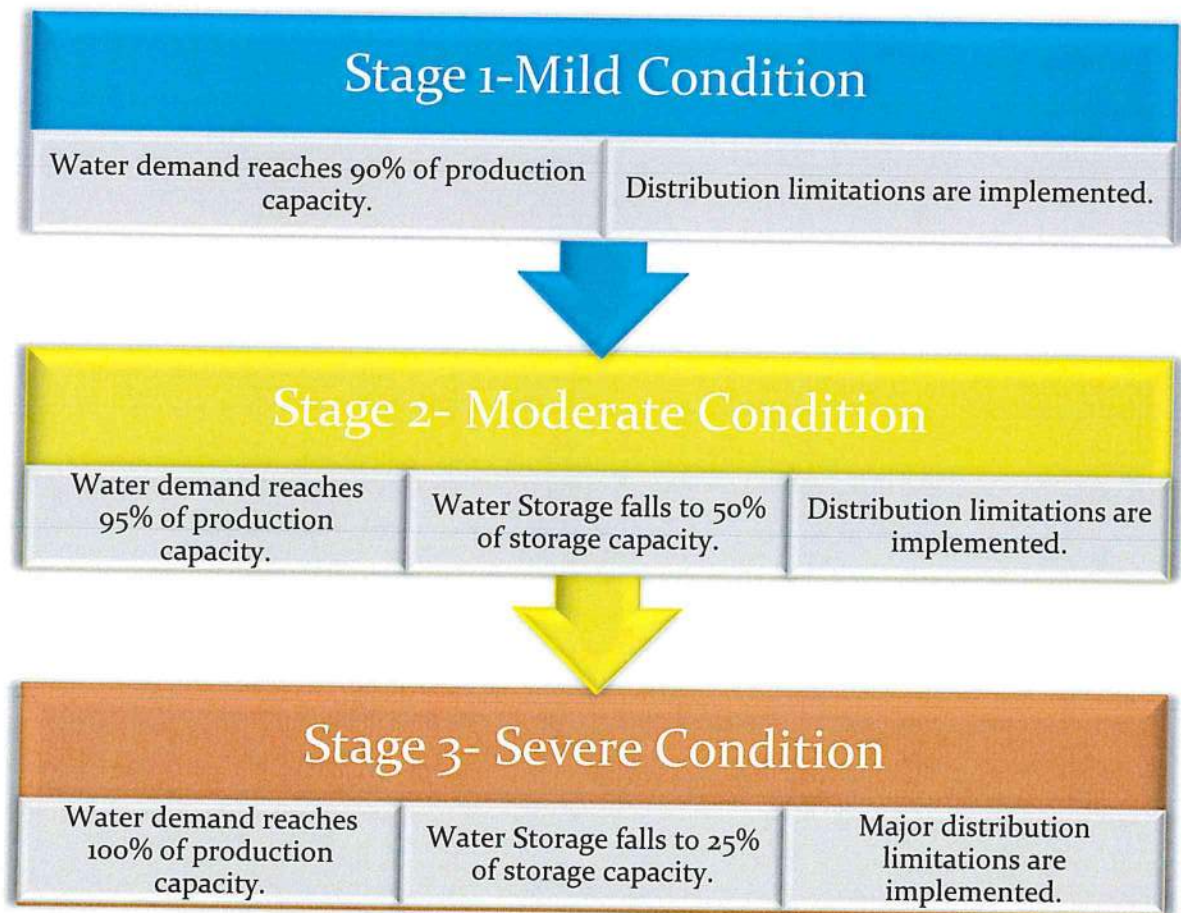
The City of Center will include a requirement in every water supply contract entered into or renewed after official adoption of the water conservation plan, and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements of this chapter. If the customer intends to resell the water, then 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 applicable provisions of Title 30 Texas Administrative Code, Chapter 288.



## DROUGHT TRIGGERS

The City Manager will, with the concurrence of the City Council, order the implementation of a drought response stage or water emergency when it is determined that conditions warrant the implementation of the plan.

