



2019

# El Paso Water Water Conservation Plan



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## 1. Introduction and Objectives

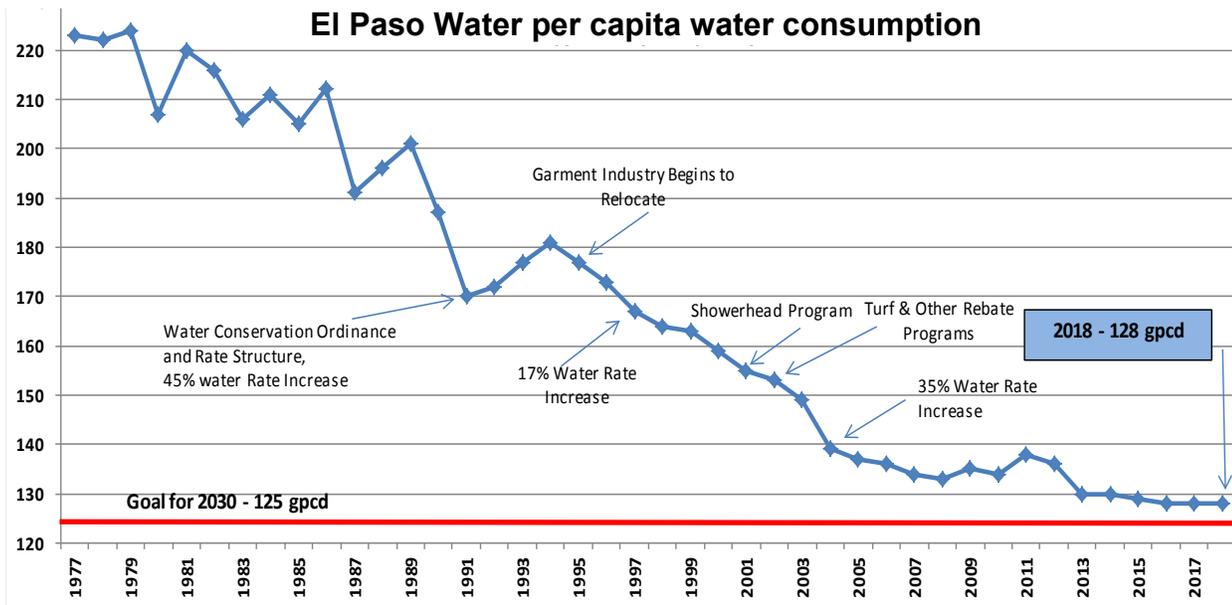
El Paso Water (EPWater) is a major retail and wholesale provider of water in West Texas that currently serves over 800,000 people in a 250 square mile service area. This includes the City of El Paso and eight mostly small wholesale water customers. The Utility also provides 25 percent of the water needs for Fort Bliss military base. When combined, EPWater serves about 95 percent of El Paso County.

EPWater has actively procured water supplies and developed water treatment facilities that make it possible for it to provide water to its customers now and well into the future. In 2018, EPWater delivered over 107,748 acre-feet of treated water and approximately 61,378 acre-feet of treated wastewater. As the regional population grows, water demand grows as well. To meet this demand, EPWater must plan for increasing the available water supply and expanding its transmission, treatment and distribution facilities. EPWater considers water conservation an integral part of this planning process.

Since 1977, EPWater has reduced its per capita water use by 42 percent to 128 gallons per capita per day (gpcd) in 2018. This has allowed the City of El Paso to grow by more than 250,000 people without overtaxing the existing regional water supply.

EPWater has had a strong water conservation program since the early 1990s. In 2016, EPWater celebrated the 25th anniversary of the Water Conservation Ordinance, which was adopted by City Council in 1991. The ordinance encourages sound conservation practices and specifies:

- Landscape watering days (odd/even)
- Watering restriction times (April – September)
- Limits for at-home car washing
- Requirements to repair leaks within five days
- Requirements for the installation of efficient plumbing fixtures



In 1995, the city established landscape requirements for commercial properties, including water conservation restrictions and beautification guidelines. Additional updates in 2001 prohibited sprinkler-irrigated turf areas in

parkways. Landscape requirements for commercial properties may be found under Title 18 – Building and Construction, Chapter 18.46 Landscape and Chapter 18.47 Irrigation Systems.

In 1991, EPWater also implemented an inclining rate structure where the unit price increases as water consumption increases. The changed rate structure used pricing as a demand management tool as well as to generate additional revenue.

Between 1991 to the present, EPWater has offered a variety of conservation programs that have:

- Replaced 53,900 high-flow toilets, saving 431 million gallons per year
- Installed 9,026 evaporative cooler bleed off line clamps, saving 47 million gallons per year
- Installed 220,000 high-efficiency showerheads, saving 1 billion gallons per year
- Installed 17,023 high-efficiency residential washing machines, saving 127 million gallons per year
- Replaced 10,329 water-cooled residential air conditioning units with air-cooled units, saving 180 million gallons per year
- Replacement of 11,206,889 square feet of turf with drought-tolerant landscape, saving 894 million gallons per year

These programs continue to result in annual savings of 2.6 billion gallons of water per year. Although programs such as toilet rebates, washing machine rebates and landscape rebates ended in 2007, the water savings associated with these programs are ongoing and will continue to contribute to per capita reductions for decades.

EPWater clearly understands conservation is not limited to the recurring periods of Texas drought. In fact, a well-managed conservation program can and will reduce the need for restrictions associated with drought. Conserving water and avoiding water waste are important for long-term sustainability of the water supply even in times of abundant rainfall. This plan describes both EPWater's long-term commitment to conserving water and resources for future generations and the need to manage water demands during short-term conditions when water supplies are limited.

EPWater has adopted this Water Conservation Plan for customers to reduce the quantity of water used for residential and commercial purposes through implementation of efficient water use practices; to 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 to minimize the adverse impacts of water supply shortages or other water supply emergency conditions.

The Texas Commission on Environmental Quality (TCEQ) has developed guidelines and requirements governing the development of water conservation and drought contingency plans for public water suppliers. The TCEQ guidelines and requirements for water suppliers are included in Appendix B. EPWater has adopted this Water Conservation Plan pursuant to TCEQ guidelines and requirements.

The objectives of the 2019 Water Conservation Plan are to:

- Reduce water consumption
- Report (or document) the level of water recycling and reuse in the water supply
- Reduce the loss and waste of water
- Improve efficiency in the use of water
- Extend the life of current water supplies by reducing the rate of growth in per capita demand.

To meet drought contingency plan requirements, EPWater adopted the Drought and Water Emergency Management Plan in 2012 to achieve the following objectives:

- Conserve the available water supply in times of drought and emergency
- Maintain supplies for domestic water use, sanitation and fire protection
- Protect and preserve public health, welfare and safety
- Minimize the adverse impacts of water supply shortages and emergency water supply conditions.

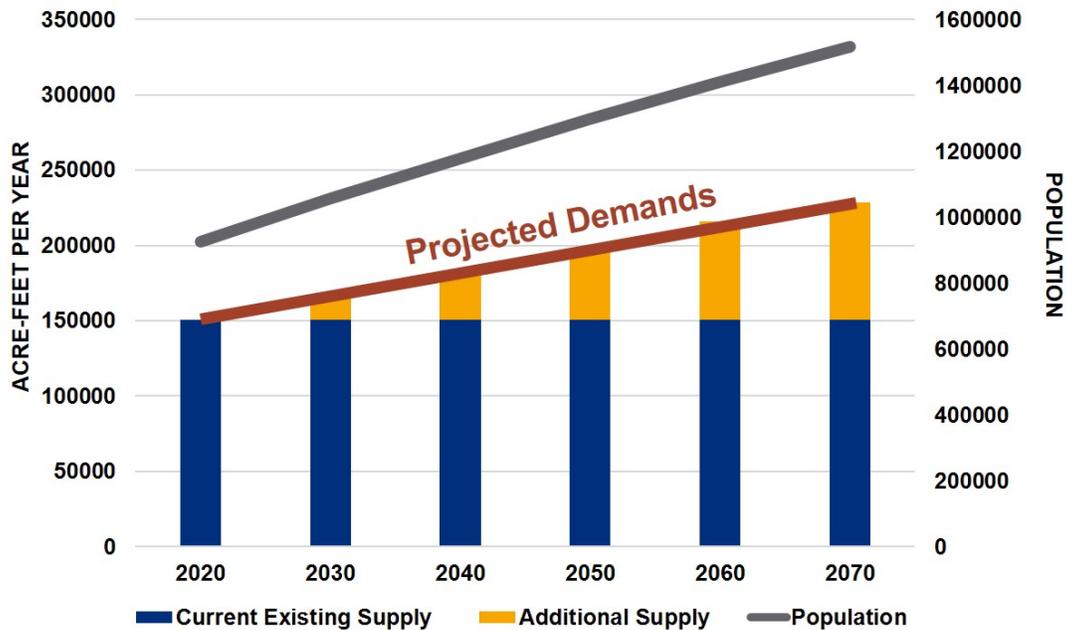
The EPWater 2014 Water Conservation Plan set a goal of 130 gpcd, with the five- and 10-year goals intended to maintain per capita water use at this level through 2025. Since 2016, EPWater’s per capita water use reached and has held steady at 128 gpcd, which is EPWater’s 2020 per capita goal, according to the 2016 Far West Texas Water Plan.

In this Plan, EPWater sets goals to reduce consumption to 126.5 gpcd within five years and to 125 gpcd by 2030, which is in line with the 2016 Far West Texas Plan, and shows continuing commitment to achieving the long-term goal of 118 gpcd by 2060. EPWater will monitor progress toward these goals and may employ a variety of selected strategies, as needed, to help achieve these goals. EPWater’s 2019 Water Conservation Plan will achieve significant conservation savings to help extend the life of existing supplies without burdening the customer with unnecessary additional costs.

While EPWater will continue many of the ongoing strategies it has already employed, the new strategy introduced in this Plan focuses on conservation in the industrial, commercial and institutional (ICI) sector. EPWater has completed a benchmarking study to assess best opportunities for reductions and has launched a Certified Water Partner program to begin working with business and institutions, in particular. Details of the benchmarking study and ICI programs are provided in the Plan.

By achieving the 2030 goal of 125 gpcd, EPWater expects to see reductions in annual water consumption that are equivalent to 554 million gallons per year. With these reductions, conservation becomes a key strategy to meet the needs of the growing population. See chart below.

**New water sources needed to meet demands of increasing population**



## 1.1 Definitions

In the Water Conservation Plan and Drought Contingency Plan herein, the following definitions apply only to EPWater customers:

**Acre-feet or acre-foot:** The amount of water required to cover an acre of land to a depth of one foot and equivalent to 325,850 gallons of water.

**Aesthetic water use:** Water use for ornamental or decorative purpose such as fountains, reflecting pools and water gardens.

**Automatic drainage system:** An electric water pump driven system that periodically (every 6, 8 or 12 hours) pumps all water from an air-conditioner tank, thereby allowing the tank to be replenished with fresh water.

**Available capacity:** The projected firm capacity of the EPWater system to deliver water based on the number of wells in service, water treatment plant production capacity and available river supplies and/or allotments, in-service booster pumping capacity impacted by equipment outages and/or other factors. The capacity is usually expressed in available million gallons per day and shall be as stated or expressed by the Water Systems Division Manager.

**Average winter consumption (AWC):** The average of the customer's water use during the most recent December, January, and February billing periods. The average winter consumption is used to calculate water and sewer service charges.

**Commercial and institutional water use:** Water use, which is integral to the operations of commercial and nonprofit establishments and governmental entities such as retail establishments, hotels and motels, restaurants and office buildings.

**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.

**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.

**Even-numbered addresses:** Street addresses, box numbers or rural postal route numbers ending in 0,2,4,6 or 8 and locations without addresses.

**Existing landscaping plant:** A landscaping plant existing in an area after such period of time as to accomplish an establishment and maintenance of plant growth.

**Graywater:** Wastewater that has not been contaminated by fecal material; examples of such include wastewater from lavatories, bathtubs, showers and other plumbing fixtures.

**ICI:** Refers to Industrial, commercial and institutional water users.

**Industrial water use:** The use of water in processes designed to convert materials of lower value into forms having greater usability and value.

**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-ways and medians.

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**Non-essential water use:** Water uses that are not essential or required for the protection of public health, safety and welfare, including:

- Irrigation of landscape areas, including parks, athletic fields and golf courses
- Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle unless specifically required by a local, state or federal guideline, or regulation
- Use of water to wash down any sidewalks, walkways, driveways, parking lots, tennis courts or other hard-surfaced area
- Use of water to wash down buildings or structures for purposes other than immediate fire protection
- Flushing gutters or permitting water to run or accumulate in any gutter or street
- Use of water to fill, refill or add to any indoor or outdoor swimming pools, or whirlpools
- Use of water in a fountain or pond for aesthetic or scenic purposes, except where necessary to support aquatic life
- Failure to repair a controllable leak within a reasonable period after notice was given directing the repair of such leak(s)
- Use of water from hydrants for construction purposes or any other purposes other than firefighting

**Odd-numbered addresses:** Street addresses, box numbers or rural postal route numbers ending in 1,3,5,7 or 9.

**Seasonal per capita use:** Per capita water use calculated by subtracting AWC per capita water use from summer per capita water use.

**Summer per capita use:** Per capita water use calculated based on water consumption during June, July and August.

## 2. Texas Commission on Environmental Quality Rules

### 2.1 TCEQ Rules for Conservation Plans

The TCEQ rules governing development of the conservation plans for public water suppliers are contained in Title 30 Part 1, Chapter 288, Subchapter A, Rule §288.2 of the Texas Administrative Code, which is included in Appendix B. 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 and improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water.”

### 2.2 Minimum Requirements for Conservation Plans

The minimum requirements in the Texas Administrative Code for water conservation plans for public drinking water suppliers covered in this report are as follows:

- §288.2(a)(1)(A) - Utility Profile – Section 3.0 and Appendix C
- §288.2(a)(1)(B) - Record Management System – Section 3.1
- §288.2(a)(1)(C) - Specification of Goals – Section 4.0
- §288.2(a)(1)(D) - Accurate Metering – Section 5.3
- §288.2(a)(1)(E) - Universal Metering – Section 5.3
- §288.2(a)(1)(F) - Determination and Control of Unaccounted Water – Section 5.3
- §288.2(a)(1)(G) - Public Education and Information Program – Section 5.5
- §288.2(a)(1)(H) - Non-Promotional Water Rates Structure – Section 5.2
- §288.2(a)(1)(J) - Means of Implementation and Enforcement – Section 5.6
- §288.2(a)(1)(K) - Coordination with Regional Water Planning Group – Section 4.3

### 2.3 Additional Required Water Conservation Plan Content

Title 30 of the Texas Administration Code also includes additional requirements for water conservation plans for public drinking suppliers, which serve a population of 5,000 or more and/or a projected population of 5,000 or more within the next 10 years:

- §288.2(a)(2)(A) – Leak Detection, Repair and Water Loss Accounting – Section 5.3
- §288.2(a)(2)(B) – Requirement that Wholesale Customers Develop and Implement a Water Conservation Plan – Section 2.4

The Texas Administrative Code lists additional conservation strategies that are optional for water system. El Paso Water has adopted these referenced strategies:

- §288.2(a)(3)(A) – Conservation-Oriented Water rates – Section 5.2
- §288.2(a)(3)(B) – Ordinances, Plumbing Codes or Rules on Water-Conserving Fixtures – Section 5.6
- §288.2(a)(3)(D) – Reuse and Recycling of Wastewater - Section 5.9
- §288.2(a)(2)(F) – Considerations for Landscape Water Management Regulations – Section 5.4

### 2.4 Wholesale Conservation Contract Requirements

TCEQ requires that every wholesale water supply contract entered into or renewed after official adoption of the plan, and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures.

EPWater has a requirement included in every wholesale water supply contract to develop, implement and update a Water Conservation Plan or conservation measures using the applicable requirements of TCEQ Water Conservation Plans, Drought Contingency Plans, Guidelines and Requirements, Texas Administrative Code 30 TAC Chapter 288(a)(2)(C).

EPWater's obligation to provide water under contract may be limited in the same manner and to the same extent that water service is limited to other customers, and such obligation to supply is subject to curtailment, in accordance with all applicable local, state and federal laws, including without limitation El Paso's Water Conservation Ordinance (9 15.1 3, El Paso Municipal Code), as amended, the PSB's Rules and Regulations, the PSB's Drought and Water Emergency Management Response Plan, and any other drought management plan, or moratorium, which may be imposed by the Texas Commission on Environmental Quality (TCEQ), the Utility, or the City of El Paso.

Seven (7) days written notice shall be provided by the Utility to wholesale customer, or in the event of an emergency, as soon as is practicable, when in the operation and maintenance of its water service facilities if it is determined that a cutoff or curtailment in water deliveries to the wholesale customer will be occasioned. The Utility will undertake its best efforts to restore water deliveries, as soon as is practicable, under the specific circumstances occasioning the cutoff. The wholesale customer understands and agrees that its water supply hereunder is subject to a cutoff or curtailment in the event of a water emergency being declared under El Paso's Water Conservation Ordinance or Drought and Water Emergency Management Response Plan.

## **2.5 Drought Contingency Plans (Drought and Water Emergency Management Plan)**

The TCEQ rules governing development of the conservation plans for public water suppliers are contained in Title 30 Part 1, Chapter 288, Subchapter B, Rule §288.20 of the Texas Administrative Code, which is included in Appendix B. For the purpose of these rules, a drought contingency plan is defined as:

"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. A drought contingency plan may be a separate document identified as such or may be contained within another water management document(s)."

El Paso's drought contingency plan entitled the Drought and Water Emergency Management Plan is located in Appendix H.

### 3. Water Utility Profile Summary

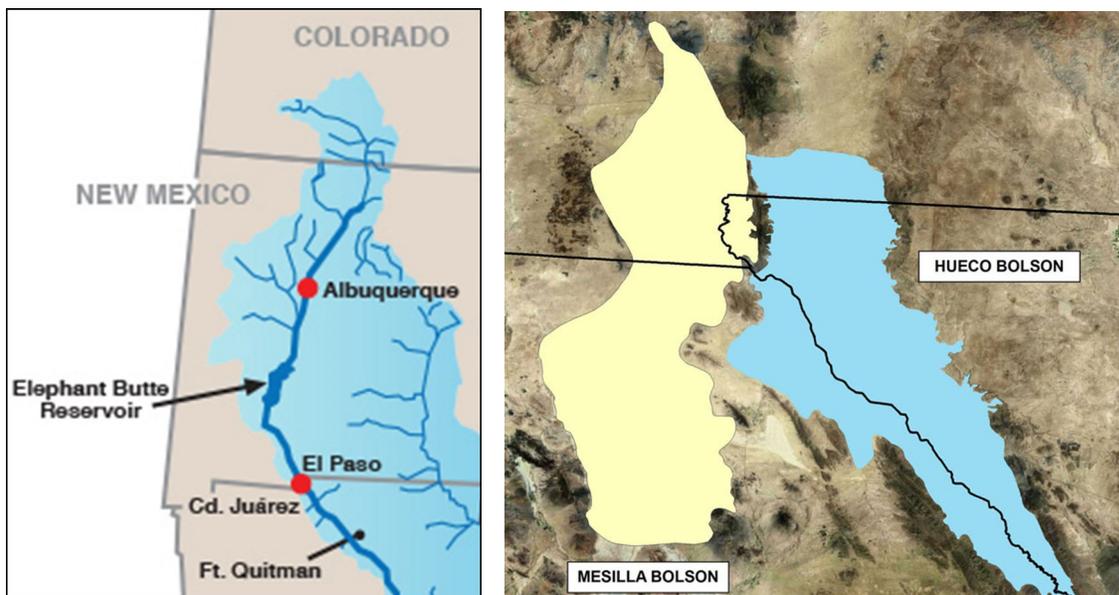
The City of El Paso, the sociopolitical center of El Paso County and West Texas, has a distinct culture, climate and supply of resources that makes water consumption unique among similar municipalities in the desert Southwest of the United States. El Paso is located in the northern extreme of the Chihuahuan Desert and lies on the frontier of three states (Texas, New Mexico and Chihuahua, Mexico), two countries (U.S. and Mexico) and three diverse water supplies. The binational region – consisting of El Paso, Texas; Ciudad Juárez, Mexico; and Las Cruces, New Mexico – is home to slightly more than two million.

El Paso is the sixth largest city in Texas, with an estimated County population of 840,410. The desert city only receives an average annual rainfall of 8-9 inches. El Paso has an average daily temperature of around 70 degrees and enjoys over 300 days of sunshine each year. The city’s average elevation is 3,762 feet above sea level, climbing as high as 7,200 feet at the peak of the Franklin Mountains. The mountains are integral to the City, dividing east and west El Paso.

#### Water Resources

EPWater uses groundwater and surface water for its potable supply. In 2018, the city produced about 117,897 acre-feet of potable water for its retail and wholesale customers. The Hueco Bolson provided 40 percent of total demand, the Mesilla Bolson 20 percent of total demand, and 40 percent from the Rio Grande River. EPWater also uses reclaimed water to supply non-potable demands. Over 8,000 acre-feet per year of reclaimed water is distributed to customers for industrial uses and turf irrigation.

The groundwater capacity is approximately 165 MGD, including desalinated brackish groundwater, and surface water capacity, when available, is 100 MGD. The amount of surface water that is available each year varies depending on drought conditions. Despite not receiving full allotments from the Bureau of Reclamation’s Rio Grande Project over the past four years, EPWater has not implemented any additional mandatory restrictions and has been able to meet demand because of its planning and management of diverse water sources.



El Paso has experienced a population growth of nearly 170,000 people since 1994, yet the water produced to meet demand is lower today than it was 25 years ago because of conservation efforts.

**Water Use Data**

El Paso Water has successfully met the goals outlined in the 2014 Water Conservation Plan, which included maintaining overall per capita water consumption at or below 130 gpcd by 2019. New goals include reducing per capita consumption to 126.5 or below within five years and to 125 or below by 2030. This equates to a reduction of three gpcd over the next decade.

The table below summarizes key water use statistics for 2014-2018. Average per person usage is given in gallons per capita per day (gpcd). More information is provided in Appendix C, which includes the complete TCEQ water utility profile for EPWater.

Year	Use (1,000 gallons)	Estimated Population	Municipal per Capita	Residential per Capita	Unaccounted for Water
2014	34,509,895	727,290	130	79	8.1%
2015	34,493,857	732,587	129	77	9.4%
2016	34,959,153	748,270	128	76	9.0%
2017	35,164,907	752,674	128	74	9.7%
2018	35,460,665	759,004	128	72	13.0%
<b>Treatment and Distribution System</b>					
Design Treatment Capacity = 187.5 MGD					
Elevated Storage Capacity = 17.5 MGD					
Ground Storage Capacity = 210.7 MGD					
Total Annual Wastewater Flow = 20,731 million gallons in 2018					

**Population served:** El Paso currently provides retail water and wastewater service to approximately 759,000 residents, most of whom are inside the city limits. An additional estimated 75,000 residents are served through wholesale contracts. EPWater serves as billing agent for all except for Fort Bliss.

Year	Retail Population	Retail/Wholesale Population
2014	727,790	778,219
2018	759,004	834,213
2050	1,129,883	1,410,527

Wholesale customers
Lower Valley Water District
County of El Paso – East Montana
Haciendas del Norte
Colonia Revolucion
Gaslight Square Mobile Home/RV Park
Mayfair/Nuway and Schuman
Paseo del Este MUD
Fort Bliss Utilities Services (Note: ~25% of supply provided by EPWater)

**Quick Facts: Water Use Data**

**Water supply source(s):** Groundwater and surface water

**Water service area:** 250 square miles

**Miles of distribution pipe:** 2,706 miles

**Current connections:** 209,624 (retail/235,771 (retail and wholesale – not including Fort Bliss)

Equivalent connection based on population = 3.61 persons per connection

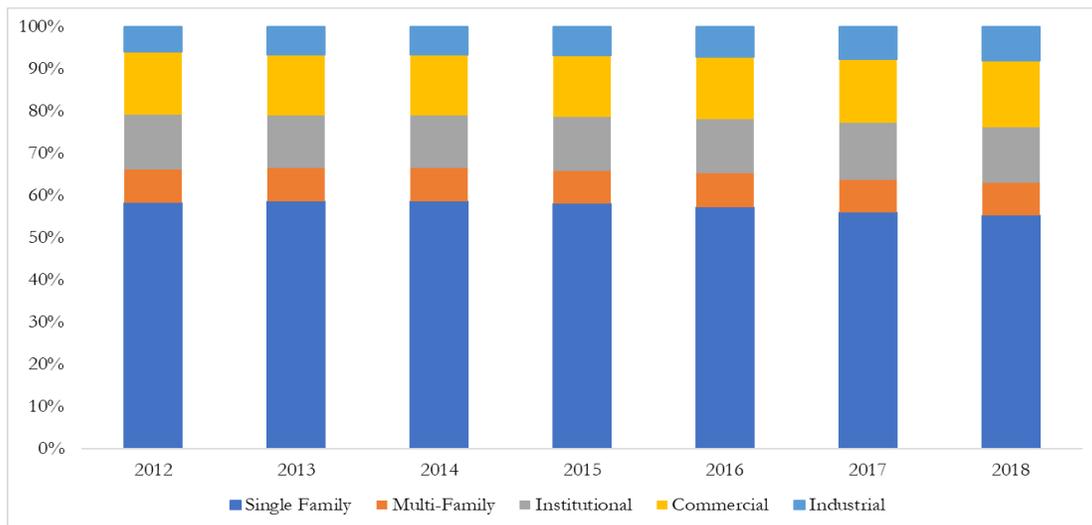
Total increase in connections in past three years = 12,015

See Appendix C on page 52 for a more detailed profile.