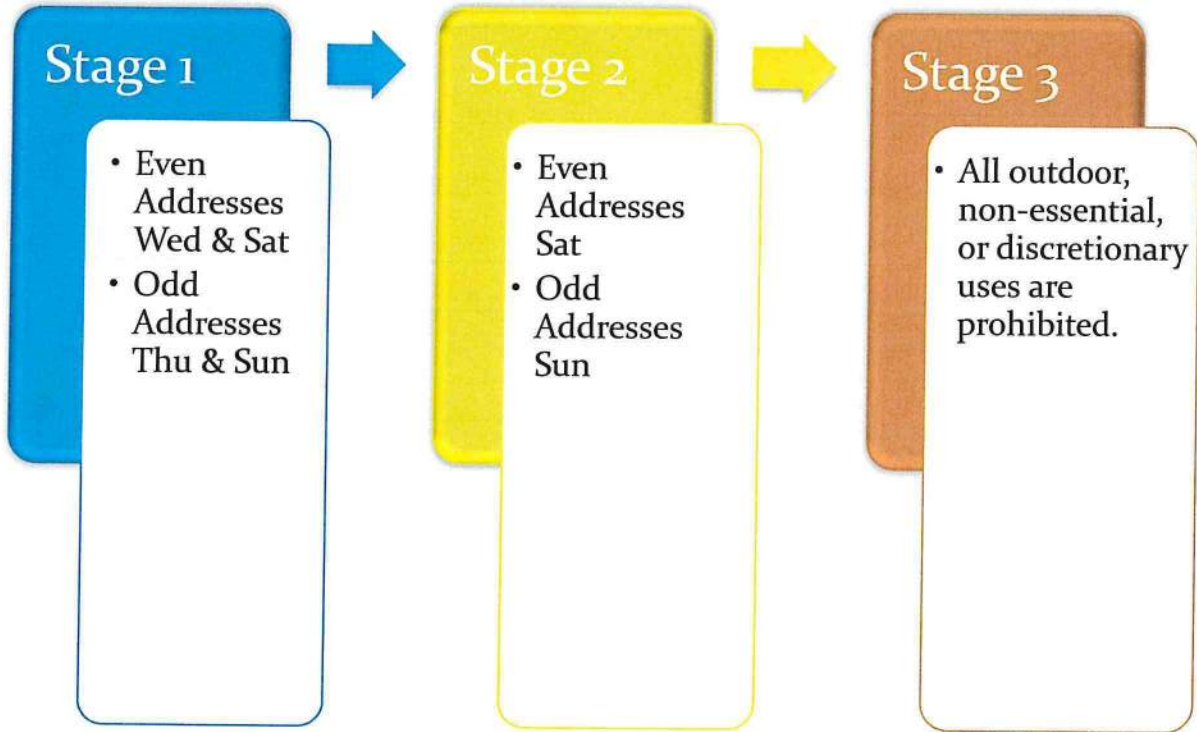
The City Manager, or designee, shall monitor water supply and/or demand conditions on a daily basis and shall determine when conditions warrant initiation or termination of each stage of the Plan.