### 3.1 Record Management System

As required by Texas Administrative Code Title 30, Chapter 288, Subchapter A, Rule §288.2(a)(2)(B), EPWater has a system to document water received, water pumped, water delivered and water sold, estimates of water losses, leaks detected, and allows for the separation of water sales and uses into residential, commercial, public/institution, and industrial categories. This information will be included and carried throughout the conservation plan and provided in more detail in Appendix C.

**El Paso Sector-Based Relative Share of Water Use, 2012 – 2018**



## 4. Water Conservation Goals and Planning Process

Although EPWater encourages conservation and appropriate use of all water resources within the region, the specific water conservation goals described in this plan apply only to EPWater direct water customers. EPWater conservation goals include the following:

1. Accommodate growth with no net increase in overall water consumption.
2. Maintain the per capita water use at or below the 2018 level of 128 gpcd and achieve five and 10 year targets in gallons per capita per day, as shown in the section below.
3. Continue to maintain the meter replacement and repair program as discussed in Section 5.3 – Conservation in System Operations.
4. Maintain the level of unaccounted water in the system below 10 percent on a five-year average basis, as discussed below and in Section 5.3 – Conservation in System Operation.
5. Continue to raise public awareness of regional water sources, water conservation behaviors and encourage responsible water use through public education and information programs, as discussed in Section 5.5 – Education and Public Awareness.
6. Develop a system of specific strategies to conserve water during emergency and drought periods as well as peak demands, thereby reducing peak use.
7. Continue enforcing the water conservation ordinance, as discussed in Section 5.6 – Regulatory Enforcement.
8. Develop strategies for reducing water usage by City Departments and other public institution water users.

### 5-year target and goals

- **Per capita reduction goal** - EPWater’s goal is to reduce per capita water consumption from 128 gpcd (2018) to 126.5 gpcd by 2025.
- **Residential per capita reduction goal** - EPWater’s goal is to reduce residential per capita consumption from 72 gpcd in 2018 to 71 gpcd in 2025,
- **Water loss goal** – The unaccounted for water benchmark, established by the Texas Commission on Environmental Quality (TCEQ), is a water loss goal of 10 percent for the potable water distribution system. As such, the water loss goal for 2025 is to operate at a five-year average system water loss of 12.7 gpcd or less, which is equal to 10 percent of gpcd.

### 10-year target and goals

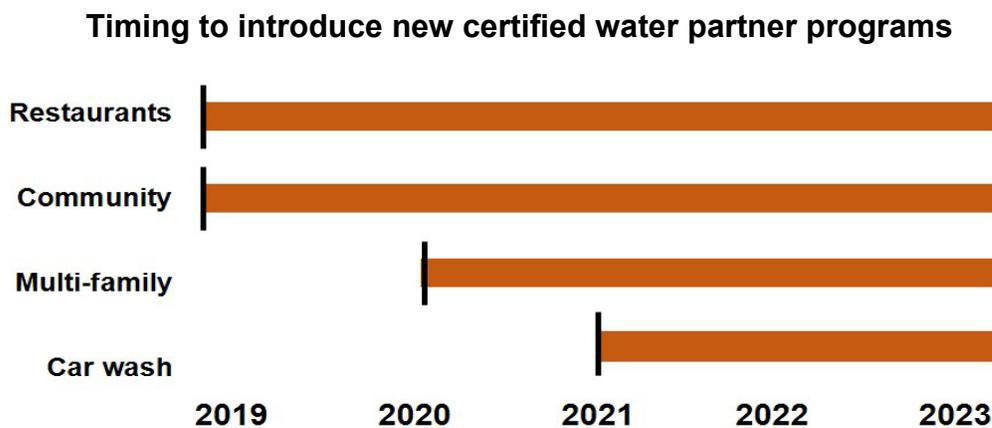
- **Per capita reduction goal** – EPWater’s goal is to reduce per capita water consumption from 128 gpcd (2018) to 125 gpcd in 2030. In the longer term by 2070, our target is to reach 118 gpcd.
- **Residential per capita reduction goal** – EPWater’s goal is to reduce residential per capita consumption from 72 gpcd in 2018 to 70 gpcd in 2030.
- **Water loss goal** – The benchmark for unaccounted for water, established by the Texas Commission on Environmental Quality (TCEQ) is a water loss goal of 10 percent for the potable water distribution system. As such, the water loss goal for 2030 is to operate at five-year average system water loss of 12.5 gpcd or less, which is equal to 10 percent gpcd.

Description	Historic 5-year average	Baseline (2018)	5-year goal for year 2024	10-year goal for year 2029
Total gpcd	130	128	126.5	125
Residential gpcd	75.6	72	71	70

### 4.1 Schedule for Implementing the Plan

EPWater has implemented a series of programs to align with the Texas Water Development Board’s “Best Management Practices for Municipal Water Providers.” These BMPs are listed in the next section of this plan and are intended to be used as tools for achieving desired reductions.

With each budget year and cycle, EPWater will assess its progress in achieving desired reductions in consumption and determine whether programs need to be expanded or accelerated to meet targets. The estimated timeline below shows new programs to be implemented in the next five years, subject to resource availability and budget approval.



### 4.2 Method for Tracking the Implementation and Effectiveness of the Plan

Annually, EPWater calculates the consumption and tracks changes for customer use in gallons per customer per day. This information will be used to gauge effectiveness of programs to achieve consumption reductions desired and, if performance is below target, to alter, change or introduce new.

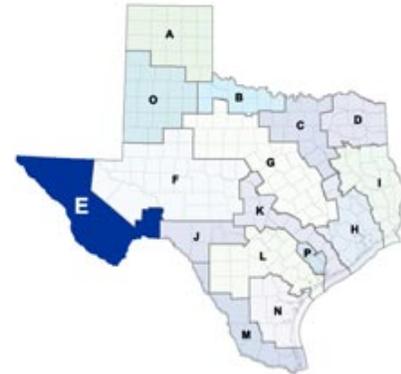
Programs are based on TCEQ and TWDB best management practices, and the EPWater 2019 Water Conservation Plan includes details of:

- Programs that have been implemented in the past (benefits continue)
- Programs currently in implementation
- Programs scheduled for implementation
- Programs currently under considered for implementation

EPWater conservation efforts are ongoing and new programs are developed and evaluated annually. Programs are designed and budgets are developed based on planned participation. Where applicable, these programs are evaluated in terms of annual water savings, project life and cost per unit of water saved. These programs serve as tools for achieving both short-term and long-term reductions in per capita consumption and are selected based on their potential for reducing water use at the lowest cost per unit of water saved.

### 4.3 Coordination with Regional Water Planning Group

EPWater has been working with the Region E Water Planning Group, which represents the following counties: Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, Presidio and Terrell. The information provided within this Conservation Plan is consistent with targets and planning methodologies. A letter will be sent to the Chair and members of the Region E Water Planning Group with a copy of this Water Conservation Plan. This plan will become an attachment to 2021 Region E plan.



### 4.4 Plan Review and Update

TCEQ requires that water conservation plans be reviewed and updated every five years to coincide with the regional water planning process. EPWater reviews and updates its Water Conservation Plan to coincide with the Far West Texas Regional Planning Group, Region. With this document, EPWater has updated its Water Conservation Plan for 2019. In addition, it will continually reassess opportunities to improve water efficiency and conservation based on new or updated information.

### 4.5 Enforcement Procedure and Plan Adoption

This 2019 Water Conservation Plan was posted in advance and presented at El Paso Water’s Public Service Board meeting on May 8, 2019, allowing for public comment. The Public Service Board formally approved a resolution to adopt the plan at the May meeting. That resolution is in Appendix G.

## 5. Best Management Practices (BMPs) – TCEQ and TWDB

The following section lists water conservation strategies that are required or recommended as Best Management Practices (BMPs) by the Texas Commission on Environmental Quality and the Texas Water Development Board for municipal water utilities.

The programs listed in the chart below indicate whether they were previously employed, currently employed or whether they will be considered to meet future per capita reduction goals. It is highly important to remember that previously implemented programs, such as toilet and washing machine replacement programs, will continue to have a significant impact on per capita water use well after program phase out.

	Best Management Practice Description	Estimated Savings per Unit in Gallons per Year	Estimated Cost per Unit of Water Saved	Previously Implemented	Currently Employed	For Future Consideration
	Conservation Coordinator	N/A	N/A		✓	
	Conservation Oriented Water Rates	1% to 3% Savings for each 10% increase	\$0.30/kGal		✓	
	Measuring and Accounting for Water Loss				✓	
	Metering of All New Connections and Retrofit of Existing Connections	N/A	N/A		✓	
	System Wide Leak Detection and Repair	N/A	\$0.68/kGal		✓	
	Landscape Irrigation Conservation and Incentives	79 Gallons/Sq. Ft	\$1.26/kGal	✓		
	Parks Conservation	N/A	N/A		✓	

<b>TWDB</b> TWDB BMP 5.5	Residential Landscape Irrigation Evaluations	13,200	\$1.50/kGal		✓	
<b>TWDB</b> <b>TCEQ</b> TWDB BMP 6.1	Public Information	N/A	N/A		✓	
<b>TWDB</b> <b>TCEQ</b> BMP 6.2	Education/ School Information	N/A	N/A		✓	
<b>TWDB</b> BMP 6.4	Partnership with Nonprofit Organizations	N/A	N/A		✓	
<b>TWDB</b> BMP 7.1	Conservation Programs for Industrial, Commercial, and Institutional Accounts – ICI Audits	97,500 Gallons/Bldg	\$1.23/kGal		✓	
<b>TWDB</b> BMP 7.1	Restaurant Certification	73,000 Gallons per Restaurant per Year	\$0.27/kGal		✓	
<b>TWDB</b> BMP 7.1	Community Certification	TBD	TBD			✓
<b>TWDB</b> BMP 7.1	Multi-family Certification	TBD	TBD			✓
<b>TWDB</b> BMP 7.1	Car Wash Certification	73,000 Gallons/Facility/Year	\$0.54/kGal			✓
<b>TWDB</b> BMP 7.2	Residential Washing Machine Rebates	7,460	\$1.34/kGal	✓		
<b>TWDB</b> BMP 7.3	Residential Toilet Rebates	7,997	0.96/kGal	✓		
<b>TWDB</b> BMP 7.4	Residential Showerhead and Aerator Distribution	14,892 Gallons/Home/Year	\$0.33/kGal	✓		

	Water Recycling and Reuse	2.4 Billion Gallons/Year	N/A		✓	
	Prohibition on Water Waste and Watering Restrictions	N/A	\$0.07/kGal		✓	
	Plumbing Code	N/A	N/A		✓	
	Customer Characterization: Analysis to Prioritize BMP Selection	N/A	N/A		✓	

## 5.1 Conservation Analysis and Planning

### Conservation Coordinator – TWDB BMP 2.1

Since 1990, EPWater has had a Conservation Department managed by a Water Conservation Manager. The conservation department is responsible for:

- Promoting an understanding of the importance of water conservation and appreciation for total water management in the Chihuahuan Desert among customers and next-generation customers.
- Serving as a liaison with the Texas Water Development Board on conservation issues and ensuring that the utility develops and implements its five-year Water Conservation Plan.
- Taking customer reports of water waste and coordinating with the Code Compliance team, which handles enforcement.

The Conservation Manager oversees seven full-time staff members, including two Water Conservation Specialists, three Water Conservation Technicians, one Facilities Maintenance Worker and one Customer Relations Clerk.

## 5.2 Financial

### Water Conservation Pricing – TWDB BMP 3.1

TCEQ requires municipal utilities to have a *Non-Promotional Water Rate Structure*. EPWater utilizes a tiered rate structure based on average winter consumption. This increasing block rate structure is intended to reduce discretionary water use through pricing.

Since 1991, EPWater has had an inclining rate structure where the unit price increases as water consumption increases. The utility uses pricing as both a demand management tool and a way to generate additional revenue. The following are EPWater’s water and wastewater rates, effective March 1, 2019.

The following provides a high level overview of rates. Full details of rates that became effective on March 1, 2019 are provided in Appendix E.

Monthly minimum charges for water service, based on size of meter with a 400 cubic feet (4CCF's) volume allowance.

**Monthly minimum water rates**

Meter Size	Minimum Monthly Bill*
Less than 1"	\$7.45
1	\$11.62
1½"	\$19.92
2"	\$23.97
3"	\$47.86
4"	\$71.44
6"	\$108.31
8"	\$185.53

Charges for water service are based on the customer's average winter consumption (AWC), which is the average of the amount of water used during the previous December, January and February billings. Customers who have not established an AWC are assigned an AWC based on meter size for their classification. Up to 400 cubic feet (CCF) are included in the minimum charge for residential customers.

Block	Charge per CCF*	Volume Charge
1	\$2.24	Over 4 CCF-150% of AWC
2	\$5.31	Over 150%-250% of AWC
3	\$7.59	Over 250% of AWC

Non-residential customer rates do not include 400 cubic feet allotment in minimum monthly charges.

All single-family residential accounts with ¾-inches to 2-inch meters that have an AWC lower than the average AWC for ¾-inch, single-family residential class will be assigned the ¾-inch, single-family residential class AWC. Properties located outside El Paso city limits are charged 1.15 times the rate for the same service to customers inside city limits.

**Water supply replacement charge**

A monthly water supply replacement charge is collected from the users of every service connected to the water system. The funds from this fixed charge are used for future water projects, including importation projects, acquiring water rights and building or expanding water treatment plants.

To help low-volume users, EPWater does not bill the water supply replacement charge to customers in months when water use is less than 4 CCFs. When communicating with low-income customers, EPWater encourages conservation to fall below the 4-CCF threshold and receive the waiver.

Meter Size	Minimum Charge*
Less than 1"	*\$11.04
1"	\$27.62
1½"	\$55.23
2"	\$88.36
3"	\$176.65
4"	\$276.05
6"	\$552.10
8"	\$1026.89

**Monthly minimum wastewater service rates**

Meter Size	Minimum Monthly Bill*
Less than 1"	\$16.35
1"	\$37.62
1½"	\$80.06
2"	\$100.73
3"	\$222.67
4"	\$342.96
6"	\$531.19
8"	\$952.62

**Reclaimed water rate:** For all reclaimed water delivered to customers, except as stated in specific contractual arrangements, the charge is billed at a flat rate. The reclaimed water rate is: \$1.83/CCF.

**Water Price Elasticity**

In 2019, the University of Texas at El Paso’s Hunt Institute of Global Competitiveness (Hunt) performed a series of assessments to look at how increases of rates would impact water consumption. Using the Urban Water Demand Model, Hunt found that the Water Price Elasticity for the urban water demand in El Paso was found to be -0.572.

This value means that for each one percent increase in water price, the representative urban water customer reduces his or her demand by 0.572, all other factors equal. Hunt identified other determinants, including economic conditions, precipitation and days over 90 degrees, that could also impact consumption behavior, but these may also be insignificant when compared to price as a factor.

**5.3 System Operations**

**Accurate and Universal Metering Practices – TWDB BMP 4.1**



Tracking of water use and water loss control are important elements of a water conservation program. El Paso Water programs for universal metering, meter testing, meter repair and periodic meter replacement have been developed using American Water Works Association Standards.

All customers and public uses of water are metered in the EPWater system. Meter accuracy is maintained by ongoing testing, repairing and an aged meter replacement program. EPWater has a complete meter shop, with full testing facilities.

**Metering devices:** All metering devices used in the EPWater system meet AWWA C702 standards for cold water meters, NSF/ANSI 61 Standard Annex G & F, and accurate within 5 percent of designated flow range of the device. For FY2017-2018, meter reading accuracy was 99.93 percent with goal of 99.97 percent, which is less than one inaccurate reading for every 1,500-meter read.

**Calibration:** Small residential meters are calibrated by the manufacturer against the AWWA standards of acceptable accuracy. Those results arrive with each shipment of small meters and logged. Each of those meters has a life span and is removed from service when the meter has aged out of accuracy (10 years). Any small meter removed before it is aged out is tested before being put back out in the field. Larger meters (1 1/2 inches and larger) however are tested depending on their usage and can be re-calibrated utilizing the AWWA standards after a flow test shows a failure in accuracy. Meters of 1 1/2 to 2 inches are tested every four years, meters 3 to 4 inches are tested every two years and meters 6 inches and larger are tested annually for accuracy. If any large meter displays low to no consumption it is tested immediately to ensure it is functioning properly.

The following table represents the number of meters tested, repaired and replaced from 2014 to 2018.

Meter testing, repair & replacement - 2018				
Type of Meter	Total Number	Total Tested	Total Repaired	Total Replaced
Production Meter	126	9	1	0
Meters larger than 1½ inches	6,931	959	49	411
Meters 1½ inches or smaller	213,108	640	0	24,408
Meter testing, repair & replacement - 2017				
Type of Meter	Total Number	Total Tested	Total Repaired	Total Replaced
Production Meter	146	16	0	5

Meters larger than 1½ inches	6,864	1,654	1,730	57
Meters 1½ inches or smaller	211,546	3,483	857	20,984
<b>Meter testing, repair &amp; replacement - 2016</b>				
<b>Type of Meter</b>	<b>Total Number</b>	<b>Total Tested</b>	<b>Total Repaired</b>	<b>Total Replaced</b>
Production Meter	165	25	0	18
Meters larger than 1½ inches	6,647	1,047	1,429	117
Meters 1½ inches or smaller	209,087	650	709	18,125
<b>Meter testing, repair &amp; replacement - 2015</b>				
<b>Type of Meter</b>	<b>Total Number</b>	<b>Total Tested</b>	<b>Total Repaired</b>	<b>Total Replaced</b>
Production Meter	<b>No Data</b>	50	0	10
Meters larger than 1½ inches	6,461	1,763	2,117	183
Meters 1½ inches or smaller	207,038	629	651	20,377
<b>Meter testing, repair &amp; replacement - 2014</b>				
<b>Type of Meter</b>	<b>Total Number</b>	<b>Total Tested</b>	<b>Total Repaired</b>	<b>Total Replaced</b>
Production Meter	<b>No Data</b>	327	1	32
Meters larger than 1½ inches	6,275	1,739	2,136	169
Meters 1½ inches or smaller	204,546	855	600	20,003

**Advanced Metering Infrastructure Pilot**

EPWater is currently conducting an Advanced Metering Infrastructure (AMI) pilot program to investigate cost-benefit and conservation impacts. AMI has the potential to change the way water consumption is measured. Many cities have begun to test these meters through pilot programs to determine if they should be part of the meter replacement program. Although such systems may have high capital costs, advantages include the ability to read meters remotely, which has the potential to reduce staff cost and provide real-time meter readings to identify leaks or other anomalies in water use. Currently, if such anomalies are observed by a meter reader, EPWater alerts customers manually with a notice on the door indicating detection of unusually high consumption.

**System Water Audit and Water Loss Control – TWDB BMP 4.2** TWDB TCEQ

EPWater has maintained an average water loss rate over the past seven years of less than 10 percent, which is considered exceptional by American Water Works Association (AWWA) standards.

Unaccounted water is the difference between water produced from wells and plants to metered water delivered to customers. Unaccounted water results from a variety of factors:

- Line flushing
- Losses because of water main breaks and leaks in the water distribution system
- Customer meter inaccuracies (meters tend to run more slowly as they age and under-report actual use)
- Data inaccuracies
- Theft
- Firefighting
- Testing and maintenance of fire hydrants
- Inaccuracies of internal meters (plus or minus 5 percent)
- Other unmetered uses

EPWater will conduct an annual water audit using the outline provided by the Texas Water Development Board. EPWater will conduct water audits using AWWA guidelines published in Water Audits and Leak Detection (M36).

As shown in the water utility profile (Appendix C), unaccounted water for EPWater has varied from 8 to 13 percent in the past five years. With the measures described in this plan, it is the goal of EPWater to maintain the five-year average for unaccounted water below 10 percent annually.

## Leak Detection and Repair TWDB TCEQ

Beginning in 2004, EPWater implemented a comprehensive leak detection program that has saved more than 2.7 billion gallons of water between 2004 and 2018. This program involved the installation of over 10,000 Permalog leak detection loggers throughout the water distribution system over a six-month period. These loggers were replaced in 2014. These units are installed on the water main valves of the distribution mains and monitor the system for leaks using acoustic-based monitoring techniques. Any leaks found with these units are typically repaired within three days.

Once a leak is exposed for repair, an estimate of the leak flow rate is made and the estimated water savings is computed based on the assumption that the leak would remain undetected for two years, in accordance with AWWA guidelines.

The following table illustrates repairs made from 2014 to 2018.

Year	Total Length of Main Lines (miles)	Number of Leaks Detected by Data Loggers	Total Length Repaired (feet)	Total Length Replaced (feet)
2014	2,655	17	390	54,008
2015	2,667	41	941	21,392
2016	2,670	46	1,056	158,400
2017	2,802	39	990	20,984
2018	2,856	34	781	47,572

## 5.4 Landscaping

### WaterSmart Landscaping Conversion and Incentives – TWDB BMP 5.3 **TWDB**

EPWater provided incentives during the 1990s for the replacement of 11,206,889 square feet of turf with drought tolerant landscape, saving 894 million gallons per year. The program was considered a success and changed the norm for landscapes in El Paso. The program ended when the customer demand dropped, and reduced conservation gains caused a shift to other programs that would further reduce water use.



### Athletic Field and Parks Conservation – TWDB BMP 5.1 and 5.4 **TWDB**

The City of El Paso has about 300 parks and more than 2800 acres of parkland, of which more than 1280 acres are planted in turf grass, primarily for recreational sports use. Water is applied to all turf areas and landscapes by a combination of overhead irrigation and drip irrigation. The park system historically uses about 2757 acre-feet per year for irrigation.

Most of the parks irrigation system is not centrally controlled but is regulated through satellite controllers, requiring field staff to visit each site to make any changes in operations. The City of El Paso Parks Department (“Parks”) has invested in six weather stations and the main infrastructure for a centrally controlled system (Rainbird’s Maxicom system), so the backbone for a water-saving system is in place.

EPWater and Parks began collaborating in 2016 to accomplish two objectives: 1) improve the health of turf and plant material; and 2) improve water efficiency of irrigation. Parks has estimated that a 20 percent reduction in water use can be achieved for each park that is converted to the Maxicom system.

EPWater has begun providing yearly grants to enable Parks Department to:

- Connect large parks to central irrigation systems
- Retrofit older parks, eliminating non-recreational turf areas with weather appropriate plant material
- Provide specialized training to Parks staff on the irrigation system (Rainbird’s Maxicom System)
- Provide educational opportunities on irrigation standards for irrigators and designers of city parks

Through the partnership, four parks equaling 61 acres have been converted to Maxicom, with specific parks identified for conversions through 2020. Beyond 2020, EPWater expects to extend the program, enabling Parks to continue to convert 15-45 acres per year to the Maxicom System.

Additionally, Parks received a grant from the U.S. Bureau of Reclamation and is expected to convert 50-70 park acres to the Maxicom System in 2019-2020.

As of 2018, the Water Conservation Ordinance was revised to require the City’s parks department to submit an annual conservation plan to EPWater that discloses water consumption by turf acre and specific before-and-after data for parks that have been converted to the central irrigation system.

Implementation	Park acres impacted	Parks
Through 2018	61 acres total	Barron Park (4.5 acres) John Lyons (4.5 acres) Pico Norte (10 acres) Westside Sports Complex (42 acres)
2019	14 acres total	Coyote Park (1 acres) Tierra del Sol (4 acres) East Cave Park (7.5 acres) Mesa Tierra (1.5 acres)
2020	103 acres total	Lionel Forti (21 acres) JP Shawver (38 acres) Irwin J. Lambka (13 acres) Pebble Hills (7 acres) Capistrano (24 acres)

**Residential Landscape Evaluations – TWDB BMP 5.5** TWDB TCEQ

To increase efficient irrigation and conservation, EPWater conservation staff offer residential irrigation evaluations upon request. Customers can request a free visit from EPWater to perform a distribution uniformity test for in-ground irrigation systems.

During the visits, staff members will explain irrigation schedules based on weather patterns, discuss the conservation ordinance restrictions, and answer any questions customers might have about their bill. Requests usually come from customers with high water bills and large turf yards.

**5.5 Public Awareness and Education – TWDB BMP 6.0** TWDB TCEQ

**Public information – TWDB BMP 6.1**

EPWater public awareness efforts include monthly conservation messages on the backs of bills; bill inserts and billboards promoting conservation, public service announcements on radio/TV, and social media campaigns promoting conservation. Highlights of key initiatives:

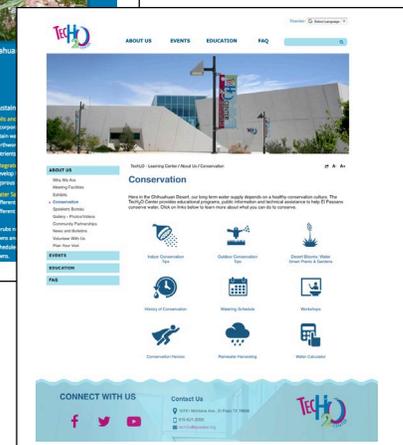
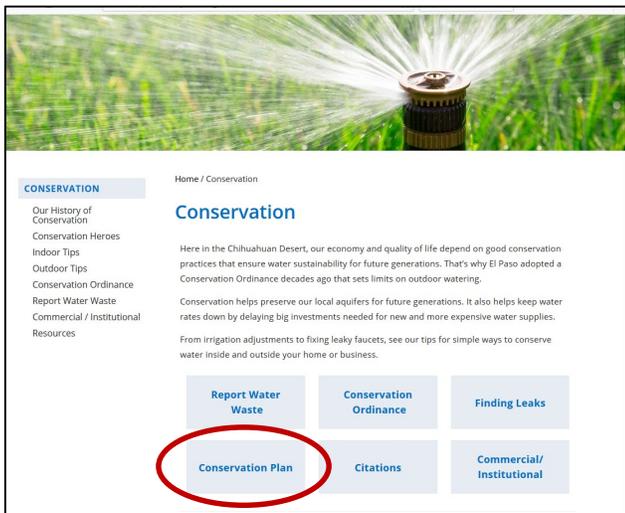
- Official EPA WaterSense partner program, promoting Fix-a-Leak Week, Sprinkler Spruce-up, and sales tax holiday on WaterSense-labeled products
- Conservation Hero campaign, recognizing residents, schools and businesses with best water-efficiency practices; presenting an award at an annually sponsored El Paso Chihuahuas baseball game
- Publicizing Certified Water Partners and their best practices
- Publicizing reminders of day/time restrictions for watering



**Websites**

EPWater hosts three separate websites for different purposes to promote conservation.

- The EPWater website (**epwater.org**) has a Conservation section, which provides indoor and outdoor tips, the conservation ordinance, the recognition of “Conservation Heroes” who have demonstrated best water-efficiency practices in our community, the Conservation Plan, a form to report water waste, the Conservation Ordinance, and more. The Conservation Plan may be found on the main Conservation page and on the resource page under Conservation.
- The Tech2O Learning Center website (**tech2o.org**) promotes the center’s services and its various educational events and water-related educational resources for formal and informal educators looking for classroom activities or requesting field trips.
- The El Paso Desert Blooms website (**elpasodesertblooms.org**) provides a WaterSmart landscaping guide that includes: sustainable gardening tips, virtual tours of local water smart gardens, a gallery of water smart plants and trees adapted to native to the Chihuahuan Desert.

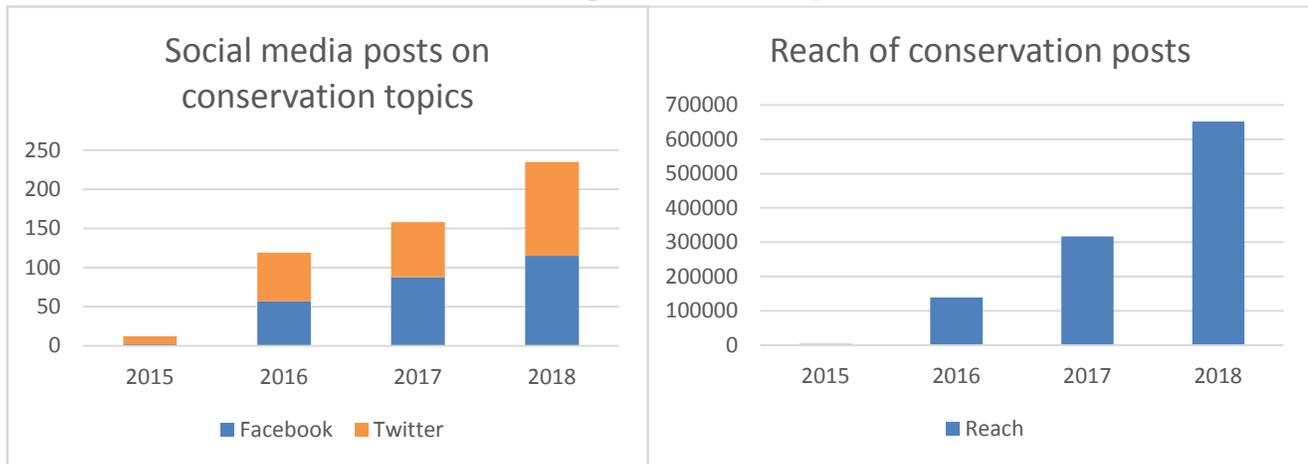


**Media and Publicity**

EPWater has worked to cultivate a relationship with both English and Spanish language media on a local, regional and statewide basis and has successfully generated news coverage incorporating conservation messages. The table below shows stories that were featured in print, online and broadcast media as well as the readership/viewership, according to Trendkite media tracking service.

Year	EPWater print , online and broadcast conservation stories covered in the news	Combined readership/ viewership	Average viewership per story
2014	73	39 million	534,000
2015	47	26 million	553,000
2016	58	27.4 million	472,000
2017	40	987,000	24,675
2018	183	100 million	546,000

### Increasing social media presence



### Events and workshops

EPWater hosts conservation workshops, lectures, seminars and events targeted to general audiences, and staff members provide presentations at various civic and nonprofit events. Over the past five years, an annual average of five WaterSmart workshops were hosted on various outdoor conservation topics, including smart irrigation, rainwater harvesting and landscape design. Additionally, EPWater in 2018 began offering several specialized commercial and industrial conservation workshops.

EPWater hosts an annual average of three signature events, including the annual Water Festival. Each attracts hundreds of visitors. In addition to hosted events, EPWater collaborates with community nonprofit and other organizations by sharing conservation information at a range of community events, including: Celebration of the Mountains outdoor event series, Poppies Festival, Earth Day, Hueco Mountains Interpretive Fair, and Texas Parks and Wildlife events.

### School Education – TWDB BMP 6.2 **TWDB** **TCEQ**



In 2007, EPWater opened the Carlos M. Ramirez Tech<sub>2</sub>O Water Resources Learning Center, which is co-located with the Kay Bailey Hutchison Desalination Plant.

The center offers visitors bilingual information and interactive, museum-quality exhibits to increase awareness of total water management in the Chihuahuan Desert. The exhibits engage elementary- and middle school students while providing valuable information for all ages. Educational efforts include:

- Field trips – Conservation staff members average more than 100 field trips per year.
- Visits and presentations to schools and classrooms – Conservation staff members average more than 80 school visits per year.
- School assemblies or other appearances by mascot Willie the Water Drop, who shares lessons about conservation and water resources the desert.
- Multiple teacher workshops per year on such water curriculum programs as Project WET and Aquatic WILD.
- Lesson plans, curriculum guides and curriculum kits available either online or from the Tech<sub>2</sub>O Center.
- Volunteer program – Training docents and others to help with various education and outreach activities.



in

Year	Students Reached	Teachers Engaged
2016	9583	850
2017	8996	844
2018	6500	641

**Partnership with nonprofits – TWDB BMP 6.4** TWDB

**Amistad on low-income conservation assistance:** EPWater introduced AguaCares in 2019, a program administered by nonprofit Amistad, to assist low-income seniors with conservation support and emergency payment assistance. In terms of conservation support, Amistad assists in the distribution of household water efficient fixtures to help eligible customers save water and money. The program is currently focused on low-income seniors, but eligibility could be expanded in the next few years.

**Texas Parks and Wildlife (TPWD) on lecture series and certification program:** EPWater collaborated with Texas Parks and Wildlife in 2018 to offer a seven-part lecture series that aligned with the TPWD book “Texas Waters: Exploring Water and Watersheds.” The seven lectures organized by EPWater and hosted at the Tech<sub>2</sub>O Center drew more than 200 participants. Through the program, TPWD seeks to develop a corps of well-informed volunteer specialists who can provide education outreach and service dedicated to the beneficial management of aquatic resources and aquatic habitats within their communities in Texas. The program also enabled EPWater to expand the number of qualified volunteers it needs to execute its various education and outreach programs.

El Paso Water also partners with other organizations to enhance educational efforts, including the following:

- Project Wet Host Institute
- Region 19 Educational Service Center
- El Paso Zoo – El Paso Water Discovery Education Center
- Texas Agri-Life County Extension
- University of Texas at El Paso

## 5.6 Regulatory Enforcement TWDB 9.0 **TWDB** **TCEQ**

### Prohibition on water waste – TWDB BMP 9.1

With finite water resources and a growing population, EPWater began an aggressive water conservation program in 1991. That year, the City Council adopted the International Plumbing Code, requiring the installation of efficient plumbing fixtures on new constructions and retrofits, and the Water Conservation Ordinance, which made wasting water a violation punishable as a Class C misdemeanor.

### Plumbing code – TWDB BMP 9.2

The City of El Paso follows the International Plumbing Code, which requires water-conserving plumbing fixtures to be installed in new structures and existing structures undergoing substantial modifications or additions. A copy of the Plumbing Code is provided in Appendix F on page 85 for reference. [El Paso, TX Code of Ordinances, Title 18- Building and Construction; Chapter 18.20- Plumbing Code].

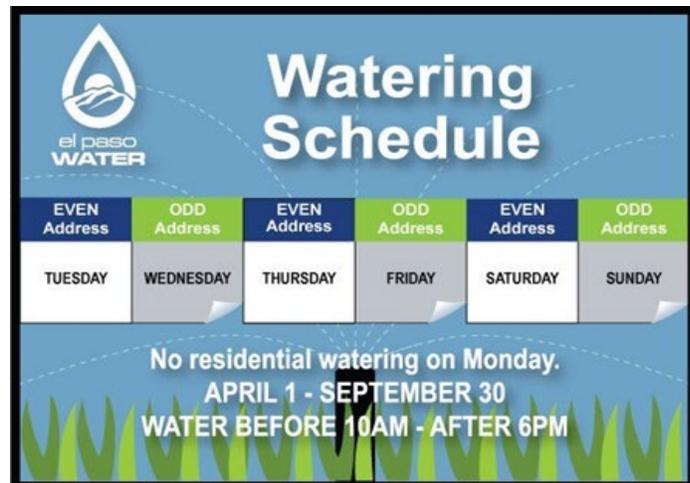
### Watering schedules – TWDB BMP

The Conservation Ordinance limits watering of landscape to no more than three times a week throughout the year based on even/odd addresses and limits irrigation times during warmer months. (Ordinance is in Appendix F)

Permits and variances may be available under certain conditions. For example, irrigation permits are available for the establishment of new landscapes. Customers may also apply for a variance to change irrigation days or hours if hardship is demonstrated. A Review Board considers and approves (or declines) permits and variances. All variances are discontinued during water emergencies and certain drought stages.

Additional restrictions are mandated during times of drought or water emergency.

EPWater has evaluated the TWDB’s recommended practice of two times a week watering, but given the amount of sunlight, high temperatures, low humidity and eight inches of rainfall per year; additional irrigation is needed to maintain healthy grass. Functional and playable landscapes that are safe for users are needed as well to replenish water loss through evapotranspiration. EPWater customers understand the value of water and have opted for landscapes with minimal water requirements.



### Wasting water = violations, citations

Violations can result in a Class C misdemeanor citation. Fines can range from \$50 to \$500 per citation. The following uses of water are defined as wasting water and are prohibited:

- Landscape watering on the wrong day and/or wrong time
- Allowing water to flow into public right of way or storm water drainage system
- Failure to repair a leak within five working days of the discovery
- Washing down impervious surfaces, except in emergencies to remove spills of hazardous materials or eliminate dangerous conditions
- Using a hose without a positive shutoff nozzle

**Enforcement:** Customers of EPWater are encouraged to report water waste, and they have several options for reporting, including calling the Conservation line or filling out and submitting an electronic form on the website. Code Compliance Inspectors patrol the city, respond to complaints and enforce the ordinance. These efforts provide an opportunity to educate the customer about ways to conserve water. Inspectors can issue citations, warnings or leave door hangers listing observed violations. Inspectors document violations by electronic photographs and file information with the Municipal Court for processing.

Year	Number of warnings and citations
2014	985
2015	856
2016	926
2017	815
2018	720

### 5.7 Residential Rebate Retrofit and Incentive Programs – TWDB BMP 7.0 **TWDB**

During the period between 1991 and 2007, a variety of rebates and incentives were offered to residential customers to reduce water consumption.

#### Residential Clothes Washer Incentive Program – TWDB BMP 7.2

EPWater rebates facilitated the installation of 17,023 high-efficiency residential washing machines, saving 127 million gallons per year.

#### Residential Toilet Replacement Program – TWDB BMP 7.3

EPWater rebates facilitated the replacement of 53,900 high-flow toilets, saving 431 million gallons per year.

#### Showerhead, Aerator and Toilet Flapper Retrofit Program – TWDB BMP 7.4

EPWater facilitated the installation of 220,000 high efficiency showerheads, saving 1 billion gallons per year.

Program	Quantity	Savings/Year (million gallons)
Cash for Your Commode	53,900	431
Bleed-off clamps	9,026	47
Showerheads	220,000	1BG (water and wastewater)
Washing machines	17,023	127
Refrigerated air	10,329	180
Turf Rebate (square foot)	11,206,889	894

**5.8 Conservation Technology – TWDB BMP 8.0** **TWDB**

**Water recycling and reuse – TWDB BMP 8.3** **TCEQ** **TWDB**

EPWater has been delivering reclaimed water to the community since 1963. Today, EPWater supplies golf courses, city parks, school grounds, apartment landscapes, and construction and industrial sites with nearly 2 billion gallons per year of reclaimed water.

Every gallon of reclaimed water used to irrigate landscapes or for construction is one gallon of potable water that is saved and does not have to be pumped from our aquifers or treated from the Rio Grande. The following table lists **total billed** reuse in gallons and as a contribution to reduction in gallons per capita per day from 2014 to 2018.

Year	Population	Total Reuse in Gallons - Landscape Irrigation, Parks, Athletic Fields and Golf Courses	Reduction in GPCD
2014	727,290	1,920,687,505	7.2
2015	732,587	1,861,941,636	7
2016	748,270	1,722,266,640	6.3
2017	752,674	1,602,868,016	5.8
2018	759,004	1,906,994,416	6.9

Additionally, reclaimed water is used for the operation of treatment plants (in-plant use) and to recharge the Hueco Bolson aquifer. Over the five-year period from 2014 to 2018, an annual average of 992 million gallons was returned to the aquifer via a combination of injection wells and infiltration basins.

**5.9 Conservation Programs for Industrial, Commercial and Institutional Accounts (ICI) – TWDB BMP 7.1** **TWDB**

Given EPWater’s long history of conservation programs focused on residential customers, assessment of additional opportunity for conservation gains all pointed to the ICI sector. EPWater has long offered commercial audits but has more recently piloted and introduced the Certified Water Partner program, with details of the program provided in this section.

**Commercial audits**

For commercial customers who are concerned about indoor or irrigation-related water use, EPWater offers complimentary audits.

- For irrigation audits, customers must have a dedicated water meter and an automatic sprinkler or rotor irrigation system. EPWater will inspect the equipment, perform a distribution uniformity test and provide a report with a yearly irrigation schedule based on evapotranspiration rates and recommendations to improve efficiency and ways to cut back on outdoor water use.
- Indoor audits are available for commercial accounts. Staff from EPWater perform a physical inspection of water-using fixtures, identify areas of excessive consumption, locate degradation of previously efficiency devices and provide recommendations for water efficient products and improved practices.

## Certified Water Partner Program

The Certified Water Partner Program was created by El Paso Water as the primary commercial and institutional conservation strategy to facilitate long-term water efficiency gains. Key objectives identified include:

- to raise awareness of water consumption practices among targeted commercial sectors,
- recognize businesses with best practices through a certification program;
- provide coaching for businesses within given sectors to promote continued progress in conservation; and
- assist high water consuming businesses within target sectors to improve their water management practices.

EPWater hired Alan Plummer & Associates, an environmental engineering firm, to examine the various sectors, identify those with highest potential for water savings, and to help with calculating water savings, cost-benefit analysis and identifying auditing criteria for given sectors.

In 2019, Texan by Nature, a Texas-based conservation non-profit, recognized El Paso Water with a Conservation Wrangler award for its Certified Water Program. The program recognizes innovative and transformative conservation projects across the state of Texas for project models that positively impact people, prosperity, and natural resources.

## Restaurant Program

The intent of the El Paso Certified Water Partner Restaurant Program is to facilitate long-term water efficiency gains through a cooperative program between the El Paso Water and restaurants. This voluntary program provides recommended best management practices (BMPs) intended to ensure both water efficiency and customer satisfaction.

The Certified Water Partner program involves two components: 1) recognition for those restaurants who demonstrate best practices with minor water efficiency improvements offered by the utility; and 2) expertise and assistance to high water consuming restaurants to improve their water management practices.



There are approximately 2,312 active restaurants within the City of El Paso. These 2,312 restaurants use approximately 565 million gallons of water per year or an average of 669 gallons per restaurant per day.

The anticipated average identified water savings is estimated at 15 percent of average annual consumption an average of 133 gallons per participating restaurant per day. Assuming a participation rate of 5 percent or 115 restaurants, the projected water savings is an estimated 4.2 million gallons per year.

**Certified Water Partner recognition:** Restaurants must meet five basic criteria to be eligible for Partner recognition—FOG compliance, locally-based, web or social media presence, their own designated meter, and in business 12 months or longer. The prequalification criteria for the Certified Water Partner program helps to manage the sheer number of restaurants targeted.

The following best management practices and a scoring system are factored into the evaluation for restaurants to receive an El Paso Water Certified Water Partner designation. Each Certified Water Partner facility will be required to recertify every two years.

### Best Management Practices

- All toilets must operate at flush volumes of 1.6 gpm or less
- All urinals must operate at flush volumes of 0.5 gallons per flush or less
- All restroom lavatory faucets must operate at 1.0 gpm or less

- All ice machines must be air-cooled units
- All pre-rinse spray valves must operate at 1.6 gpm or less
- All commercial disposers shall be equipped with flow restrictors when available
- Participating restaurants shall limit thawing frozen food under running water
- Participating restaurants shall serve water only on request
- Irrigation systems must be operated in accordance with City of El Paso irrigation ordinances
- Facilities must remain in good standing with EPWater wastewater compliance
- Facilities must maintain passing scores on City health inspections

**Assistance for high-water using restaurants:** EPWater has identified the highest water, outliers and accounts. With the acquisition of a new audit software in 2019, EPWater will be able to provide a report immediately following the audit with both water savings and cost savings, if recommendations are implemented. EPWater will also be providing rebates, grants and/or matching grants for specific water efficiency improvements in order to achieve desired water savings objectives.

**Community Program**

The Certified Water Partner program for institutions, which we have called our Community category in the Certified Water Partner program, is envisioned as a way to positively engage local government and school systems to raise visibility and awareness of water-efficiency practices and ultimately to partner with these entities to reduce water consumption.

The intent of the El Paso Water Certified Water Partner program for Community is to facilitate long-term water efficiency gains through a cooperative program between EPWater and city, county and school systems. This voluntary program provides best management practices (BMPs) to improve water efficiency and customer satisfaction.



The Certified Water Partner program involves two components: recognition for those community facilities that demonstrate best practices; and expertise and assistance to high water consuming community facilities to improve their water management practices.

There are approximately 3,000 city, county and schools within El Paso. Combined, these accounts use approximately 2.4 billion gallons of water per year.

**Certified Water Partner recognition:** The following best management practices and a scoring system are factored into the evaluation for facilities with city, county and school systems to receive an El Paso Water Certified Water Partner designation. Each Certified Water Partner facility will be required to recertify every two years.

**Best Management Practices**

<b>Restrooms</b>	<ul style="list-style-type: none"> <li>• All toilets must operate at flush volumes of 1.6 gpm or less</li> <li>• All urinals must operate at flush volumes of 0.5 gallons per flush or less</li> <li>• All restroom lavatory faucets must operate at 0.5 gpm or less</li> </ul>
<b>Kitchens</b>	<ul style="list-style-type: none"> <li>• All ice machines must be air-cooled units</li> <li>• All pre-rinse spray valves must operate at 1.6 gpm or less</li> <li>• All kitchen faucets must operate at 2.0 gpm or less</li> </ul>
<b>Outdoors</b>	<ul style="list-style-type: none"> <li>• Irrigation systems be operated in accordance with City of El Paso Irrigation Ordinances</li> <li>• Repairs and retrofits of broken, cracked or missing irrigations system components</li> <li>• Reasonable expectations of monthly water consumption for athletic fields during each season of the year based on a water budget calculation</li> <li>• Consistent distribution uniformity</li> </ul>

**Assistance for high-water using community facilities:** Through its auditing processes and benchmarking of customer data, EPWater has identified the high water using facilities and schools. The utility provides free audits and recommendations for improved water efficiency. With new audit software in 2019, EPWater will be able to provide a report immediately following the audit with both water savings and cost savings, if recommendations are implemented. EPWater is providing rebates, grants and/or matching grants for specific water-efficiency improvements in order to achieve desired water savings objectives.

**Multi-family Program**

The intent of the El Paso Water Certified Water Partner program for Multi-family is to facilitate long-term water efficiency gains through a cooperative program between EPWater and the multi-family sector. This voluntary program provides recommended best management practices (BMPs) to improve both water efficiency and customer satisfaction.



The Certified Water Partner program involves two components: 1) recognition for multi-family complexes that demonstrate best practices; and 2) expertise and assistance to high water consuming multi-family complexes to improve their water management practices.

There are approximately 4,095 multi-family accounts with the Utility. Combined, these accounts use approximately 9.7 billion gallons of water per year.

**Certified Water Partner recognition:** The following best management practices and a scoring system were factored into the evaluation for multi-family complexes to receive an El Paso Water Certified Water Partner designation. Each Certified Water Partner facility will be required to recertify every two years. To qualify, the multi-family complex must not have any violations on record related to the conservation ordinance within the past five years. An outreach and education program must be implemented to help residents of a complex understand the importance of conservation in the community.

**Best Management Practices**

<b>Restrooms</b>	<ul style="list-style-type: none"> <li>• All toilets must operate at flush volumes of 1.6 gpm or less</li> <li>• All showerheads must operate at 2.5 gpm or less</li> <li>• All restroom lavatory faucets must operate at 0.5 gpm or less</li> </ul>
<b>Kitchens</b>	<ul style="list-style-type: none"> <li>• All kitchen faucets must operate at 2.0 gpm or less</li> </ul>
<b>Outdoors</b>	<ul style="list-style-type: none"> <li>• Irrigation systems be operated in accordance with City of El Paso irrigation ordinances</li> <li>• Repairs and retrofits of broken, cracked or missing irrigations system components</li> <li>• At least 50 percent of landscaping should include native or drought-tolerant plants</li> </ul>

**Assistance for high-water users in multi-family sector:** Through its benchmarking of customer data, EPWater has identified high water using multi-family complexes. The Utility will provide audits and recommendations for improved water efficiency. The Utility will provide rebates, grants and/or matching grants for specific water efficiency improvements to achieve desired water savings objectives.

## Car Wash Program

The intent of the El Paso Water Car Wash Certification Program is to facilitate long-term water efficiency gains through a cooperative program between EPWater and area car washes. This voluntary program provides recommended best management practices (BMPs) to support both water efficiency and customer satisfaction.

There are approximately 122 active car washes within El Paso. These 122 car washes use approximately 107 million gallons of water per year or an average of 2,400 gallons per car wash per day.



### Program guidelines for car washes

The following recommended best management practices are required for recognition as an El Paso Water Certified Water Partner – Car Wash. As a prerequisite, the car wash will be evaluated for compliance with El Paso's conservation ordinance, which requires certification to EPWater that the car wash uses no more than 50 gallons of water per vehicle washed. Participants must also provide a copy of the previous years' sump manifest. Each participating facility will be required to recertify every two years.

### Types of car washes

**Self-service car wash:** A self-service car wash allows consumers to wash the car themselves. A wand dispenses water and cleanser at varying amounts and pressures. A low-pressure brush often assists in the wash cycle.

**Full-service car wash –full-service and exterior only:** The professional full-service wash cleans the exterior and interior as the customer waits outside the car while it is being washed. The car moves on a conveyor belt. There are two basic technologies for the wash cycle: The friction conveyor uses brushes or other materials or curtains made of strips of cloth, while the frictionless conveyor uses high-pressure nozzles for a touchless wash. These types of car washes use approximately 15 gallons of potable water or less per vehicle.

**Roll-over/in-bay automatic car wash:** These are found typically at gas stations and coin-operated car wash bays. After paying, the driver pulls into the bay and parks the car. The vehicle remains still while a machine moves back and forth over the vehicle to clean it, instead of the vehicle moving through the tunnel. Professional in-bay car washes use nylon brushes or other material, soft cloth strips or touchless automatic washers.