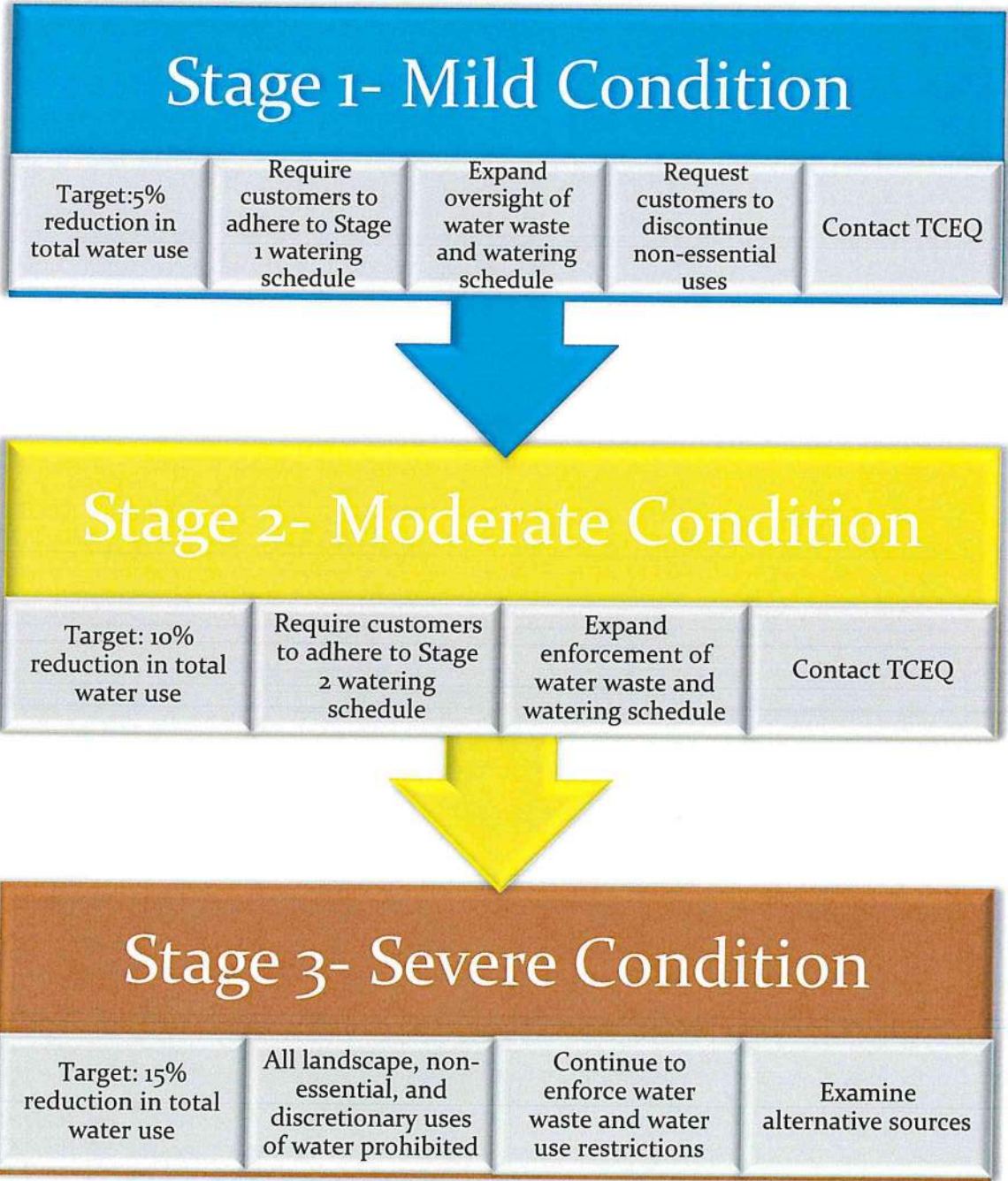


## WATERING SCHEDULE

The City of Center's landscape watering schedule is shown below.







## Emergency Responses

In the event of an identified water shortage declaration, the City of Center will distribute water to wholesale customers according to Texas Water Code, § 11.039.

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 Boil Water Notice will be implemented as prescribed in 30 TAC Chapter 290.

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.

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



## VARIANCES

The City Manager or 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:

- 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.
- 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 Plan shall file a petition for a variance with the City of Center within five (5) days after the Plan or a particular drought response stage has been invoked. All petitions for variances shall be reviewed by the City Manager or designee, and shall include the following:

- Name and address of the petitioner(s).
- Purpose of water use.
- Specific provision(s) of the Plan from which the petitioner is requesting relief.
- 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 Plan.
- Description of the relief requested.
- Period of time for which the variance is sought.
- 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.
- Other pertinent information.



## WHOLESALE DROUGHT CONTINGENCY PROVISION

The City of Center will include a provision in every wholesale water contract entered into after adoption of the Plan, including contract extensions, that in case of a shortage of water resulting from drought, the water to be distributed shall be divided in accordance with Texas Water Code, §11.039.

## COORDINATION WITH REGION I PLANNING GROUP

The service area of the City of Center is located within the Region I East Texas Regional Water Planning Group. A copy of this plan will be provided to Region I.