### Best Practices – all car washes

- Utilization of reuse water in the irrigation of landscape, which is associated with a vehicle wash facility when the El Paso is under a drought management stage
- All water-using devices must be maintained to original or improved specifications for water conservation
- All spray nozzles utilized at the vehicle wash will be replaced annually to assure maximum efficiency of water used
- All water leaks of any kind must be repaired as they occur
- All toilets utilized at the vehicle wash facility, with flush volumes of 3.5 gallons per flush or greater, must be replaced with high-efficiency toilets rated at 1.28 gallons per flush or less
- All hoses or faucets must be equipped with positive shut-off valves
- All driveways and impervious areas should be cleaned by sweeping instead of washing
- Driveways may be washed with high pressure, low-volume water systems for health and safety purposes only
- All spot-free reverse osmosis concentrates (if used) must be reused in the wash water holding tank
- Oil-water separators must be in proper working order
- Facilities must remain in good standing with EPWater wastewater compliance

**Best Practices – by type**

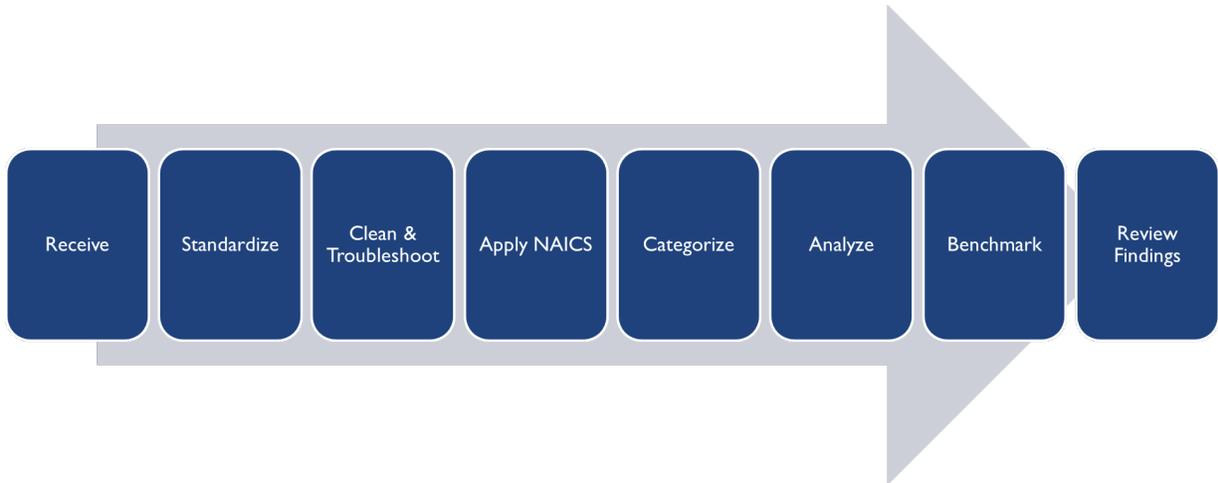
<b>Self-service car washes</b>	<ul style="list-style-type: none"> <li>• All chamois wringer sinks must have positive shut-off valves</li> <li>• All high-pressure wash nozzles and pump systems shall be calibrated to flows no greater than 3 gallons per minute. Replace existing nozzles with a reduced size nozzle and adjusting the pressure generated by the pumps as needed</li> <li>• All high-pressure wash wands shall be equipped with nozzle protectors to increase the life of the spray nozzle and protect water savings</li> </ul>
<b>Full service car washes</b>	<ul style="list-style-type: none"> <li>• Automatic high-level water cutoffs must be installed in all towel and chamois washing machines</li> <li>• A minimum of 50 percent of water utilized in the rinse phase of automatic washing must be recycled to the collector tanks to be used for the washing phase</li> </ul>
<b>Roll-over/in-bay automatic car washes</b>	<ul style="list-style-type: none"> <li>• All chamois wringer sinks must have positive shut-off valves</li> <li>• Some mechanical means must be used to create at least a 5-second dwell time for water to run off the vehicle into the sanitary sewer before vehicle can exit the bay</li> <li>• Direction of spray and timing is properly set and shut off when no longer in contact with vehicle</li> <li>• Maximum of 55 gallons for any wash package option for rollover in-bays</li> <li>• All rollover in-bay car washes shall restrict available washes to no more than 45 gallons per wash package during declared stages of drought restrictions</li> </ul>

**Assistance for high-water user car washes:** Through its benchmarking of customer data, EPWater will identify high-water using car washes. The utility will provide audits and recommendations for improved water efficiency. The Utility will provide rebates, grants and/or matching grants for specific water efficiency improvements to achieve desired water savings objectives.

**5.10 Customer Characterization: Analysis to Prioritize BMP Selection - Strategic BMP**  
*ICI Customer Classification and Benchmarking”*

Alan Plummer & Associates was hired to assist EPWater with taking a closer look at how different sectors of business and industry use water. The tasks were to:

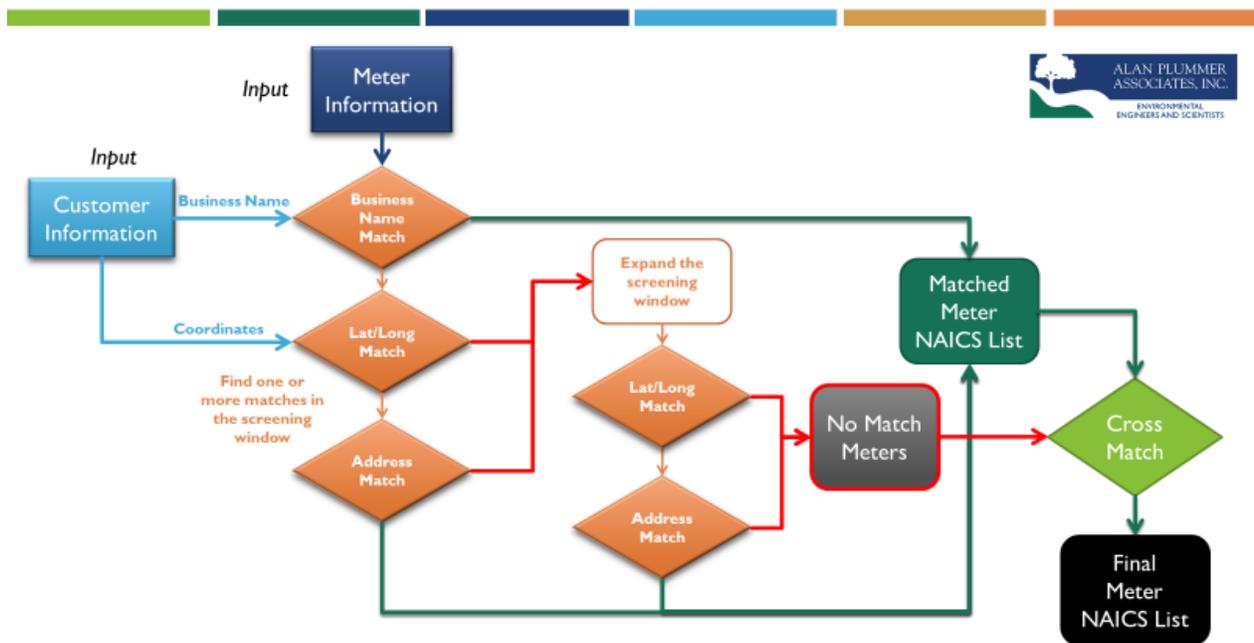
- 1) Establish a baseline of historical and current water use:** By using three years of water consumption data, a baseline for water use in industry within El Paso was established. From this established baseline, EPWater can monitor ICI water use more closely.
- 2) Categorize water use data as industrial, commercial, institutional (ICI) or multi-family:** The North American Industry Classification System (NAICS) was used to categorize EPWater’s water use data. TWDB and TCEQ also use NAICS. NAICS codes can be used to provide more specific information about a water utility’s commercial customer base. This allows water consumption standards to be established, meaning outliers can be more easily found.
- 3) Analyze the data for outliers and for areas where conservation efforts might be concentrated:** Once the data was categorized using NAICS, it was then analyzed to identify areas in which water conservation efforts could be made. Not only are those areas that need additional conservation efforts identified, but future conservation programs can be developed and established on a rolling basis as water use trends change. As water uses and population increases as projected, knowing exactly where to focus conservation efforts is key.



**Process**

The process started with the reception of data from EPWater. Three years of water consumption data were provided: year 1 (April 2015-March 2016), year 2 (April 2016-March 2017), year 3 (April 2017-March 2018). A copy of the data was formatted so there was one-line item per meter that includes its consumption history, customer name, service address and any other relevant information provided.

ArcGIS was used to geocode the premise street address provided for each meter. That information then fed into custom in-house script that utilizes the Texas State Comptroller database of businesses to assign a NAICS code to every meter. An illustration of the algorithm is summarized in the following figure. All business accounts were then run through the Dun and Bradstreet (DNB) database, where the NAICS codes were searched for by customer name and premise address. The DNB database utilized business name and street address to assign a NAICS code, a confidence score and a match grade. The confidence score and match grade were assessments of the likelihood that the provided NAICS code was correct.



**ALGORITHM ILLUSTRATION**

All EPWater meters provided were hand-coded with a six-digit NAICS code and special business notes, if any. NAICS codes were assigned based on the premise business’s primary activity.

A quality control check of all meters and hand-verification of NAICS codes were performed on accounts where the in-house coding script findings and the DNB NAICS codes findings did not align. Alan Plummer & Associates hand-verified the codes of top water consumers in the dataset. This method ensures high accuracy of data.

Analysis included calculating average monthly consumption by industry, average annual consumption and total consumption by an industry. Looking at raw numbers from all three years of water consumption, a list of high uses was amassed. The highest users by customer/business name were identified. Next, meter numbers with the highest use and then each premise address with high consumption were listed. The data from those industries were then normalized so that water use information was comparable within a specific industry. This part of the process is referred to as benchmarking. Choosing the proper metric is very important when evaluating whether one business is more conservative in water use than another. Comparing water usage from one hospital to another while only considering square footage will create misleading findings. Benchmarked industries included hospitals, restaurants, hotels, schools and apartments.

Additionally, Alan Plummer & Associates developed an “outlier tool.” This tool utilizes the four-digit primary NAICS code of each account to summarize basic statistics about an industry: count of accounts in that industry, average total consumption, total consumption for the entire industry/NAICS code, and outlier statistics as described below. Only accounts with a three-year sum of more than zero gallons were included in this analysis, as including 0-sum accounts would artificially deflate the normal consumption range. However, two completed outlier tools are provided in separate documents: one with a summary and high-user lists based on all water consumption data provided by EPWater (“El Paso Outlier Tool all accounts”), and one with a summary and high-user lists based on the water consumption of accounts who used more than zero gallons for the three-year sum (“El Paso Outlier tool nonzero accounts”).

**Findings**

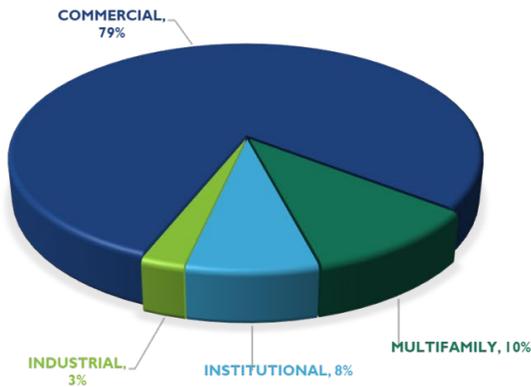
In total, more than 39,000 accounts or meters were identified and classified. Irrigation for public parks was placed into a separate category to be further analyzed .

**Water Consumption in El Paso Summary**

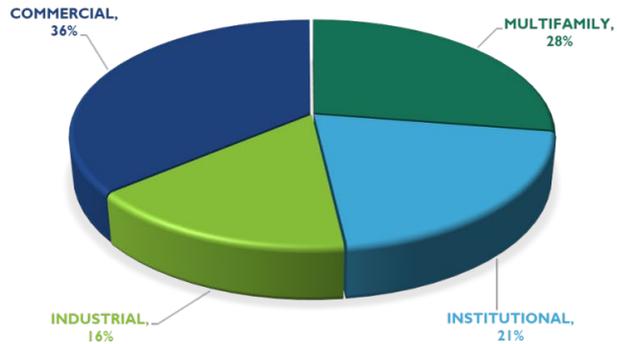
Category	Sum of YEAR 1	Sum of YEAR 2	Sum of YEAR 3	3 YEAR TOTAL CONSUMPTION	Metered Accounts
<b>Commercial</b>	4,193,410,438	4,211,412,700	4,289,472,861	12,694,295,999	30,309
<b>Industrial</b>	1,896,682,640	1,612,185,609	2,031,888,558	5,540,756,807	1,005
<b>Institutional</b>	2,347,984,450	2,460,344,795	2,479,743,215	7,288,072,460	2,996
<b>Multi-family</b>	3,295,150,436	3,208,142,022	3,204,481,632	9,707,774,090	4,095
<b>Grand Total</b>	<b>11,733,227,964</b>	<b>11,492,085,126</b>	<b>12,005,586,266</b>	<b>35,230,899,356</b>	<b>39,405</b>

**Categorization of water consumption by businesses in El Paso into ICI sectors.**

Evaluating how businesses in El Paso fall into each category, Commercial accounts are 79 percent of the total accounts, but only used 36 percent of the water over three years. Conversely, the accounts categorized as Multifamily make up 10 percent of the total business accounts, but have consumed over a quarter of the water over 3 years. The same could be said for both the Industrial and Institutional accounts whereby they make up a smaller percentage of the total number of accounts, but use more water.



PERCENTAGE OF ACCOUNTS BY SECTOR



PERCENTAGE OF WATER CONSUMPTION BY SECTOR

Side by side comparison of categorized municipal water accounts with the percentage of total water use by ICI sector.

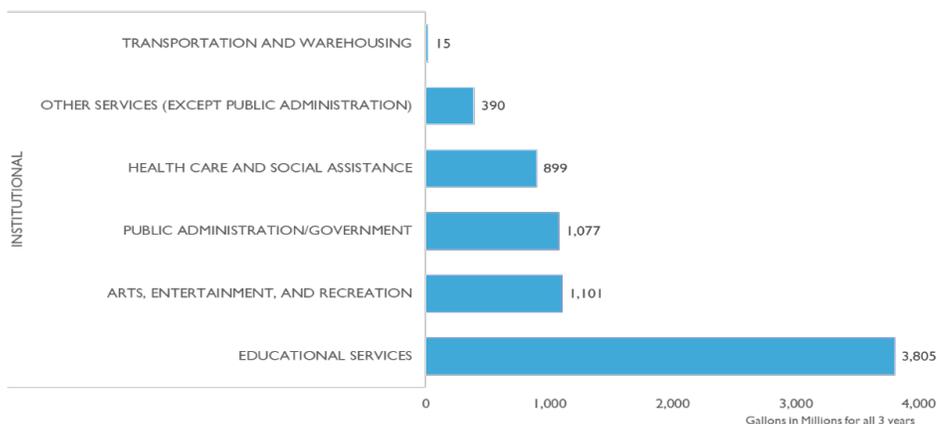
### Water Consumption by Sector/Category

#### A. Institutional

A majority of institutional water use goes into the Educational Services of El Paso, followed by Arts, Entertainment and Recreation, then Government. The Other Services business type includes churches, in this case, and the Transportation and Warehousing includes the U.S. Postal Service. Educational Services comprise 52.21 percent of the Institutional sector, and of that 81.15 percent are elementary and secondary schools, 13.25 percent are colleges, universities and professional schools, and 4.6 percent are junior colleges. Additional details on these categories:

- The Arts, Entertainment and Recreation businesses make up 15.11 percent of the Institutional sector, which includes country clubs, nature parks and other similar institutions; and zoos and botanical gardens
- Public Administration/Government includes police protection, correctional institutions and international affairs
- Health Care and Social Assistance is mainly comprised of water use for hospitals. Other Services represent El Paso’s churches using 5.35 percent of the Institutional sector
- Transportation and warehousing (El Paso’s U.S. Postal Service) uses the least of the Institutional sector

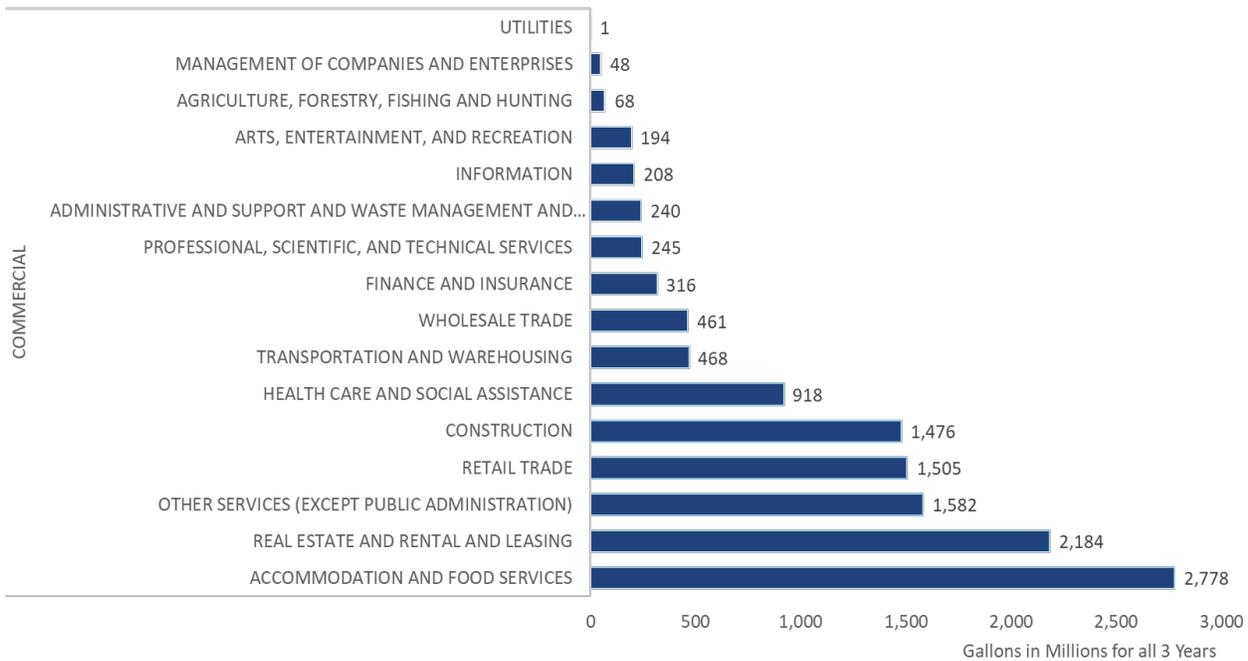
The business types that make up the Institutional sector of El Paso’s water use.



**B. Commercial**

The Commercial Sector for El Paso is mainly comprised of Accommodation and Food Services (21.88 percent), Real Estate and Rental and Leasing (17.21 percent), Other Services (12.46 percent), Retail Trade (11.86 percent), and Construction (11.63 percent). Health care and social assistance in El Paso is 7.23 percent of the commercial use in El Paso.

- Under Accommodation and Food Service business types, hotels and motels account for 37 percent closely followed by full-service restaurants at 35.88 percent. Limited service restaurants include fast-food chains and make up 18.77 percent of the Accommodation and Food Service business type for Commercial water use.
- Real Estate and Rentals and Leasing business types are comprised of shopping malls, strip retail centers and commercial rental space (47.32 percent). Mobile home parks and other real estate are a little over 25 percent, followed by commercial property managers (13.70 percent) and offices of real estate agents and brokers (7.71 percent).
- Other services include homeowners associations (37.43 percent), car washes (20.42 percent), and coin-operated laundries and dry cleaners (10.28 percent). This category also includes services such as general automotive repair, beauty and nail salons, parking and garages, and cemeteries and crematories.
- The Retail trade in El Paso includes 17.87 percent department stores, 17.44 percent supermarkets and grocery stores, 11.39 percent new car dealers and 5.91 percent are convenience stores. Although these are not all of the business types that fall under Retail trade, these business types are the majority.
- Construction (11.63 percent of Commercial Use) is mainly new single-family housing (24.71 percent), highway, street and bridge construction (20.58 percent), commercial and institutional buildings (20.56 percent), new multi-family housing construction (8.46 percent) reflecting El Paso’s continuing growth.
- Health care and social assistance business types are mostly doctor’s offices, kidney dialysis centers and services for the elderly and persons with disabilities.

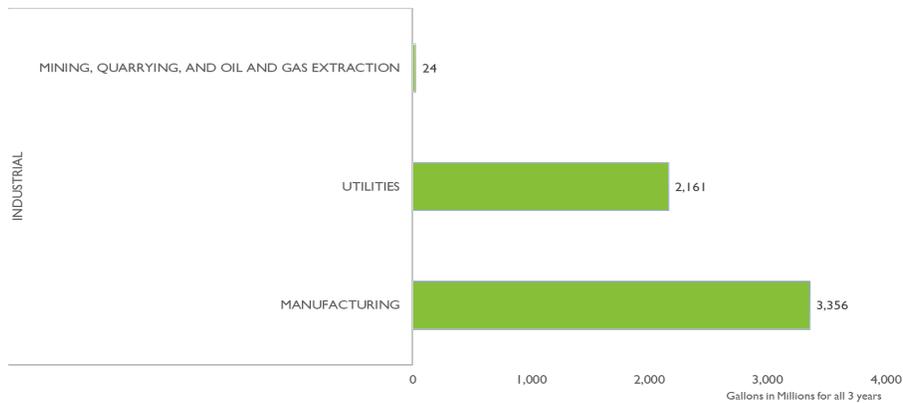


**Commercial sector of El Paso broken down into gallons in millions for all three years of data for each commercial business type.**

**C. Industrial**

The Industrial sector in El Paso is mainly manufacturing (60.56 percent) and utilities (39.01 percent) with mining, quarrying, and oil and gas extraction skirting in at 0.43 percent. Over half of the manufacturing that occurs in El Paso

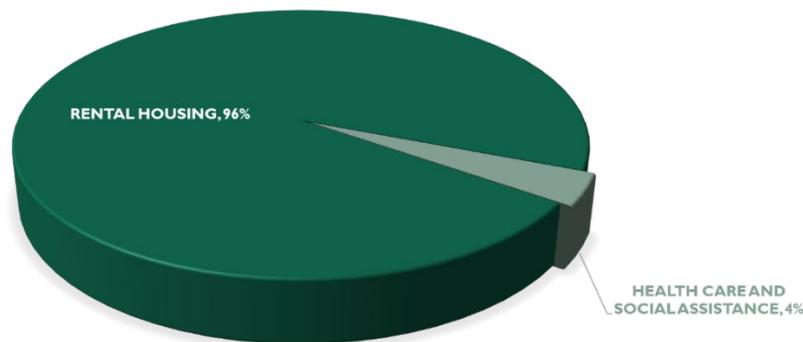
is done by petroleum refineries. Other products manufactured in El Paso include dry condensed and evaporated dairy products, soft drinks and fluid milk. Utilities is 99 percent electric power distribution.



**The Industrial sector of El Paso broken down in gallons in millions for all three years of water usage into the main business types of manufacturing and utilities.**

**Multi-family**

For El Paso, the Multi-family category is mainly apartments and residential rental properties (96 percent). Health care and social assistance under Multi-family is 4 percent of the sector. This includes properties considered similar to apartments or residential properties in terms of water use such as nursing care facilities, homeless shelters, retirement communities, residential mental health and substance abuse facilities, and assisted living facilities for the elderly.



**The Multi-family sector is divided into dwelling rentals and similar residential dwellings for water usage.**

**Outlier Tool results**

High users uncovered by the Outlier Tool are industry specific where the evaluation of the raw consumption data was not. Using standard deviation to flag outliers found a total of 959 outliers (3 percent of accounts with three-year consumption greater than zero) in the list of accounts based on average three-year consumption for each NAICS category.

Using Tukey’s method to flag outliers found a total of 3,898 outliers (11 percent of accounts with three-year consumption greater than zero) in the list of accounts based on average three-year consumption for each NAICS category. The code with the largest number of outliers using the standard deviation method was 5311, Lessors of Real Estate. This category includes apartments and shopping centers. The next second and third highest users were codes 7225, Restaurants and Other Eating Places and 2361, Residential Building Construction.

NAICS Code	2017 NAICS US Title	Count of Outliers (SD)	Percent Outliers (SD)
5311	Lessors of Real Estate	177	3%
7225	Restaurants and Other Eating Places	66	4%
2361	Residential Building Construction	42	1%

**Top three NAICS codes from Outlier Tool by number of outlier accounts based on standard deviation, the more exclusive method.**

NAICS Code	2017 NAICS US Title	Count	Percent Outliers (SD)	Percent Outliers (Tukey)
2361	Residential Building Construction	7,715	1%	11%
5311	Lessors of Real Estate	5,167	3%	13%
7225	Restaurants and Other Eating Places	1,779	4%	9%

**Top three NAICS codes from Outlier Tool by count and what percent of accounts were flagged as statistically high users with each method.**

**Benchmarking**

Based on the top users, sector-specific and non-sector-specific business types were selected to be benchmarked. Businesses from of each sector type were randomly selected for benchmarking. These business types included:

- Institutional – hospitals and schools
- Commercial – hotels and restaurants
- Industrial – petroleum refineries
- Multi-family – apartments
- Irrigation – El Paso public parks

**A. Institutional**

Two institutional sectors with high consumption that were subsequently benchmarked were hospitals and schools. Five local hospitals were randomly selected, and each hospital’s meters were combined to find that hospital’s total water consumption. Although it would be expected that higher patient capacity would correlate with higher water consumption, this was not the case in El Paso. For example, although Hospital A has the capacity for 319 beds and Hospital B has a capacity for 395 beds, Hospital A uses 126 gallons per day per bed more than Hospital B.

Customer Name	Total 3-Year Consumption	Gallons/Month	Number of Beds	Gallons/Day/Bed
Hospital A	160,541,919	4,459,498	319	466
Hospital B	145,147,025	4,031,862	395	340
Hospital C	103,975,141	2,968,420	350	283
Hospital D	104,936,420	2,941,331	350	280
Hospital E	89,260,195	2,647,703	327	270

**List of hospitals with water consumption data normalized for an effective comparison of water usage by gallons per day per bed.**

Seven schools across El Paso from different school districts were randomly selected and each school’s meters were combined to find that school’s total water consumption. High schools were focused on for an equivalent and consistent comparison of consumption. It is intuitive to expect that the more students enrolled in a school would result in higher water consumption per student. That is the case at High School A. However, other schools in El Paso

do not necessarily follow this trend. For example, High School B has nearly twice as many students as High School C, yet the gallons per student per day rate is approximately 6 gallons less. It should be noted, however, some of these schools provide before- and after-school extracurricular activities while others do not.

School District Name	No. of Students	Student Teacher	3-Year Total Consumption	Gallons/Month	Gallons/Student/Day
High School A	2,656	18.97	55,900,232	3,163,230	79.40
High School B	2,467	18.00	85,369,656	2,371,379	64.08
High School C	1,120	15.14	35,179,964	977,221	58.17
High School D	2,010	16.75	41,623,709	1,585,455	52.59
High School E	1,515	16.47	37,732,991	1,048,139	46.12
High School F	1,385	14.58	28,413,115	789,253	37.99
High School G	117	7.80	1,359,385	37,761	21.52

**List of local schools with water consumption data normalized for effective comparison of water usage by gallons per student per day.**

**B. Commercial:** Two commercial sectors with high consumption that were benchmarked were restaurants and hotels.

- **Restaurants:** Seven full-service restaurants were randomly selected for benchmarking along with a franchise chain with numerous locations. According to the National Restaurant Association and the Texas Restaurant Association, there are 45,418 eating and drinking locations in Texas (in 2016), and the average American has 4.2 meals commercially prepared per week. Based on the estimated population, it was assumed that El Paso has a total number of restaurant visits per year of 149,293,217. There were 2,312 eating and drinking establishments counted in the El Paso during the ICI study. Making an assumption that all restaurants are visited equally, (5,381 visits per establishment) the average number of gallons/visit to El Paso eating and drinking establishments is 3.78.
- **Hotels:** Hotels in El Paso were also randomly selected and benchmarked. When normalizing the data, it was assumed that each of the hotels would have two-thirds (0.68) occupancy and 1.5 guests per occupied room. The U.S. national average water consumption for hotels is 209 gallons per room per day. Most hotels in El Paso fall under the national average.

**C. Industrial**

The refining industry showed up frequently as a high user of water. Additional information from the refinery and other industrial customers will allow for a more in-depth analysis of their activities and water consumption.

**D. Multi-family**

Properties with the NAICS code for multi-family rental properties were randomly selected for benchmarking. The top two highest water-using apartments were also included in the analysis for perspective. Number of units were used to estimate maximum number of residents assuming full capacity. This was done by multiplying the number of units by 2.5, the average number of residents in an apartment per the U.S. Census Bureau.

## APPENDIX A

### List of References

- (1) El Paso Water's: "El Paso Water Conservation Plan," adopted by Public Service Board, El Paso, 2014. [https://www.epwater.org/conservation/resources/water\\_conservation\\_plan](https://www.epwater.org/conservation/resources/water_conservation_plan)
- (2) Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter A, Rule 288.1 and 288.2, and Subchapter B, Rule 288.20, accessed online at [http://info.sos.state.tx.us/pls/pub/readtac\\$ext.ViewTAC?tac\\_view=4&ti=30&pt=1&ch=288](http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288)
- (3) Texas Commission on Environmental Quality: "Water Utility Profile," accessed online at [http://www.tceq.state.tx.us/permitting/water\\_rights/conserves.html](http://www.tceq.state.tx.us/permitting/water_rights/conserves.html)
- (4) Texas Water Development Board: "Water Demand Projections, 2011 Regional Water Plan Data," accessed online at <https://www.twdb.state.tx.us/waterplanning/rwp/plans/index.asp>
- (5) "Water Conservation Best Management Practices Guide," Water Conservation Implementation Task Force, Texas Water Development Board Report 362; accessed online at <https://www.twdb.texas.gov/conservation/BMPs/index.asp>
- (6) Water Conservation ordinance for El Paso, accessed online at [www.epwater.org/about\\_us?rules\\_and\\_regulations](http://www.epwater.org/about_us?rules_and_regulations).
- (7) Texas Commission on Environmental Quality: "Model Drought Contingency Plan," accessed online at [http://www.tceq.texas.gov/permitting/water\\_rights/contingency.html](http://www.tceq.texas.gov/permitting/water_rights/contingency.html)
- (8) Region H Water Planning Group: "Draft Model Water Conservation and Drought Contingency Plan for Municipal Water Users Groups"
- (9) "Water Conservation Implementation Task Force Report to the 79th Legislature," accessed online at [https://www.twdb.texas.gov/conservation/resources/doc/WCITF\\_Leg\\_Report.pdf](https://www.twdb.texas.gov/conservation/resources/doc/WCITF_Leg_Report.pdf)
- (10) El Paso Water and Wastewater Rates, accessed online at [https://www.epwater.org/customer\\_service/rates\\_and\\_fees](https://www.epwater.org/customer_service/rates_and_fees)

The following water conservation and drought contingency plans and related documents were reviewed in the development of this plan.

- (1) City of Nacogdoches Water Conservation and Drought Contingency Plan, accessed online at <https://tx-nacogdoches.civicplus.com/DocumentCenter/View/39>
- (2) City of Bryan Water Conservation and Drought Contingency Plan, accessed online at <http://weblink.bryantx.gov/WebLink8/0/doc/6550/Page1.aspx>
- (3) City of Fort Worth 2014 Water Conservation Plan, accessed online at: [fortworthtexas.gov/.../Water/...water/FINAL%20WATER%20CONSERVATION%20P...](http://fortworthtexas.gov/.../Water/...water/FINAL%20WATER%20CONSERVATION%20P...)
- (4) City San Marcos Water Conservation and Drought Contingency Plan, accessed online at <http://www.crystalclearsud.org/drought-contingency>

## APPENDIX B

### Texas Administrative Code Title 30 Part I Chapter 288 Subchapter A Rule §288.1

<a href="#">TITLE 30</a>	ENVIRONMENTAL QUALITY
<a href="#">PART 1</a>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<a href="#">CHAPTER 288</a>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<a href="#">SUBCHAPTER A</a>	WATER CONSERVATION PLANS
<b>RULE §288.1</b>	<b>Definitions</b>

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The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise.

- (1) Agricultural or Agriculture - Any of the following activities:
  - (A) cultivating the soil to produce crops for human food, animal feed, or planting seed or for the production of fibers
  - (B) the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or non-soil media by a nursery grower
  - (C) raising, feeding or keeping animals for breeding purposes or for the production of food or fiber, leather, pelts or other tangible products having a commercial value
  - (D) raising or keeping equine animals
  - (E) wildlife management
  - (F) planting cover crops, including cover crops cultivated for transplantation, or leaving land idle for the purpose of participating in any governmental program or normal crop or livestock rotation procedure
- (2) Agricultural use—Any use or activity involving agriculture, including irrigation.
- (3) Best management practices—Voluntary efficiency measures that save a quantifiable amount of water, either directly or indirectly, and that can be implemented within a specific time frame.
- (4) 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. Texas Commission on Environmental Quality Page 2 Chapter 288 -Water Conservation Plans, Drought Contingency Plans, Guidelines and Requirements

(5) Commercial use—The use of water by a place of business, such as a hotel, restaurant or office building. This does not include multi-family residences or agricultural, industrial or institutional users.

(6) 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. A drought contingency plan may be a separate document identified as such or may be contained within another water management document(s).

(7) 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, and the development of power by means other than hydroelectric but does not include agricultural use.

(8) Institutional Use—The use of water by an establishment dedicated to public service, such as a school, university, church, hospital, nursing home, prison or government facility. All facilities dedicated to public service are considered institutional regardless of ownership.

(9) 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 from a public water supplier.

(10) Irrigation water use efficiency—The percentage of that amount of irrigation water, which is beneficially used by agriculture crops or other vegetation relative to the amount of water diverted from the source(s) of supply. Beneficial uses of water for irrigation purposes include, but are not limited to, evapotranspiration needs for vegetative maintenance and growth, salinity management and leaching requirements associated with irrigation.

(11) Mining use—The use of water for mining processes including hydraulic use, drilling, washing sand and gravel, and oil field repressuring.

(12) Municipal use—The use of potable water provided by a public water supplier as well as the use of sewage effluent for residential, commercial, industrial, agricultural, institutional and wholesale uses.

(13) Nursery grower—A person engaged in the practice of floriculture, viticulture, silviculture and horticulture, including the cultivation of plants in containers or non-soil media, who grows more than 50 percent of the products that the person either sells or leases, regardless of the variety sold, leased or grown. For the purpose of Texas Commission on Environmental Quality Page 3 Chapter 288 - Water Conservation Plans, Drought Contingency Plans, Guidelines and Requirements. This definition means the actual cultivation or propagation of the product beyond the mere holding or maintaining of the item prior to sale or lease, and typically includes activities associated with the production or multiplying of stock such as the development of new plants from cuttings, grafts, plugs or seedlings.

(14) 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.

(15) Public water supplier—An individual or entity that supplies water to the public for human consumption.

(16) Residential use—The use of water that is billed to single and multi-family residences, which applies to indoor and outdoor uses.

(17) Residential gallons per capita per day—The total gallons sold for residential use by a public water supplier divided by the residential population served and then divided by the number of days in the year.

(18) 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.

(19) 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.

(20) 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.

(21) Total use—The volume of raw or potable water provided by a public water supplier to billed customer sectors or nonrevenue uses and the volume lost during conveyance, treatment or transmission of that water.

(22) Total gallons per capita per day (GPCD)—The total amount of water diverted and/or pumped for potable use divided by the total permanent population divided by the days of the year. Diversion volumes of reuse as defined in this chapter Texas Commission on Environmental Quality Page 4 Chapter 288 - Water Conservation Plans, Drought Contingency Plans, Guidelines and Requirements shall be credited against total diversion volumes for the purposes of calculating GPCD for targets and goals.

(23) 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).

(24) 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.

(25) Wholesale use—Water sold from one entity or public water supplier to other retail water purveyors for resale to individual customers.

**Texas Administrative Code Title 30 Part I Chapter 288 Subchapter A Rule §288.2**

<a href="#">TITLE 30</a>	ENVIRONMENTAL QUALITY
<a href="#">PART 1</a>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<a href="#">CHAPTER 288</a>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<a href="#">SUBCHAPTER A</a>	WATER CONSERVATION PLANS
<b>RULE §288.2</b>	<b>Water Conservation Plans for Municipal Uses by Public Water Suppliers</b>

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.

- (i) 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;
- (ii) residential;
  - a. single family
  - b. multi-family
- (iii) commercial;
- (iv) (iii) institutional;
- (v) (iv) industrial;
- (vi) Agricultural
- (vii) Wholesale

(C) specific, quantified five-year and 10-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 percent 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 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 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 10 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 10-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.

**Texas Administrative Code Title 30 Part I Chapter 288 Subchapter B Rule §288.20**

TITLE 30 ENVIRONMENTAL QUALITY

PART 1 TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

CHAPTER 288 WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS

SUBCHAPTER B DROUGHT CONTINGENCY PLANS

**RULE §288.20 Drought Contingency Plans for Municipal Uses by Public Water Suppliers**

- (a) A drought contingency plan for a retail public water supplier, where applicable, must include the following minimum elements.
- (1) Minimum requirements. Drought contingency plans must include the following minimum elements.
- (A) Preparation of the plan shall include provisions to actively inform the public and affirmatively provide opportunity for public input. Such acts may include, but are not limited to, having a public meeting at a time and location convenient to the public and providing written notice to the public concerning the proposed plan and meeting.
- (B) Provisions shall be made for a program of continuing public education and information regarding the drought contingency plan.
- (C) The drought contingency plan must document coordination with the regional water planning groups for the service area of the retail public water supplier to ensure consistency with the appropriate approved regional water plans.
- (D) The drought contingency plan must include a description of the information to be monitored by the water supplier, and specific criteria for the initiation and termination of drought response stages, accompanied by an explanation of the rationale or basis for such triggering criteria.
- (E) The drought contingency plan must include drought or emergency response stages providing for the implementation of measures in response to at least the following situations:
- (i) Reduction in available water supply up to a repeat of the drought of record;
  - (ii) Water production or distribution system limitations;
  - (iii) Supply source contamination; or
  - (iv) System outage due to the failure or damage of major water system components (e.g., pumps).
- (F) The drought contingency plan must include specific, quantified targets for water use reductions to be achieved during periods of water shortage and drought. The entity preparing the plan shall establish the targets. The goals established by the entity under this subparagraph are not enforceable.
- (G) The drought contingency plan must include the specific water supply or water demand management measures to be implemented during each stage of the plan including, but not limited to, the following:
- (i) Curtailment of non-essential water uses; and
  - (ii) Utilization of alternative water sources and/or alternative delivery mechanisms with the prior approval of the executive director as appropriate (e.g., interconnection with another water system, temporary use of a non-municipal water supply, use of reclaimed water for non-potable purposes, etc.).

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- (H) The drought contingency plan must include the procedures to be followed for the initiation or termination of each drought response stage, including procedures for notification of the public.
  - (I) The drought contingency plan must include procedures for granting variances to the plan.
  - (J) The drought contingency plan must include procedures for the enforcement of mandatory water use restrictions, including specification of penalties (e.g., fines, water rate surcharges, discontinuation of service) for violations of such restrictions.
- (2) Privately-owned water utilities. Privately-owned water utilities shall prepare a drought contingency plan in accordance with this section and incorporate such plan into their tariff.
- (3) Wholesale water customers. Any water supplier that receives all or a portion of its water supply from another water supplier shall consult with that supplier and shall include in the drought contingency plan appropriate provisions for responding to reductions in that water supply.
- (b) A wholesale or retail water supplier shall notify the executive director within five business days of the implementation of any mandatory provisions of the drought contingency plan.
- (c) The retail public water supplier shall review and update, as appropriate, the drought contingency plan, at least every five years, based on new or updated information, such as the adoption or revision of the regional water plan.

**APPENDIX C**  
**Utility Profile Data**



**Texas Commission on Environmental Quality**

**Water Availability Division**  
**MC-160, P.O. Box 13087 Austin, Texas 78711-3087**  
**Telephone (512) 239-4691, FAX (512) 239-2214**

**Utility Profile and Water Conservation Plan Requirements for Municipal Water Use  
by Retail Public Water Suppliers**

This form is provided to assist retail public water suppliers in water conservation plan assistance in completing this form or in developing your plan, please contact the Conservation staff of the Resource Protection Team in the Water Availability Division at (512) 239-4691.

**Contact Information**

Name of Water Supplier: **El Paso Water Utilities Public Service Board (El Paso Water)**  
Address: **1154 Hawkins, El Paso, TX 79925**  
Telephone Number: **(915) 594-5407** Fax: **(915) 544-2539**  
Water Right No.(s): **Texas Permit No. 1535, EPCWID #1 Permit No. 14-06-500-762**  
Regional Water Planning Group: **Region E Far West Texas Planning Group**  
Water Conservation Coordinator: **Anai J. Padilla (915) 621-2000**  
Form Completed by: **Eddie Wilcut**  
Title: **Water Efficiency Practice Leader, Alan Plummer Associates, Inc.**

Signature:



Signature Name **Anai J. Padilla**

Date: **May 1, 2019**

**I. POPULATION AND CUSTOMER DATA**

*A. Population and Service Area Data*

1. A service area map and a copy of Certificate of Convenience and Necessity (CCN) are attached in Appendix D.
2. Service area size (square miles): **250 Square Miles**
  - Miles of water distribution pipeline: **2,706**
3. Current population of service area: **759,004 retail; 834, 213 retail and wholesale**
4. Current population serviced by utility – Based on 3.6 persons per household
  - **Water:** 209,092 retail accounts, 235,771 accounts (including wholesale customers)
  - **Wastewater:** 220,129 accounts (including wholesale customers) = 708,815
5. Population served by utility for previous five years:

Year	Retail Population	Retail and Wholesale Population
2014	727,290	881,330
2015	732,587	887,749
2016	748,270	906,754
2017	752,674	912,090
2018	759,004	919,761

*Population for the El Paso Service Area minus wholesale customers was calculated using data from the University of Texas El Paso (UTEP) Border Region Modeling Project. The total figure provided for each year by UTEP was assumed to represent populations served by wholesale customers and was therefore reduced by 12 percent.*

6. Projected population service area in the following decades:

Year	Population	Retail and Wholesale Population
2030	871,317	1,055,903
2040	971,200	1,176,945
2050	1,070,207	1,296,927
2060	1,163,943	1,410,527

7. Quantified 5-Year and 10-Year goals for water savings

Description	Historic 5-year average	Baseline (2018)	5-year goal for year 2024	10-year goal for year 2029
Total gpcd	130	128	126.5	125
Residential gpcd	75.6	72	71	70
Water Loss gpcd	12.82	16.2	12.7	12.5
Water Loss Percentage	9.98%	13%	10%	10%

- 8 Estimate the water supply requirements for the next ten years using population trends, historical water use, economic growth, etc.

Year	Population	Water Demand Gallons
2020	765,387	35,758,880,640
2021	771,824	36,003,274,128
2022	778,315	36,249,242,810
2023	784,861	36,496,821,361
2024	791,461	36,745,951,308
2025	798,118	36,996,759,890
2026	804,830	37,161,013,175
2027	811,598	37,325,392,020
2028	818,424	37,489,957,380
2029	825,307	37,654,631,875

*Population projections assume a 0.841% increase in population each year through 2029 – Based on growth from 2014 to 2018.*

9. List source(s) / method(s) for the calculation of current and projected population:

Population for the El Paso Service Area minus wholesale customers was calculated using data from the University of Texas El Paso (UTEP) Border Region Modeling Project. The total figure provided for each year by UTEP was assumed to represent populations served by wholesale customers and was therefore reduced by 12 percent. *Population projections assume a 0.841% increase in population each year through 2029 – Based on growth from 2014 to 2018.*

**Customer Data**

1. Current number of active connections by user type:

Treated Water Users	Metered	Non-Metered	Total
Residential – Total	191,593	0	191,593
o Residential – Single Family and Duplex/Triplex	189,370	0	189,370
o Residential - Multi-family	2,223	0	2,223
Commercial	14,430	0	14,430
Industrial/Mining	159	0	159
Institutional	2,910	0	2,920
<b>Total</b>	<b>209,092</b>	<b>0</b>	<b>209,092</b>

2. List the number of new connections per year for most recent three years:

Year	2016	2017	2018
Residential – Single Family, Duplex, Triplex	2,011	2,120	2,560
Residential – Multi-family	41	25	42
Commercial	7,093	303	-2,247
Industrial/Mining	27	162	0
Institutional	-165	35	8
<b>Total</b>	<b>9,007</b>	<b>2,645</b>	<b>363</b>

3. High Volume Customers

Customer	Type of Industry	Use (1,000 gal/year)
Lower Valley Water District Authority	Wholesale Customer	2,007,681
El Paso City	City Government	1,744,483
El Paso Electric Co.	Utility	1,616,975
Western Refining	Industrial	606,991
El Paso County	County Government	572,140
Federal Government	U.S. Government	520,767
Paseo del Este MUD	Wholesale Customer	509,975

II. Water Use Data for Service Area

A. Water Accounting Data

1. Amount of water use for previous five years (in 1,000 gal):

Treated Water from Production Reports – Includes Wholesale

Year	2014	2015	2016	2017	2018
January	2,245,406	2,247,995	2,242,231	2,218,455	2,347,547
February	2,206,661	2,136,005	2,309,481	2,132,516	2,164,118
March	2,737,004	2,642,852	2,868,580	2,838,896	2,805,156
April	3,171,027	3,131,688	3,125,613	3,288,231	3,266,000
May	3,673,938	3,550,084	3,565,520	3,765,983	3,949,536
June	4,354,731	4,155,691	4,027,025	4,104,213	4,176,579
July	4,131,630	3,959,477	4,423,457	3,922,435	4,026,683
August	3,497,773	4,027,451	3,668,412	3,606,865	4,077,338
September	3,146,924	3,651,581	3,112,570	3,570,964	3,548,666
October	2,988,093	2,872,099	3,173,780	3,229,760	2,873,024
November	2,451,589	2,407,091	2,521,767	2,652,220	2,521,117
December	2,321,709	2,294,774	2,343,493	2,349,283	2,327,895
<b>Total</b>	<b>36,926,485</b>	<b>37,076,788</b>	<b>37,381,929</b>	<b>37,679,821</b>	<b>38,083,659</b>

Source: El Paso Water Monthly Water Production Reports 2014 to 2018

2. Estimated Amount of water pumped in 1,000 gallons after removal of wholesale.

Year	2014	2015	2016	2017	2018
January	2,098,459	2,091,390	2,096,909	2,070,386	2,185,861
February	2,062,250	1,987,202	2,159,800	1,990,183	2,015,065
March	2,557,886	2,458,739	2,682,663	2,649,416	2,611,952
April	2,963,505	2,913,521	2,923,038	3,068,760	3,041,056
May	3,433,504	3,302,770	3,334,434	3,514,625	3,677,514
June	4,069,743	3,866,187	3,766,028	3,830,280	3,888,919
July	3,861,243	3,683,642	4,136,767	3,660,635	3,749,347
August	3,268,867	3,746,881	3,430,657	3,366,127	3,796,513
September	2,940,979	3,397,196	2,910,840	3,332,622	3,304,253
October	2,792,542	2,672,016	2,968,083	3,014,192	2,675,146
November	2,291,149	2,239,402	2,358,328	2,475,199	2,347,476
December	2,169,769	2,134,910	2,191,608	2,192,482	2,167,562
<b>Total</b>	<b>34,509,895</b>	<b>34,493,857</b>	<b>34,959,153</b>	<b>35,164,907</b>	<b>35,460,665</b>

Source: El Paso Water Monthly Pumpage and Operation Report. Includes surface water and groundwater.

The amount of water pumped is based on meters located at the treatment plant and meters at the connection where water is delivered to wholesale customers.

- Metered amount of water (in 1,000 gallons) delivered (sold) as recorded by the following account types:  
*Note: The amount of water sold is based on a March 1-February 28 fiscal year.*

Year	Residential	Commercial	Industrial	Wholesale/Other	Institutional	Total Sold
FY 2014	19,103,482	7,134,630	1,057,065	4,053,206	3,761,447	<b>34,423,821</b>
FY 2015	18,456,375	6,967,803	1,086,241	4,128,764	3,758,454	<b>34,271,957</b>
FY 2016	18,047,913	7,074,782	896,972	4,502,066	3,501,108	<b>34,022,841</b>
FY 2017	18,258,129	7,080,018	846,101	4,329,255	3,758,454	<b>34,397,637</b>
FY 2018	17,852,658	7,106,202	1,018,912	4,684,602	3,761,447	<b>35,109,830</b>

Source: the "El Paso Water Utilities Public Service Board Comprehensive Annual Report for the Fiscal Years Ended February 28, 2018 and February 28, 2017 El Paso, Texas."

**Water Sales by Calendar Year**

Year	Residential	Multifamily	Commercial	Industrial	Institutional	Total Metered
2014	18,581,221,000	2,449,496,000	4,698,472,000	2,202,517,000	3,535,841,000	<b>31,467,547,000</b>
2015	18,047,216,000	2,505,384,000	4,937,343,000	2,073,264,000	3,507,711,000	<b>31,070,918,000</b>
2016	18,270,148,000	2,458,947,000	5,061,244,000	2,018,338,000	3,759,752,000	<b>31,568,429,000</b>
2017	17,814,675,000	2,424,551,000	4,886,164,000	2,459,139,000	4,184,533,000	<b>31,769,062,000</b>
2018	17,572,212,000	2,413,333,000	4,900,247,000	2,236,804,000	3,687,532,000	<b>30,810,128,000</b>

Source: the "El Paso Water Utilities Public Service Board Comprehensive Annual Report for the Fiscal Years Ended February 28, 2018 and February 28, 2017"

- List the previous records for water loss for the past five years (the difference between water diverted or treated and water delivered or sold).

(The percentages are based on the master meters readings and billed water consumption not in correlation with the monthly billing cycles)

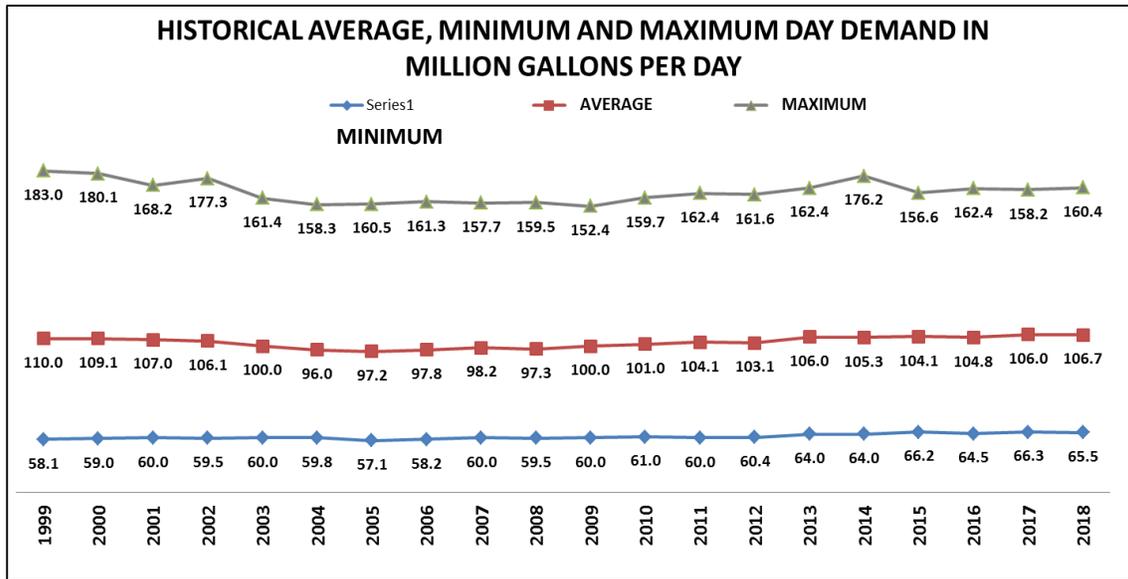
Year	Amount of Unaccounted for Water (1,000 gal)	Water Loss in GPCD	% Unaccounted for Water Use
2014	3,030,969	11.41776273	8.8%
2015	3,368,274	12.59665807	9.8%
2016	3,358,323	12.29620983	9.6%
2017	3,075,506	11.58553512	8.7%
2018	4,605,662	16.24750404	13%

Source: TWDB Water Loss Audits Reporting Forms 2014-2018

- List previous five years records for annual peak-to-average daily use ratio (From Production Reports- Includes Wholesale)

Year	Minimum MGD	Average MGD	Peak MGD	Ratio
2014	64	105.3	176.2	1.67
2015	66.2	104.1	156.6	1.50
2016	64.5	104.8	162.4	1.55
2017	66.3	106.0	158.2	1.49
2018	65.5	106.7	160.4	1.50

Ratio calculated using total average MGD and Peak MGD.



6. Total per capita water use for previous five years

Year	Population	Total Pumpage (1,000 gal)	Total Residential Per Capita Use (gpcd)	Total per Capita Use (gpcd)
2014	727,290	34,509,895	79	130
2015	732,587	34,493,857	77	129
2016	748,270	34,959,153	76	128
2017	752,674	35,164,907	74	128
2018	759,004	35,460,665	72	128

Source: El Paso Water Monthly Water Production Reports 2014 to 2018

7. Seasonal water use for previous five years (in gallons per capita per day)

Year	Population	Total per Capita Use (gpcd)	Summer per Capita Use (gpcd)	Seasonal Use (gpcd)
2014	727,290	130	171	42
2015	732,587	129	171	42
2016	748,270	128	168	38
2017	752,674	128	160	30
2018	759,004	128	167	36

Source: El Paso Water Monthly Water Production Reports 2014 to 2018

**Projected Water Demands**

If applicable, attach or site projected water supply demands from the applicable Regional Water Planning Group for the next 10 years using information such as population trends, historical water use, and economic growth in the service area over the next 10 years and any additional water supply requirements from such growth.

**2021 Regional Water Plan - Population Projections for 2020-2070 for Water User Groups by Region and County**

Region	County	WUG Name	2020	2030	2040	2050	2060	2070
E	EL PASO	COUNTY-OTHER, EL PASO	12,061	16,471	20,569	24,630	28,478	32,096
E	EL PASO	COUNTY-OTHER, EL PASO (VINTON HILLS ESTATES)	370	505	631	756	874	985
E	EL PASO	COUNTY-OTHER, EL PASO (VINTON HILLS SUBDIVISION)	861	1,176	1,469	1,759	2,034	2,292
E	EL PASO	EAST BIGGS WATER SYSTEM	11,870	11,870	11,870	11,870	11,870	11,870
E	EL PASO	EAST MONTANA WATER SYSTEM	6,599	7,529	8,391	9,247	10,057	10,818
E	EL PASO	EL PASO COUNTY TORNILLO WID	3,202	3,215	3,229	3,242	3,254	3,266
E	EL PASO	EL PASO COUNTY WCID 4	8,858	9,131	9,385	9,636	9,874	10,098
<b>E</b>	<b>EL PASO</b>	<b>EL PASO WATER UTILITIES PUBLIC SERVICE BOARD</b>	<b>734,031</b>	<b>822,625</b>	<b>904,900</b>	<b>986,455</b>	<b>1,063,672</b>	<b>1,136,275</b>
E	EL PASO	FEDERAL CORRECTIONAL INSTITUTION LA TUNA	1,668	1,668	1,668	1,668	1,668	1,668
E	EL PASO	FORT BLISS WATER SERVICES	26,453	27,499	28,471	29,434	30,343	31,200
E	EL PASO	HACIENDAS DEL NORTE WID	1,218	1,389	1,548	1,706	1,855	1,996
E	EL PASO	HORIZON REGIONAL MUD	52,993	74,830	95,108	115,207	134,239	152,133
E	EL PASO	LOWER VALLEY WATER DISTRICT	53,059	63,682	73,546	83,325	92,582	101,287
E	EL PASO	PASEO DEL ESTE MUD 1	8,116	9,260	10,320	11,372	12,369	13,304
	<b>EL PASO Total</b>		<b>925,565</b>	<b>1,055,903</b>	<b>1,176,945</b>	<b>1,296,927</b>	<b>1,410,527</b>	<b>1,517,340</b>

Source: Regional Summary of Water Demand Projections:2020-2070 water demand totals by demand category for all 16 planning regions.” Note: Lighter blue shading indicates communities in which El Paso Water provides wholesale service and direct billing to customers. Additional wholesale services are provided to smaller communities that are a piece of the County-Other category.

**2021 Regional Water Plan - Water Demand Projections for 2020-2070 for Water User Groups by Region and County in Texas in Acre-Feet**

Region	County	WUG Name	2020	2030	2040	2050	2060	2070
E	EL PASO	ANTHONY	770	905	1,033	1,163	1,291	1,412
E	EL PASO	COUNTY-OTHER, EL PASO	2,086	2,758	3,395	4,055	4,680	5,272
E	EL PASO	COUNTY-OTHER, EL PASO (VINTON HILLS ESTATES)	64	85	104	124	144	162
E	EL PASO	COUNTY-OTHER, EL PASO (VINTON HILLS SUBDIVISION)	149	197	242	290	334	376
E	EL PASO	EAST BIGGS WATER SYSTEM	798	798	798	798	798	798
E	EL PASO	EAST MONTANA WATER SYSTEM	806	891	974	1,064	1,155	1,241
E	EL PASO	EL PASO COUNTY TORNILLO WID	320	312	306	303	303	304
E	EL PASO	EL PASO COUNTY WCID 4	810	793	781	783	798	816
<b>E</b>	<b>EL PASO</b>	<b>EL PASO WATER UTILITIES PUBLIC SERVICE BOARD</b>	<b>110,572</b>	<b>120,315</b>	<b>129,713</b>	<b>139,978</b>	<b>150,601</b>	<b>160,792</b>
E	EL PASO	FEDERAL CORRECTIONAL INSTITUTION LA TUNA	352	345	342	340	339	339
E	EL PASO	FORT BLISS WATER SERVICES	4,881	4,921	5,024	5,182	5,331	5,481
E	EL PASO	HACIENDAS DEL NORTE WID	196	218	240	262	285	306
E	EL PASO	HORIZON REGIONAL MUD	7,936	11,043	13,962	16,868	19,630	22,235
E	EL PASO	IRRIGATION, EL PASO	149,570	149,570	149,570	149,570	149,570	149,570
E	EL PASO	LIVESTOCK, EL PASO	171	171	171	171	171	171
E	EL PASO	LOWER VALLEY WATER DISTRICT	5,714	6,563	7,398	8,290	9,189	10,045
E	EL PASO	MANUFACTURING, EL PASO	7,028	8,157	8,157	8,157	8,157	8,157
E	EL PASO	MINING, EL PASO	4,008	4,626	5,262	5,948	6,693	7,539
E	EL PASO	PASEO DEL ESTE MUD 1	1,054	1,167	1,278	1,397	1,515	1,629
E	EL PASO	STEAM ELECTRIC POWER, EL PASO	10,545	10,545	10,545	10,545	10,545	10,545
	<b>EL PASO Total</b>		<b>307,830</b>	<b>324,380</b>	<b>339,295</b>	<b>355,288</b>	<b>371,529</b>	<b>387,190</b>

Source: "Far West Texas Water Plan 2016" Note: Lighter blue shading indicates communities in which El Paso Water provides wholesale service and direct billing to customers. Additional wholesale services are provided to smaller communities that are a piece of the County-Other category.

### III. Water Supply System

#### A. Water Supply Sources

List all current water supply sources and the amounts authorized (in ace-feet) with each:

Water Type	Source	Amount Authorized (Acre-feet)
Surface Water	Rio Grande River	70,000 Acre-feet
Groundwater	Hueco Bolson and Mesilla Bolson	105,000 Acre-feet
Contracts	El Paso County Water Improvement District	Additional purchased surface water as needed
Other	N/A	

River Treatment Plant	Source	Owner	Capacity
Robertson-Umbenhauer Water Treatment Plant	River Water	El Paso Water	40 million gallons/day
Jonathan Rogers Water Treatment Plant	River Water	El Paso Water	60 million gallons/day

#### B. Treatment and Distribution System

Design daily capacity	Storage capacity: Elevated	Storage capacity: Ground
187.5 MGD	17.5 MGD	210.7 MGD

Miles of Water Distribution	Miles of Wastewater Mains	Fire Hydrants	MG Elevated Storage tank Capacity	MG Ground Storage Capacity	Wastewater Lift Stations
2,764	2,230	11,125	17.5	210.7	76

### IV. Wastewater Utility System

#### A. Wastewater System Data

- Design capacity of wastewater treatment plant(s): **96.2 Million Gallons per Day**
- Is treated effluent used for:

Use	Yes/No
On-Site Irrigation?	Yes
Off-Site Irrigation?	Yes
Plant Wash-down?	Yes
Chlorination/De-chlorination?	No

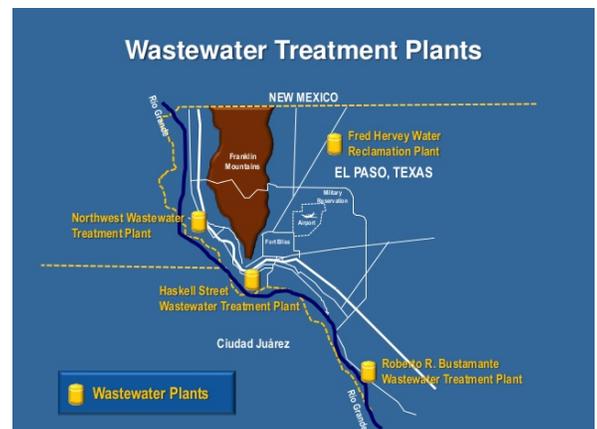
If yes, approximate amount in gallons per month: **98 Million Gallons per Month**

- Briefly describe the wastewater system(s) of the area serviced by water utility. Describe how treated wastewater is disposed of. Where applicable, identify treatment plant(s) with the TCEQ name and number,

the operator, owner, and, if wastewater is discharged, the receiving stream. Please provide a sketch or map which locates the plants and discharge points or disposal sites.

Treatment Plant	TCEQ Number	Owner	Discharge	Capacity	Reuse
Fred Hervey Water Reclamation Plant	WQ0010408007	El Paso Water	No Discharge Plant	12 MGD	1,823 MG / year
John T. Hickerson Water Reclamation Facility	WQ0010408009	El Paso Water	Rio Grande - Reclaimed water is delivered to Coronado Country Club Golf Course and various west side parks & schools	17.5 MGD	361 MG / year
Haskell R. Street Wastewater Treatment Plant	WQ0010408004	El Paso Water	Rio Grande or American Canal	27.7 MGD	273 MG / year
Roberto Bustamante Wastewater Treatment Plant	WQ0010408010	El Paso Water	Riverside Canal	39 MGD	40.4 MG / year

- a. **Fred Hervey Water Reclamation Plant** - The Fred Hervey plant, serving Northeast El Paso, treats 12 million gallons of wastewater daily from nearby homes, businesses and industries. The reclaimed water is sent to irrigation and industrial users. Customers include the Newman Power Plant, Painted Dunes Golf Course and the Northeast Regional Park. Every gallon of reclaimed water used reduces the amount of water pumped from the Hueco Bolson aquifer or diverted from the Rio Grande. The plant further treats reclaimed water to drinking water standards and uses it to recharge the aquifer through injection wells and infiltration basins. It was among the first in the nation demonstrate the feasibility of artificial aquifer recharge.
- b. **John T. Hickerson Water Reclamation Facility** - John T. Hickerson plant, serving West El Paso, receives wastewater from residential and industrial sources in the west and northwest parts of the city. Reclaimed water is delivered to Coronado Country Club Golf Course and various parks and schools in west El Paso.
- c. **Haskell R. Street Wastewater Treatment Plant** - This plant, serving Central El Paso, is designed to treat wastewater and discharge it to either the Rio Grande or the American Canal. The preferred discharge point is to the American Canal in order to provide irrigation water to farmers in the Lower Valley. In exchange for this irrigation water, EPWater obtains valuable water credits for surface water that is treated to drinking water standards, reducing our dependence on groundwater. Reclaimed water is also sent to several central El Paso schools and parks, including Ascarate Park and Ascarate Golf Course.
- d. **Roberto Bustamante Wastewater Treatment Plant** - This plant, serving East and Southeast El Paso, is designed to treat wastewater and return clean water to the Riverside Canal or Riverside Drain. Discharges to the Riverside Canal are used chiefly for irrigation purposes. Discharges to the Riverside Drain go mainly to the Rio Bosque Wetlands Preserve, where it helps sustain the aquatic habitat required by the diverse animal and plant species present.



**B. Wastewater Data for Service Area**

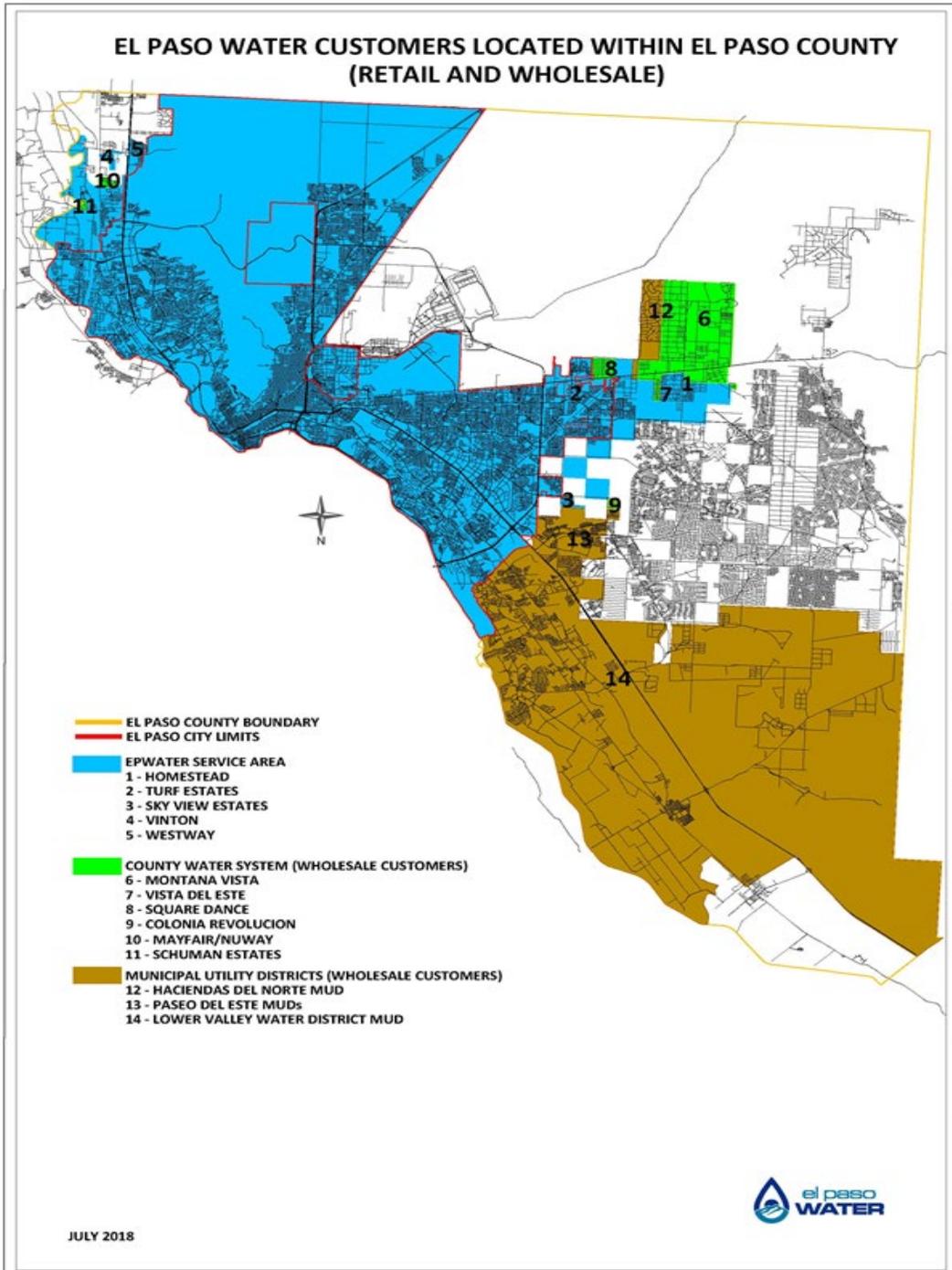
1. Percent of water service area served by wastewater system: **95%**
2. Monthly wastewater volume for previous five years (in 1,000 gallons):

Month	2014	2015	2016	2017	2018
<b>January</b>	1,754,661.71	1,733,198.92	1,755,683.40	1,686,575.00	1,689,440.00
<b>February</b>	1,583,209.64	1,546,480.52	1,634,188.58	1,549,977.75	1,482,180.00
<b>March</b>	1,736,107.94	1,705,492.94	1,713,894.70	1,752,310.90	1,606,580.00
<b>April</b>	1,707,609.42	1,664,230.15	1,651,146.16	1,707,019.94	1,661,657.86
<b>May</b>	1,818,112.99	1,808,151.58	1,793,553.99	1,836,904.98	1,794,754.00
<b>June</b>	1,810,668.79	1,803,306.82	1,784,710.20	1,840,940.76	1,806,939.70
<b>July</b>	1,891,992.38	1,895,401.22	1,890,780.21	1,922,914.14	1,854,069.30
<b>August</b>	1,942,834.26	1,925,370.64	1,960,095.69	1,997,149.07	1,866,696.90
<b>September</b>	1,899,006.25	1,859,140.11	1,884,004.60	1,871,905.84	1,843,413.50
<b>October</b>	1,804,316.68	1,830,620.42	1,836,491.73	1,853,093.25	1,754,905.92
<b>November</b>	1,729,005.01	1,702,819.55	1,706,430.10	1,698,076.79	1,651,376.42
<b>December</b>	1,737,790.00	1,761,130.00	1,674,601.35	1,740,673.14	1,719,164.10
<b>Total</b>	<b>21,415,315.08</b>	<b>21,235,342.87</b>	<b>21,285,580.70</b>	<b>21,457,541.57</b>	<b>20,731,177.7</b>

Source: El Paso Water, Wastewater Production Report, 2014 to 2018

### APPENDIX D

### EL PASO WATER SERVICE AREA MAP





## Texas Commission On Environmental Quality

By These Presents Be It Known To All That

**El Paso Water Utilities Public Service Board**

having duly applied for certification to provide water utility service for the convenience and necessity of the public, and it having been determined by this commission that the public convenience and necessity would in fact be advanced by the provision of such service by this Applicant, is entitled to and is hereby granted this

### Certificate of Convenience and Necessity No. 10211

to provide continuous and adequate water utility service to that service area or those service areas in El Paso County as by final Order or Orders duly entered by this Commission, which Order or Orders resulting from Application No. 35471-C is on file at the Commission offices in Austin, Texas; and are matters of official record available for public inspection; and be it known further that these presents do evidence the authority and the duty of El Paso Water Utilities Public Service Board to provide such utility service in accordance with the laws of this State and Rules of this Commission, subject only to any power and responsibility of this Commission to revoke or amend this Certificate in whole or in part upon a subsequent showing that the public convenience and necessity would be better served thereby.

Issued at Austin, Texas, this JUL 30 2008

  
For the Commission

**APPENDIX E**

**RATES**

**RULES AND REGULATIONS NO.5**

**RULES AND REGULATIONS ESTABLISHING A RATE  
FOR THE FURNISHING OF WATER SERVICE  
BY THE EL PASO WATER UTILITIES**

BY THE AUTHORITY GRANTED TO THE PUBLIC SERVICE BOARD BY VIRTUE OF ARTICLES 1111-1118, REVISED CIVIL STATUTES OF TEXAS, AND ORDINANCE 752, PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF EL PASO, TEXAS ON MAY 22, 1952 NOW THEREFORE, BE IT RESOLVED BY THE PUBLIC SERVICE BOARD OF THE CITY OF EL PASO, THAT THE FOLLOWING WATER RATES SUPERSEDE ALL RATES HERETOFORE FIXED AND ALL ORDINANCES HERETO PASSED WITH REFERENCE TO THE FIXING OF RATES FOR THE FURNISHING OF WATER SERVICE: (KNOWN AS RULES AND REGULATIONS NO.5).

**SECTION I**

There shall be collected from the users of every water service connected to the water system of the El Paso Water Utilities of the City of El Paso, Texas, for use thereof, a monthly charge consisting of a minimum charge plus a commodity charge for water used. For residential customers only, a volume of 4 hundred cubic feet (4 Ccf) will be included in the minimum charge. The following charges shall apply:

**A. MONTHLY MINIMUM CHARGES FOR WATER SERVICE. BASED ON SIZE OF METER**

<u>Meter Size</u>	<u>Minimum Monthly Bill</u>
Less than 1"	\$7.45
1"	\$11.62
1½"	\$19.92
2"	\$23.97
3"	\$47.86
4"	\$71.44
6"	\$108.31
8"	\$185.53
10"	\$356.76

B. Water used in excess of the volume allowance (4 Ccf) included in the minimum charge shall be billed at the following rates:

<u>Block</u>	<u>Volume</u>	<u>Charge Per Ccf</u>
Block 1	Over 4 Ccf to 150% of AWC*	\$2.24
Block 2	Over 150% to 250% of AWC	\$5.31
Block 3	Over 250% of AWC	\$7.59

C. AVERAGE WINTER CONSUMPTION

\*Average Winter Consumption (AWC) is the average amount of water used during the most recent December, January, and February billing periods. If the customer's calculated AWC is lower than the class average then the customer will be assigned the class average AWC by meter size for the respective customer classification. Any unestablished (no history) Customer at the time of service will default to the class average AWC by meter size for that customer classification.

D. WATER SUPPLY REPLACEMENT CHARGE

There shall be collected from the users of every service connected to the water system, including Local Government Turf Accounts and Very Large Water Users, a monthly Replacement Charge as follows:

<u>Meter Size</u>	<u>Monthly Charge*</u>
Less than 1"	\$11.04
1"	\$27.62
1 ½"	\$55.23
2"	\$88.36
3"	\$176.65
4"	\$276.05
6"	\$552.10
8"	\$1026.89
10"	\$1,954.94

\* If the monthly water consumption is less than 4 Ccf the monthly charge for Water Supply Replacement Charge will not be charged.

E. Charges for services less than the normal 30-day reading cycle shall be calculated in the same manner as a full reading cycle.

F. LOCAL GOVERNMENT TURF IRRIGATION ACCOUNTS

A uniform rate of \$2.80 per Ccf is hereby established for local government turf irrigation accounts serving only an associated turf area of local governments for all usage per acre that does not exceed a per month Ccf usage based on the evapotranspiration information set forth in the following table:

<u>Month</u>	<u>Maximum Ccf Per Acre</u>	<u>Month</u>	<u>Maximum Ccf Per Acre</u>
Jan.	40	July	280
Feb.	40	Aug.	200
March	50	Sep.	180
April	180	Oct.	120
May	200	Nov.	50
June	280	Dec.	40

"Turf irrigation accounts" shall mean an account established for applying water for irrigation and landscaping only, as determined by the PSB's President/CEO or his designee.

"Local government" shall mean any county, municipality, village, town, a common or independent school district, hospital district or political subdivision of the State of Texas; excluding from this definition, however, any department, board, or agency of the State of Texas; including, without limitation, any of the following local governmental entities: the City of El Paso, Texas; the County of El Paso, Texas; the El Paso Independent School District; and the El Paso Community College District.

Any usage by the local government turf irrigation accounts in excess of the above monthly allotments shall be billed at the Block 3 rates shown in subsection B above.

Participating local governments in this rate shall provide the Water Conservation Department the total acres served by each irrigation only meter, excluding the total areas for parking lots, building, hard surface courts, streets, and any other impervious areas. If such information is not provided by this date by those local governments participating on this date, water use for those local governments will be billed in accordance with the procedures and rates shown in subsection B above. Provided, however, any local government participating in the parks and recreation rate on the effective date of this Resolution shall not be required to comply with this paragraph and will continue to be billed under their established allotment, as that allotment may be adjusted in the future. Provided further, this exception shall not exempt any new account for such local government participating in the parks and recreation rate from fully complying with this paragraph.

In the case of multiple yard meters serving one location, the total acreage served must be divided in such a manner as to represent the acreage served per/by each yard meter. If the President/CEO, or his designee, after an investigation, determines that an equitable adjustment is required due to pressure variations and other factors, total consumption for meters looped at a single location must not exceed maximum Ccfs per acre allocated for the location.

No local government non-irrigation usage will be included in this special rate, including, without limitation, the use of water for swimming pools, fountains, and for human and animal consumption.

All local government turf irrigation accounts that modify the size of their landscape or turf area must provide the Water Conservation Department with written notice of the modification to allow the Water Conservation Department to recalculate new allotments.

Where reclaimed water is available, and an irrigation customer does not connect to the reclaimed water system, that customer shall pay the rate established in Section 1-K.

Reclaimed water is considered available if the property abuts on an easement or street with a reclaimed water line capable of providing service.

G. VERY LARGE WATER USERS

Section 15.13.05 of the El Paso Municipal Code, also known as The Water Conservation Ordinance, defines a "Very Large Water User" as a person who uses an average of 100,000 gallons per day or more. Monthly metered water consumption for any person or account having daily water use of 100,000 or more gallons shall be charged in accordance with the following table:

		<u>Charge Per Ccf</u>
Block 1	0 Ccf to 5,000 Ccf	\$2.80
Block 2	5,001 Ccf to 15,000 Ccf	\$3.54
Block 3	15,001 Ccf to 30,000 Ccf	\$4.24
Block 4	Over 30,000 Ccf	\$5.31

The Monthly Minimum Charge based on the size of the meter and contained in Section I A shall also apply to all Very Large Water Users. No minimum volume will be included in the Monthly Minimum Charge; all metered use will be charged at the rates noted above.

For existing accounts served by the El Paso Water Utilities Public Service Board, daily water use shall be determined each year based on metered water consumption for the twelve-month period ending December 31. Annual water use (in gallons) will be divided by 365 to determine daily water use. Any account determined to have used an average of 100,000 or more gallons per day shall be classified as a Very Large Water User, and the rates contained in Section I G of this Rule and Regulation shall apply for the twelve-month period beginning March 1 and ending at the end of February of the following fiscal year. This classification shall apply for the full twelve month period regardless of actual water use. The procedure for determining a Very Large Water User shall be repeated each year based on annual metered water use per account for the twelve months ending December 31.

New accounts with an anticipated water use in excess of 100,000 gallons per day will be charged the rates for Very Large Water Users until sufficient data is available for a consecutive twelve-month period.

This data shall then be used to calculate average daily water consumption and determine whether an account meets the definition of a Very Large Water User.

Local Government Turf Irrigation accounts will be charged in accordance with Section 1-F of this Rule and Regulation, regardless of average daily water use.

H. INCENTIVES FOR RECYCLING

1. All Customers

In order to encourage the use of recycled water by Very Large Water Users, the Utility will assist industries in evaluating alternatives to potable water use by providing water reuse technology seminars, providing water conservation audits, and assisting in providing water application techniques. Industries who recycle at least 25% of their potable water use or who connect to the Utility's reuse water system will be publicly acknowledged for their conservation efforts.

2. Existing Customers (served prior to July 1, 1995)

Very Large Water Users receiving service on July 1, 1995, who recycle a percentage of potable water, either purchased from the PSB and/or produced by the users from wells, as verified by Utility staff, will receive a recycling rebate as follows:

Percent of Potable Water Recycled	Amount of Recycling Rebate

25% to 29% 30% to 50% >50%	5% of water bill only 10% of water bill only 15% of water bill only
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Recycling rebates will be based on the percentage of recycled water used in comparison with the total potable water usage from January through December of each year. Recycling rebates for 1995 will be based on potable water usage and recycling from July through December, 1995. Rebates to qualifying customers will be paid in February for the prior year's recycled water usage. This program only applies to industries in existence as of July 1, 1995.

Very Large Water Users must complete a recycling rebate program application providing the company name, address, telephone and fax numbers, the names and telephone numbers of the plant manager and the person supervising the daily operation of the water recycling system, and a schematic diagram of the potable water and recycled water systems. The Utility will inspect the system and determine eligibility in accordance with these Rules and Regulations, and certify eligibility in writing. Participation will begin with the receipt of the first flow report submitted by the industry. Applications may be submitted to: Water Reclamation and Bio solids Manager- El Paso Water Utilities.

The following conditions must be met in order to be eligible for recycling rebates:

- a. The account must have been an active account as of July 1, 1995.
- b. Recycle rebates will not apply for new or additional accounts or metered service as a result of expansion or addition of new facilities.
- c. Industries must, at their own expense, purchase and install recycle flow meters and wastewater flow meters. Meters and installation must be Utility approved.
- d. Effluent water, recycle water, and wastewater flow meters must be read each production day and the information recorded in a bound logbook and shall be entered into a spreadsheet format. The information in the form of the spreadsheet printouts must be faxed and hand-delivered to the Utility's Water Reclamation and Bio solids Manager every Friday by 5:00 pm.
- e. Utility staff will assess the hydraulic capacity of all treatment equipment. The maximum theoretical recycle percentage will be developed from this flow. No higher percentage will be considered unless the equipment capacity is increased.
- f. Recycled water is intended to be used for production of finished products. Wash water, landscape irrigation, and other similar uses will not count toward the recycle percentage unless they are a minor constituent of overall recycle water usage for production purposes.
- g. Utility staff will assess the type of recycle equipment. Equipment designed only to remove solids will not be counted towards the recycle percentage unless such equipment is integral pretreatment for more advanced treatment. The final product of an approved recycle system must be suitable for actual process use.
- h. By participating in the program, customers agree to allow complete access during normal production hours to Utility employees for the purpose of inspecting equipment, water usage, and records. Water recycling records shall be verified a random by Utility staff.
- i. Participating in the recycling rebate program may be terminated under any of the following conditions: falsification of meter readings, tampering with or bypassing meters, violations of the Rules and Regulations of the Public Service Board, refusal of entry to authorized Utility personnel on official

business, failure to keep adequate records, failure to properly operate and maintain equipment.

I. CITY OF EL PASO LANDSCAPE AND TURF IRRIGATION RATE

A uniform rate of \$2.69 per hundred cubic feet (Ccf) is hereby established for the City of El Paso's landscape and turf irrigation accounts.

"Landscape and turf irrigation accounts" shall mean an account established for applying water for irrigation and landscaping only, as determined by the PSB's President/CEO or his designee.

Any non-irrigation usage will be included in this special rate, including, without limitation, the use of water for swimming pools, fountains, and for human and animal consumption.

Where reclaimed water is available, and an irrigation customer does not connect to the reclaimed water system, that customer shall pay the rate established in Section 1-K.

Reclaimed water is considered available if the property abuts on an easement or street with a reclaimed water line capable of providing service.

J. BRACKISH WATER RATE -Water containing 1000 mg/L or more of Total Dissolved Solids (TDS) and/or 300 mg/L or more of chlorides.

The Utility will supply brackish water at a rate of \$1.83 per Ccf (advanced secondary treatment reclaimed water rate).

K. NON-GOVERNMENT LANDSCAPE AND TURF IRRIGATION RATE

A uniform rate of \$5.31 per hundred cubic feet (Ccf) is hereby established for all non-government landscape and turf irrigation accounts.

"Landscape and turf irrigation accounts" shall mean an account established for applying water for landscaping and turf irrigation only, as determined by the PSB's President/CEO or his designee.

Non-irrigation usage will not be included in this special rate, including, without limitation, the use of water for swimming pools, fountains, and for human and animal consumption.

L. CONSTRUCTION METER RATES

A uniform rate equal to the rate established in Section 1-K is hereby established for all construction meter accounts. Reclaimed water used for construction purposes will be billed at the rates established in Rules and Regulations No. 6, Section X-A.

M. ANNEXATION FEES -1999

For property subject to annexation fees pursuant to a contract, a water connection fee shall be paid at the time of application for meter installation, including fire line and irrigation/yard services, for each water meter that is connected to the City of El Paso's water system as follows:

<u>Meter Size</u>	<u>Eastside Annexation Fee</u>	<u>Westside Annexation Fee</u>
Less than 1"	\$ 621	\$ 897
1"	\$ 1,553	\$ 2,243
1 ½"	\$ 3,105	\$ 4,485
2"	\$ 4,968	\$ 7,176
3"	\$ 9,936	\$ 14,352
4"	\$15,525	\$ 22,425
6"	\$31,050	\$ 44,850

8"	\$57,753	\$ 83,421
10"	\$82,593	\$119,301

Based on gallons-per-minute (gpm) water flow, El Paso Water Utilities Public Service Board Rules and Regulations No. 1, Section VII-J.

The water connection fee for the Eastside shall increase by three percent (3%) on December 1, 2000, and each year thereafter, compounded annually, rounded to the nearest dollar, in accordance with City of El Paso Ordinances 014262 and any amendments thereto.

The water connection fee for the Westside increase by three percent (3%) on September 1, 2000, and each year thereafter, in accordance with City of El Paso Ordinances 014200 and any amendments thereto. Payment of the water connection fee shall be due at the time of application for water connection to the system.

**N. EASTSIDE ANNEXATION FEES- 2005**

For property subject to annexation fees pursuant to a contract, a water connection fee shall be paid at the time of application for meter installation, including fire line and irrigation/yard services, for each water meter that is connected to the City of El Paso's water system as follows:

<u>Meter Size</u>	<u>Eastside Annexation Fee Water</u>
Less than 1"	\$566
1"	\$1,396
1½"	\$2,830
2"	\$4,528
3"	\$9,056
4"	\$14,150
6"	\$28,300
8"	\$52,827
10"	\$75,467

The Annexation Fee shall increase by three (3) percent on March 1, 2006, and each year thereafter, compounded annually, rounded to the nearest dollar. Payment of the water connection fee shall be due at the time of application for water connection to the system.

**O. CITY OF EL PASO FRANCHISE FEE**

Effective September 1, 2014, City Council established a franchise fee to be paid by the El Paso Water Utilities to compensate the City of El Paso for the use of city streets and rights of way for utility lines and wear and tear on City streets in a total amount of Three Million Five Hundred Fifty Thousand and No/100 Dollars (\$3,550,000.00). Effective September 1 of 2015, through 2018, City Council approved a franchise fee to be paid by the El Paso Water Utilities in a total amount of Three Million Five Hundred Fifty Thousand and No/100 Dollars (\$3,550,000.00). Effective June 2015, the City of El Paso's franchise fee was applied to all residential, non-residential and standby fire protection accounts based on meter size as follows:

<u>Meter Size</u>	<u>Residential Monthly Fee</u>	<u>Non-Residential Monthly Fee</u>	<u>Standby Fire Protection Monthly Fee</u>
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Less than 1"	\$0.77	\$0.98	N/A
1"	\$1.65	\$2.11	N/A
1 ½"	\$2.59	\$4.64	\$2.46
2"	\$3.60	\$8.98	\$5.53
2 ½"	N/A	N/A	\$6.02
3"	\$7.70	\$16.93	\$7.42
4"	\$12.84	\$28.56	\$10.89
6"	N/A	\$78.65	\$27.43
8"	N/A	\$125.84	\$42.70
10"	N/A	\$180.92	\$44.33
12"	\$110.36	\$338.21	\$46.03

P. In the interest of transparency, the President/CEO or his designee may determine that customer bills will reflect rate components. Additionally, The President/CEO is expressly authorized to adjust the franchise fee amounts to comply with the franchise fee as the El Paso City Council may amend it from time to time.

**SECTION II**

There shall be collected from every user of a connection to the water system for providing Standby Fire Protection a monthly standby charge based on the size of the service as follows:

<u>Size of Service</u>	<u>Monthly Charge</u>
1 ½"	\$9.51
2"	\$13.29
2 ½"	\$14.48
3"	\$18.87
4"	\$24.51
6"	\$34.00
8"	\$56.66
10"	\$94.40

All standby fire line services require a bypass detector meter be installed. Standby fire service meter shall be accessible to El Paso Water for meter reading on a monthly basis. Non-fire related use through a standby fire line service is not permissible and shall be charged the current Block 3 water rate per ccf per Section 1B of this PSB Rules and Regulations No. 5. A Fire Line testing allowance of 1 ccf or less is considered in billing assessment. All consumption greater than 1 ccf will be billed at current Block 3 rates.

If the standby fire service is determined to have a leak, which the customer could not have reasonably detected, then the Utility shall allow relief to the customer under Section VII PSB Rules and Regulations No. 5, guidelines below.

If consumption through the standby fire service is due to an actual fire on the premises, only the fixed meter charge will be assessed to the customer, pending written confirmation from the City Fire Marshall.

**SECTION III**

All of the aforementioned charges apply to water service to property within the City of El Paso. Where the water connection provides service to property outside the City Limits of El Paso, the charge for such service

shall be 1.15 times the rates for similar service to customers, whose property is inside the city limits, including the monthly Water Supply Replacement Charge.

#### SECTION IV

A \$20.00 trip fee is charged to customers that are flagged for disconnection for non-payment. This fee applies even if the customer pays in the field.

A \$25.00 fee is charged to customers to restore services that have been disconnected for non-payment. This fee will be applied to the next billing cycle.

A tampering fee will be charged to any customer found with water service that has been restored by an unauthorized party, where the meter is removed and/or relocated by other than Utility personnel, usage of bypass line and straight connection to service line. Only Utility representatives are authorized to restore water services. This charge may be assessed to the current account holder or tampering party where the tampering occurs. All fees and current past due amount must be paid prior to restoration of services. Tampering fees are as following:

1. Permanent Accounts - \$100.00 for first incident; \$500.00 for repeat occurrence per incident.
2. Construction Account - \$1000.00 for first incident; \$1,500.00 for second incident; \$2,000.00 per subsequent incident.

A \$25.00 fee applies to all returned payments for insufficient funds or other returns by a financial institution. Customers with repeat returned payments might be placed on a "cash only" status at the sole discretion of El Paso Water based on the account history and credit rating.

#### SECTION V

No customer or person shall use water from the City system except from a metered connection installed by the Utility. All meters are the property of the Utility and shall not be damaged, removed or altered by the customer or non-utility personnel. A charge of \$15.00 plus the cost of correcting any such damage and the estimated cost of the water used shall be paid before water is reconnected to any customer or property that has or has permitted the meter or service connection to be altered in such a way as to not accurately meter all of the water that flowed through the service connection.

#### SECTION VI

The Utility shall allow an adjustment on customer leaks. The adjustment will be considered for the two (2) highest consumption billings, when the Utility at its sole discretion, determines that the loss of water could not have been reasonably detected by the customer using the service (i.e., leak beneath a cement floor and/or running commodes). All other water lost through other causes is the responsibility of the customer. Nothing herein shall relieve the customer from repairing such leaks when the customer has an obligation to do so under the Water Conservation Ordinance, Chapter 15.13 of the City code.

The Utility will bear 75% of the excess water loss if customer provides proof of repair and/or can be validated through a utility consumption history or an inspection at the sole discretion of the Utility.

The Utility will bear only 50% of the excess water lost without validated proof of repair or reduced consumption in subsequent month after alleged leak occurred.

The amount of water lost will be determined by comparing the usage when the leak occurred and the previous year's usage during the same billing cycles. If the customer does not have a previous usage history, a monthly average usage before the leak occurred will be considered in determining the adjustment.

If the Utility grants an adjustment, no additional adjustments of this nature will be made on the same property for a period of 24 months from the month in which the adjustment was granted.

The Utility may assist a customer with deferred payments for such leak on an as needed individual basis.

#### SECTION VII

These rules and regulations shall be and become effective from and after their adoption by the Board and shall remain in effect until amended or changed by the Public Service Board. Changes to any fees or rates resulting from approval of the budget are effective on the 1<sup>st</sup> day of March and shall remain in effect until amended or changed by the Public Service Board.

#### SECTION VIII

This Rule and Regulation is a part of the other Rules and Regulations of the Public Service Board and persons accepting service agree to comply with the appropriate provisions and conditions of all of the Rules and Regulations. If any part of the Rules and Regulations be held void, such part shall be deemed severable and invalidity thereof shall not affect the remaining parts of these Rules and Regulations.

PASSED, APPROVED and ADOPTED the 27<sup>th</sup> day of March, 1991 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTION II REVISED, APPROVED and ADOPTED the 25<sup>th</sup> of September, 1991 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO. 5, SECTION 1-D REVISED, APPROVED and ADOPTED the 12<sup>th</sup> of February, 1992 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO. 5, SECTION 1-F PASSED, APPROVED and ADOPTED the 24<sup>th</sup> of February, 1993 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO. 5, SECTION 1-A, 1-B, 1-F AND SECTION III REVISED, APPROVED and ADOPTED the 23<sup>rd</sup> of February, 1994 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTION 1-F AND SECTION II REVISED, APPROVED and ADOPTED the 8<sup>th</sup> of March, 1995 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO. 5, SECTION G AND SECTION H PASSED, APPROVED and ADOPTED the 14<sup>th</sup> of June, 1995 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTIONS I(A), I(B), I(C),I(D),and SECTION III REVISED, APPROVED, and ADOPTED the 28<sup>th</sup> of February, 1996, by the Public Service Board of the City of El Paso.

RULES & REGULATIONS NO.5, SECTION I PASSED, APPROVED and ADOPTED the 8<sup>th</sup> of May, 1996 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO. 5, SECTION J PASSED, APPROVED and ADOPTED the 11<sup>th</sup> of December, 1996 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTION I (D) and SECTION V, REVISED, APPROVED and ADOPTED the 18<sup>th</sup> of December, 1997 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO. 5, SECTIONS I(B), I(F), I(G), 1(1), I(J), and V REVISED, APPROVED and ADOPTED the 8<sup>th</sup> of December, 1999 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTIONS I (K) and I (L) PASSED, APPROVED and ADOPTED the 8<sup>th</sup> of December, 1999 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTIONS I(A), I(B), I(F), I(G), I(J), and II REVISED, APPROVED and ADOPTED the 24<sup>th</sup> of January, 2001 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTIONS I(A), I(B), I(D), I(F), I(G), I(J), and II REVISED, APPROVED and ADOPTED the 23<sup>rd</sup> of January, 2002 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO. 5, SECTIONS I (L) REVISED, APPROVED and ADOPTED the 13<sup>th</sup> of February, 2002 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTIONS I (A,B,D,F,G,I,J,& K), and Section II, REVISED, APPROVED and ADOPTED the 8<sup>th</sup> day of January, 2003 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTIONS I (A,B,D,F,G,I,J,& K), and Section II, REVISED, APPROVED and ADOPTED the 14<sup>th</sup> day of January, 2004 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTION VII, REVISED, APPROVED and ADOPTED the 12<sup>th</sup> day of January, 2005 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTIONS I (J,K,L,M,N), REVISED, APPROVED and ADOPTED the 12<sup>th</sup> day of January, 2005 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTIONS I (J,K,L,M,N), ADDED, REVISED, APPROVED and ADOPTED the 25<sup>th</sup> day of January, 2006 by the El Paso Water Utilities Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTIONS I (A,B,D,F,G,J,K), SECTION II, ADDED, REVISED, APPROVED and ADOPTED the 13<sup>th</sup> day of December, 2006, by the El Paso Water Utilities Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTIONS I (A,B,F,G,I,J,L) AND SECTION II, ADDED, REVISED, APPROVED and ADOPTED the 9<sup>th</sup> day of January, 2008, by the El Paso Water Utilities Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTIONS I (A,B,C,D,F,G,J,& K), Section II, Section V and Section VI REVISED, APPROVED and ADOPTED the 14<sup>th</sup> day of December, 2011 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTIONS I (A,B,D,F,G,J,K,M,N), Section II and Section V REVISED, APPROVED and ADOPTED the 12<sup>th</sup> day of December, 2012 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO.5, SECTIONS I (C, J, M, N) REVISED, APPROVED and ADOPTED the 11<sup>th</sup> day of December, 2013 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO. 5, SECTION I (A,B,D,F,G,J,K,O,P), SECTION II, SECTIONS IV, V, VI, VII, VIII, REVISED, APPROVED and ADOPTED the 10<sup>th</sup> day of December, 2014 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO. 5, SECTION I (A,B,D,F,G,J,K,O,P), SECTIONS IV, VII, and XI, REVISED, APPROVED and ADOPTED the 13<sup>th</sup> day of May, 2015 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO. 5, SECTION I (A,B,D,F,G,H (e),(g),I,J,K,M,N,O), SECTION II, SECTION

IV, SECTION VI, SECTION VII REVISED, APPROVED and ADOPTED the 13<sup>th</sup> day of January, 2016 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATIONS NO. 5, SECTION I (A,B,C,D,F,G,I,J,K,O), SECTION II, SECTION IV, SECTION VI REVISED, APPROVED and ADOPTED the 11<sup>th</sup> day of January, 2017 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATION NO. 5 SECTION I (A,B,D,F,G,I,J,K,O), SECTION II, REVISED, APPROVED and ADOPTED the 10<sup>th</sup> day of January, 2018 by the Public Service Board of the City of El Paso, Texas.

RULES & REGULATION NO. 5 SECTION I (A,B,C,D,F,G,I,J,K,O), SECTION II, SECTION IV, REVISED, APPROVED and ADOPTED the 9<sup>th</sup> day of January, 2019 by the Public Service Board of the City of El Paso, Texas.

**PUBLIC SERVICE BOARD:**



Christopher Antcliff, Chair

**ATTEST:**



Kristina Mena, Secretary-Treasurer

**APPROVED AS TO FORM:**



Lee Ann B. Koehler, General Counsel

## APPENDIX F

### CITY ORDINANCE – WATER CONSERVATION

#### Chapter 15.13 - WATER CONSERVATION

Sections:

##### 15.13.005 - Definitions.

All definitions contained in Section 15.12.005, Definitions, of Chapter 15.12 "Water and Sewer System" are incorporated into this chapter by reference.

(Ord. 14805 (part), 2001)

##### 15.13.010 - Water conservation compliance.

No person who uses water from the city water supply system, the management and control of which the city council delegated to the El Paso water utilities public service board (public service board) by Ordinance No. 752, shall make, cause, use or permit the use of water received from the public service board for residential, commercial, industrial, agricultural, governmental or any other purposes in a manner contrary to any provisions of this chapter. Provided further, that no person shall make, cause, use or permit the use of water in a manner contrary to Section 15.12.075 of the city code or Section 15.13.040 of this chapter, regardless of whether that water is received from the El Paso water utilities public service board. When used in this chapter, the terms "commercial," "industrial," and "residential" shall have the meaning and usage consistent with the usage of those terms under Title 20, Zoning, of the city code.

(Ord. 14805 (part), 2001; Ord. 10503 § 2 (part), 1991)

##### 15.13.020 - Mandatory compliance—Lawn and landscape watering.

The following mandatory restrictions shall apply to all customers of, or persons who use or receive water from the public service board:

- A. All outdoor irrigation of grass, trees, plants or other vegetation on residential and commercial property on the side of the street on which building addresses are even numbered, may be done only Tuesdays, Thursdays and Saturdays; and on the side of the street on which buildings are odd numbered, such vegetation may be irrigated only on Wednesdays, Fridays and Sundays. In case of corner buildings having both odd and even numbers, the number carried on the books of the public service board shall control.
- B. All outdoor irrigation of grass, trees, plants or other vegetation on industrial properties, parks, golf courses, schools and cemeteries may be permitted only on Mondays, Wednesdays and Fridays. All other properties, not falling within the industrial classifications described in this subsection, shall be considered residential and shall be watered in accordance with the requirements of subsection A of this section.
- C. Outdoor irrigation of grass, trees, plants or other vegetation on City of El Paso parks (with such meter/account under the control and management of the City of El Paso Parks and Recreation Department) may be permitted for more than three days, subject to the submission and approval of an annual Conservation Plan. Time-of-day restrictions apply all year for City parks, with irrigation prohibited from ten a.m. to six p.m. The City of El Paso Parks and Recreation Department will submit

the annual conservation plan to the conservation manager by end-of-January each year. The plan will consist of:

- Conservation goals and targets; total annual water consumption, volume per developed acre, and any other agreed upon metric;
- Conservation improvements implemented in prior year; improvements planned for year ahead, consistent with the Texas Water Development Board municipal parks best management practices;
- Policy statement that any new city parks have been designed to irrigation standards established by the Texas Commission on Environmental Quality; and
- Special variances needed for the year (watering days, new parks, turf renovation, seeding, etc.).

The plan will be considered and approved on an annual basis with previous year compliance taken into account as part of the approval process. All outdoor irrigation shall be subject to the drought and water emergency management response plans adopted by the public service board.

- D. From April 1st to September 30th, all outdoor irrigation of vegetation is prohibited between the hours of ten a.m. and six p.m.
- E. E. The review board of the public service board shall have the authority to review special situations and hardship cases upon application of any person in accordance with the procedures set forth in Section 15.13.060 of this chapter.

(Ord. 14805 (part), 2001; Ord. 10942 § 2, 1992; Ord. 10503 § 2 (part), 1991)

(Ord. No. 18842, § 1, 9-4-2018)

**15.13.030 - Nonessential water use restrictions.**

The following restrictions shall apply to all customers of or persons who use or receive water from the public service board:

- A.
  1. The washing of automobiles, trucks, trailers, boats, airplanes and other types of mobile equipment shall be done only with a hand-held bucket or a hand-held hose equipped with a shut-off nozzle that completely shuts off the flow of water, even if left unattended. This restriction does not apply to the washing of the above-listed vehicles or mobile equipment when conducted on the premises of a commercial car wash or a commercial service station. When used in this chapter, "bucket" means a bucket or other container holding five gallons or less;
  2. The washing of automobiles, trucks, trailers, boats, and other types of mobile equipment for fund-raising purposes must be conducted at a commercial car wash.
  3. Prior to connection of water service to any commercial car wash issued building permits for construction after June 1, 2002, a certification shall be provided to the El Paso Water Utilities that the car wash uses no more than fifty gallons of water per vehicle washed. Absent such certification, no water service will be provided.
- B. The following uses of water are defined as "wasting water" and are absolutely prohibited:
  1. Irrigating any turf grass, tree, plant, or other vegetation, or otherwise utilizing the city water supply system to permit or cause water to pond, or to flow, spray or otherwise move or be

discharged from the premises of any person responsible for any property within the corporate limits of the city, or which receives water from the public service board to or upon any street, alley, gutter or ditch, or other public right-of-way, or into a storm water drainage system or facility;

2. Failing to repair a leak within five working days of the discovery of same;
3. Washing sidewalks, driveways, parking areas, tennis courts, patios or other impervious surface areas with a hose, except in emergencies to remove spills of hazardous materials or to eliminate dangerous conditions which threaten the public health, safety, or welfare. "Impervious surface area" means any structure, street, driveway, sidewalk, patio or other surface area covered with brick, paving, tile or other impervious or nonporous material.

C. When referred to in this subsection, "swimming pool" shall mean any portable or permanent structure containing a body of water twenty-four inches or more in depth and containing one thousand one hundred twenty-two gallons or more of water and intended for recreational purposes, including a wading pool and as more fully defined under Sections 20.02.1064 and 20.02.1066 of the City Code. All swimming pools, which are constructed after the effective date of the ordinance codified in this chapter, must be equipped with filtration, pumping and recirculation systems. All existing swimming pools not equipped with such shall, within five years of April 1, 1991, be converted to filtration, pumping and recirculation systems, unless the review board, upon application of the pool owner or operator for a variance under Section 15.13.060 of this chapter, grants such a variance or extension of time. It is unlawful to drain swimming pools into the street, alley, gutter or other public right-of-way, ditch, or storm water drainage system or facility. Swimming pools may be drained into the sanitary sewer system only in coordination with El Paso Water Utilities' Wastewater System Division Manager.

D. New or replacement bleeder lines from evaporative coolers shall not be larger than one eighth-inch inside diameter. Bleeder lines shall be conducted outside and discharged so that the effluent can be used for water landscaping and other outdoor vegetation, except where this would be impractical or unfeasible. E. No person shall use water for non-residential single pass cooling or heating purposes unless the water is reused for other purposes. "Single pass cooling or heating" means the use of water without recirculation to increase or decrease the temperature of equipment, a stored liquid or a confined airspace.

(Ord. 15106 § 1, 2002; Ord. 14805 (part), 2001; Ord. 10505 § 2 (part), 1991)  
 (Ord. No. 17393, § 9, 8-24-2010, eff. 9-1-2010)

**15.13.040 - Declaring of nuisance of exist.**

The flow of produced water from property into streets, alleys, gutters, and other public rights-of-way, ditches, or into a stormwater drainage system or facility is contrary to the public health, safety and welfare of the citizens of El Paso and is therefore declared to be a nuisance. "Produced water" shall have the same meaning as set forth in Section 15.12.005 (A) of the City Code. Both the city attorney's office and the attorney for the public service board are authorized to take legal action to abate such a nuisance, including but not limited to seeking injunctive relief. This authorization to seek injunctive relief, or other legal action to abate such a nuisance shall not preclude prosecution for a violation of this chapter.

(Ord. 14805 (part), 2001; Ord. 10503 § 2 (part), 1991)  
 (Ord. No. 17393, § 10, 8-24-2010, eff. 9-1-2010)

**15.13.050 - Large and very large users.**

- A. For the purpose of this section, a large water user is defined as "any person who uses an average of ten thousand gallons per day or more from the water supply system under the management and control of the public service board." A very large water user is defined as "any person who uses an average of one hundred thousand gallons per day or more from the water supply system under the management and control of the public service board."
- B. All new very large water users, or existing very large water users, who apply for new service or an expansion of an existing service shall obtain approval from the public service board before being permitted to connect to the system or to expand within the system. Such large water users shall submit a water conservation plan to the Water Conservation Manager which contains a water use justification report that relates the water consumption to recycling potential and meets the requirements of subsection C of this section. The water conservation manager shall submit a recommendation, based upon this submittal to the public service board which shall render its decision within thirty days of the receipt of the recommendation from the water conservation manager. The water conservation manager shall review all water conservation plans submitted to determine whether the plan meets the requirements of this section. The public service board may approve the application for service with or without conditions, deny the application, or take any other action consistent with the policies expressed in this chapter.
- C. All large water users who use more than an average of twenty-five thousand gallons per day shall prepare and submit to the water conservation manager, within six months of April 1, 1991, a water conservation plan, in accordance with this section as a condition for continued use or new service. All large water users, who use more than an average of ten thousand gallons per day but less than twenty-five thousand gallons per day, shall prepare and submit to the water conservation manager, within one year of April 1, 1991, a water conservation plan, in accordance with this section as a condition for continued use or new service. The water conservation plan must demonstrate that reasonable diligence will be used to avoid waste and achieve water conservation. The water conservation plan shall include techniques and technologies that will 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. All conversion to recycling and reuse of water, if required, shall be accomplished within five years from the date of submittal of the water conservation plan. The water conservation manager may require additional information to be submitted which he/she deems necessary. If the water conservation plan demonstrates that the large water user will use reasonable diligence to avoid waste and achieve water conservation, the water conservation manager shall approve the plan. All approved water conservation plans shall be revised every five years. A fee of twenty-five dollars per plan submittal shall be assessed to defray administrative costs.
- D. In considering approval of a water conservation plan, the water conservation manager and the public service board shall consider the climatic conditions, best management practices, best available techniques and technologies, the financial capacity of the applicant, and any other such factors which affect the policy of the city as expressed in the water resource management plan or the conservation policy of the State of Texas, as expressed in Section 1.003 of the Texas Water Code or applicable water conservation regulations providing for the conservation and development of the state's water resources adopted by the Texas Commission on Environmental Quality.
- E. Any person whose water conservation plan is disapproved by the water conservation manager may appeal the decision to the review board, the public service board and the city council in accordance with the procedure set forth in Sections 15.13.060 and 15.13.070 of this chapter.

(Ord. 16822 § 1 (part), 2008; Ord. 14805 (part), 2001; Ord. 10503 § 2 (part), 1991)

**15.13.060 - Variances and permits.**

- A. Owners of newly seeded or sodded turf grass and landscaping and new residential and commercial developments may receive a landscape watering permit upon application and approval by the water conservation manager allowing for daily watering of the same until the turf grass and landscaping are established, which shall not exceed thirty days.
- B. The planning and development manager, water supply manager and general manager of the public service board, or his designee, shall be immediately established as a review board to review hardship and special cases which cannot fully comply with the provisions of this chapter after recommendation by the water conservation manager. The review board will review hardship or special cases to determine whether a particular case warrants a variance or permit and shall hear appeals from any person whose water conservation plan is rejected by the water conservation manager. The review board shall consider the facts of each case separately and decide whether to grant a variance or permit within ten working days of the receipt of a properly completed "Application for Variance/Permit" form which shall be developed by the water conservation manager. A variance shall be granted only for reasons of economic hardship, medical hardship, or if there is a legitimate public health or safety concern that will be promoted or fulfilled as a result of granting the permit or variance. An "economic hardship" is defined as a threat to an individual's or business' primary source of income, and where not granting the variance would result in material structural damage to the person's property. A "medical hardship" is defined as a situation where it is determined that a person's ill health or medical condition requires a dependency upon others to water or irrigate. Under no circumstances shall inconvenience or the potential for damages of landscaping be considered an economic hardship or significant damage to property which justifies a variance. The review board shall authorize only the implementation of equitable water use restrictions which further the intent of the public service board's water conservation plan. Any special water use restrictions authorized by the review board in each hardship or special case shall be set forth on the face of the variance or the permit. A fee of twenty-five dollars shall be assessed per application to defray administrative costs. The fee may be waived upon the execution of an affidavit stating that applicant for the variance is unable to pay the fee and such affidavit shall be sworn before a notary public. Final determination of an applicant's inability to pay shall be made by the water conservation manager.
- C. A variance or permit issued under this section expires under its own terms and conditions, but in no event shall a variance or permit be issued for a period of more than five years from the date of issuance. Any person issued a variance or permit must fully comply with all the provisions of this chapter as an express condition of that person's variance or permit.
- D. Any person who is issued a variance or permit and uses water supplied or delivered by the public service board shall provide proof of such variance or permit upon demand by any person authorized to enforce this chapter. Upon conviction of violating any provision of this chapter, the review board may revoke or suspend any permit or variance previously granted. Provided, however, the review board shall notify the permittee of the proposed revocation five working days before taking such action, and if within that time the permittee requests a hearing in writing, the permittee shall be given an opportunity to be heard by the review board prior to taking such action.
- E. No prosecution for a violation of any provision of this chapter may be suspended for the sole purpose of allowing a person to obtain a variance or permit.

(Ord. 14805 (part), 2001; Ord. 10942 § 3, 1992; Ord. 10503 § 2 (part), 1991)

**15.13.070 - Appeal to public service board and city council.**

- A. Any person who applies for a permit or variance under Section 15.13.060 and is denied such permit or variance by the review board, or whose permit or variance is revoked or suspended by the review board, or whose water conservation plan is disapproved by the review board, may appeal the decision of the review board by filing an intention to appeal in writing with the general manager of the public service board within five working days of the review board's decision. If a proper appeal is timely filed, the public service board will hear the appeal within thirty days of the time the appeal is filed with the general manager. The public service board may take any action it deems necessary with regard to the appeal including denying same, granting same, or granting the requested permit or variance with conditions, or approving the water conservation plan. The decision of the review board shall be final and binding if there is no timely filing of an appeal in accordance with this section.
  
- B. Any person, whose appeal to the public service board is denied, may appeal the decision of the public service board by filing an intention to appeal in writing with the city clerk within five working days of the public service board's decision. If a proper appeal is timely filed, the city council will hear the appeal within thirty days of the time the appeal is filed with the city clerk. The city council may take any action it deems necessary with regard to the appeal including denying same, granting same or granting the requested permit or variance with conditions, or approving the water conservation plan. The decision of the city council shall be final and binding. The decision of the public service board shall be final and binding if there is no timely filing of an appeal in accordance with this section.

(Ord. 14805 (part), 2001: Ord. 10503 § 2 (part), 1991)

**15.13.080 - Penalty.**

Any person who violates any of the provisions of this chapter shall be deemed guilty of a misdemeanor and upon conviction, shall be punished by a fine not less than fifty dollars and not to exceed five hundred dollars. The violation of each provision of this chapter, and each separate violation thereof, shall be deemed a separate offense and shall be punished accordingly.

(Ord. 14805 (part), 2001: Ord. 10503 § 2 (part), 1991)

**15.13.090 - Other enforcement action.**

Nothing contained in Section 15.13.080, or any other provision of this chapter, shall prevent either the public service board or the city from seeking compliance with or enforcement of this chapter, from seeking injunctive relief in a court of competent jurisdiction, or from utilizing any other civil or equitable remedy to enforce the provisions of this chapter. Both the city attorney's office and the public service board's attorney are authorized to institute injunctive relief or any other civil action deemed necessary to enforce compliance with the provisions of this chapter. The public service board's attorney has no authority for criminal enforcement under this chapter.

(Ord. 14805 (part), 2001: Ord. 10503 § 2 (part), 1991)

**15.13.100 - Exceptions to enforcement.**

The following shall constitute exceptions from compliance with the provisions of this chapter:

- A. The water is a result of natural events such as rain or snow;
- B. The flow is a result of temporary failures or malfunctions of the water supply system;
- C. The flow is a result of water used for firefighting purposes including the inspection and pressure testing of fire hydrants or the use of water for firefighting training activities;
- D. The use of water is required for the control of dust or the compaction of soil as may be required by this code;

- E. The water is used to wash down areas where flammable or otherwise hazardous material has been spilled and creates a dangerous condition;
- F. The water is used to prevent or abate public health, safety or accident hazards when alternate methods are not available;
- G. The water is used for routine inspection or maintenance of the water supply system;
- H. The water is used to facilitate construction within public right-of-way in accordance with the requirements of the city and good construction practices;
- I. The use of water is permitted under the terms of a variance, permit or compliance agreement granted by the review board or the public service board;
- J. The water that is used for street sweeping, sewer maintenance or other established utility and public works practices;
- K. Watering contrary to the even/odd watering requirements, under Sections 15.13.020(A) and 15.13.020(B), and from the time of day watering requirements under Section 15.13.020(C), may be permissible for one day only where application of chemicals requires immediate watering to preserve an existing lawn. In cases of commercial application, a receipt from a commercial lawn treatment company indicating the date of treatment, the address of the property treated, the name and address of the commercial contractor, and the chemical treatment required shall constitute evidence that the owner or person responsible for the property is entitled to this exception. Where treatment with a noncommercial application of chemicals requires immediate watering to preserve an existing lawn, the owner or person responsible for the property must contact the water conservation department prior to the application of chemicals and provide evidence satisfactory to the water conservation manager for approval of this exception;
- L. Outdoor irrigation necessary for the establishment of newly seeded or sodded turf grass and landscaping in new residential and commercial developments;
- M. Plants which cannot be kept alive without daily watering may be permitted to be watered from a bucket but not from the use of a hose on the days when watering is prohibited.

(Ord. 14085 (part), 2001: Ord. 10942 § 4, 1992; Ord. 10503 § 2 (part), 1991)

**15.13.110 - Issuance of citations.**

The water conservation manager or designee, or any other personnel authorized to issue class C misdemeanor citations are authorized to issue citations for violations of this chapter.

(Ord. 14805 (part), 2001: Ord. 13152 § 129, 1997: Ord. 10503 § 2 (part), 1991)

**15.13.120 - Water emergency—Restriction of water use.**

The general manager may implement the following additional restrictions and regulations curtailing water use upon the declaration of a water emergency by the mayor upon recommendation of the public service board:

- A. Prohibit all restaurants from serving water to their customers except when specifically requested by the customer;
- B. Prohibit the operation of any ornamental fountain or similar structure;
- C. Suspend the issuance of all variances or permits hereunder;
- D. Prohibit the filling, refilling or adding of water to all swimming pools;
- E. Prohibit the washing of all vehicles and equipment except upon the premises of a commercial car wash;
- F. Require that the washing of motor vehicles, airplanes, boats or other types of mobile equipment, upon the immediate premises of a commercial car wash or a commercial service station, shall occur only between the hours of twelve noon and five p.m.

The mayor may declare a water emergency in case of a severe drought, in the event of any condition which interrupts the ability of the public service board to supply water, where curtailment of the use of water is necessary due to war, a natural disaster, to protect the public health, safety or welfare, or to preserve the water supply. In the

event such water emergency is to continue for more than five days, such measures must be passed by resolution by majority of city council in order for the declaration of emergency to continue beyond the initial five day period. During such a water emergency, the general manager may impose any additional restrictions on the use of water from the city's water supply system in all or in any part of the city as the city council may authorize.

(Ord. 15106 § 3, 2002: Ord. 14805 (part), 2001: Ord. 10503 § 2 (part), 1991)

**15.13.130 - Turf grass prohibited.**

- A. Turf grass is prohibited in all parkways, narrow strips of land and sloped areas within new residential or commercial sites for which a building permit is issued after June 1, 2002, unless irrigated with sub-surface irrigation. For purposes of this section, "sloped areas" means an area with a slope ratio of one to three or greater from the horizontal. "Sub-surface irrigation" means a low pressure irrigation system installed below the surface of the ground or mulch, consisting of a water distribution system equipped with pre-installed water emitters that are rated by gallons per hour, and that is suitable for turf grass irrigation.
- B. Turf grass for residential sites after June 1, 2002, shall not be used for more than fifty percent of the total area to be landscaped (front and back yard).
- C. Turf grass for commercial sites after June 1, 2002, shall not be used for more than thirty-three and one-third of the total area to be landscaped (front and back yard).

(Ord. 15106 § 2, 2002: Ord. 14805 (part), 2001)

**15.13.140 - Drought and water emergency management response plan.**

It shall be unlawful to violate the imposed provisions of the drought and water emergency management response plan, dated November, 2002, after the declaration of a drought or water emergency and imposition of restrictions in accordance with the plan.

(Ord. 15375, 2003: Ord. 14805 (part), 2001)

## PLUMBING CODE

### Chapter 18.20 - PLUMBING CODE

#### 18.20.010 - Short title.

This chapter may be cited as the "Plumbing Code."

(Ord. No. 18513, § 1, 5-31-2016)

#### 18.20.020 - Adoption.

The book entitled "International Plumbing Code," 2015 Edition, a copy of which authenticated by the city clerk is on file in the city clerk's office, is adopted as the Plumbing Code of the city, as fully as if copied at length in this chapter, but with the changes set forth in this chapter and Chapter 18.02, the Building and Administrative Code of the City of El Paso.

(Ord. No. 18513, § 1, 5-31-2016)

#### 18.20.020.1 - Plumbing Piping Installation.

(Ord. No. 18513, § 1, 5-31-2016)

#### 18.20.030 - Section 312.10.3 Backflow Inspection Records, added.

International Plumbing Code, 2015 Edition, Section 312.10.3 Backflow Inspection Records, is hereby added to read as follows:

**312.10.3 Backflow Inspection Records.** Records of inspections, tests and maintenance of the backflow assemblies shall be kept and made available to the building official upon request and to the El Paso Water Utilities in accordance with the rules and regulations of the public service board. Records shall indicate the procedure performed (inspection, test or maintenance), the organization that performed the work, the results and the date.

Records shall be maintained by the owner, tenant or responsible person.

(Ord. No. 18513, § 1, 5-31-2016)

#### 18.20.40 - Section 403.3 Required public toilet facilities, exception added.

International Plumbing Code, 2015 Edition, Section 403.3 Required public toilet facilities, is hereby amended to add the following exception at the end of the section:

**Exception:** Small tenancies and areas located in stand-alone buildings or tenancies. Customers, patrons, visitors and employees need not be provided with public toilet facilities in small tenancies located in stand-alone buildings, structures or facilities when all of the following conditions are met:

1. The gross floor area of the tenancy does not exceed 200 square feet; and
2. The building, or structure is not used for the preparation, storage handling and sale of potentially hazardous food as defined in the Texas Food Establishment Rules of the Texas Department of State Health Services; and
3. Toilet facilities are provided elsewhere on the same site within 200 lineal feet of travel

distance from the exempted tenancy; and

4. The site is provided with the minimum number of facilities required by International Plumbing Code, 2015 Edition, Section 403 and Table 403.1, and the owner or tenant in control of the toilet facilities required in condition 3, shall furnish to the building official a written and notarized statement that cust omers, visitors, patrons and employees of the exempted tenancy will have access to and use of these facilities; and structures used for the preparation, storage, handling and sale of food shall be connected to a water supply and provided with utensil and hand washing facilities as required by Title 9.12 of the City Code.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.050 - Section 412.5 Floor drains in mechanical rooms and boiler rooms, added.

International Plumbing Code, 2015 Edition, Section 412.5 Floor drains in mechanical rooms and boiler rooms is hereby added to read as follows:

Mechanical equipment rooms, boiler rooms and all similar equipment rooms shall have an approved floor drain for disposing of accumulation of liquid wastes incident to cleaning or recharging such equipment. Such floor drains shall be equipped with an approved trap priming or trap seal device as required in Section 1002.4.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.060 - Section 417.5.3 Shower receptor, added.

International Plumbing Code, 2015 Edition, Section 417.5.3 Shower Receptor, is hereby added to read as fo llows :

**417.5.3 Shower Receptor.** Shower receptors shall have a finished curb, dam or threshold not less than one (1) inch below the sides and back of the receptor. The curb shall be not less than two (2) inches nor more than nine (9) inches in depth when measured from the top of the curb to the top of the drain. The finished floor shall slope uniformly toward the drain not less than one-fourth(¼) inch per foot nor more than one-half(½) inch, and floor drains shall be flanged to provide a watertight joint in the floor.

**417.5.3.1 Receptor Linings.** All shower receptors shall be provided with an approved lining, except as noted herein. The adjoining walls and floors, enclosing field-constructed shower receptors shall be lined with copper or other approved materials listed in this Code, extending not less than three (3) inches beyond or around the rough jambs and not less than three (3) inches above finished thresholds. Recessed shower compartments need not be lined, provided the compartment is formed of concrete, is recessed a minimum of four (4) inches below the adjacent floor level, and the concrete is not less than three and one-half (3½) inches thick with an ultimate compressive strength of not less than two thousand (2000) pounds per square inch.

**417.5.3.2 Liner Materials.** Plasticized polyvinyl chloride (PVC) sheets shall be a minimum of 0.040 inch (1.02 mm) thick and shall meet the requirements of ASTM D4551 . Non- plasticized chlorinated polyethylene sheets shall be a minimum 0.040 inch (102 mm) thick, and shall meet the requirements of ASTM D 4068. Sheet copper shall conform to ASTM B 152 and shall not weigh less than 12 ounces per square foot. Copper linings shall be isolated from conducting substances other than the connecting drain by fifteen (15) pound asphalt felt or its equivalent. Joints in copper pans or liners shall be silver brazed. Joints in PVC and CPE liner materials shall be jointed per the manufacturer's recommendations.

**417.5.3.3 Receptor Drains.** An approved flanged drain shall be installed with shower sub-

pans or linings. The flange shall be flush with the sub-base and be equipped with a clamping ring or other device to make a water-tight connection between the lining and the drain. The flange shall have weep holes to ensure constant drainage of water to sanitary drainage system. Shower receptacle waste outlets shall be not less than two (2) inches in diameter and shall have a removable strainer.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.070 - Section 604.8.3 Accessibility, added.

International Plumbing Code, 2015 Edition, Section 604.8.3 Accessibility

follows :

**604.8.3 Accessibility.** Installation shall be such as to make the regulator accessible without excavating or removing permanent structural or finished portions of the structure.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.080 - Reserved.

18.20.090 - Reserved.

18.20.100 - Section 605.4 Water Distribution Pipe, amended .

International Plumbing Code, 2015 Edition, Section 605.4 Water distribution pipe, is hereby amended to read as follows:

**605.4 Water distribution pipe.** Water distribution pipe shall conform to NSF 61 and shall conform to one of the standards listed in Table 605.4 Copper or copper alloy tubing used in inaccessible water distribution piping under slabs shall be minimum Type L. Any material subject to corrosion shall be protected when used in corrosive soils. All hot water distribution pipe and tubing shall have a minimum pressure rating of 100 psi at 180 °F.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.110 - Section 608.16.5, Connections to lawn irrigation systems, amended.

International Plumbing Code, 2015 Edition, Section 608.16.5, Connections to lawn irrigation systems, is hereby amended to read as follows:

**608.16.5 Connections to lawn irrigation systems.** The potable water supply to lawn irrigation systems shall be protected against backflow by a pressure-type vacuum breaker or a reduced pressure principle backflow-preventer. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow-preventer.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.120 - Section 701.2 Sewer required, amended.

International Plumbing Code, 2015 Edition, Section 701.2, Sewer required, is hereby amended to read as follows :

**701.2 Sewer required.** Every building in which plumbing fixtures are installed and all premises having drainage piping shall be connected to a public sewer.

**Exception:** When a public sewer is not available within 300 feet of the building for use, an individual or private sewage disposal system may be utilized provided that such system is designed, installed and maintained in accordance with the requirements of Chapter 18.21 of the City Code.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.130 - Res erved .

18.20.140 - Table 702.3 Building Sewer Pi pe, amended.

International Plumbing Code, 2015 Edition, Table 702.3, Building Sewer Pipe, is hereby amended to delete all references to Vitrified clay pipe.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.150 - Res erved .

18.20.160 - Section 708.3.5 708.1.3 Building drain and building sewer junction, amended.

International Plumbing Code, 2015 Edition, Section 708.1.3, Building drain and building sewer junction, is hereby amended to read as follows:

**708.1.3 Building drain and building sewer junction.** There shall be a cleanout near the junction of the building drain and the building sewer . The cleanout shall be outside the building and shall be brought up to the finished ground level within ten (10) feet of the structure. An approved two-way cleanout is allowed as an alternative at this location to serve as a required cleanout for both the building drain and building sewer.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.170 - Section 802.1.9 Condensate and Evaporative Cooler Waste, added.

International Plumbing Code, 2009 Edition, Section 802.1.9 Condensate and Evaporative Cooler Waste, is hereby added to read as follows:

**802.1.9 Condensate and Evaporative Cooler Waste.** Waste from evaporative cooler's automatic water draining systems and condensate from air conditioner units, when approved by the building official, shall discharge into the building drainage system through an indirect waste line, except such waste may be directly connected to a lavatory tailpiece or to an approved accessible inlet on a bath tub overflow when the connection is located in an area controlled by the same person or entity controlling the space served by the evaporative cooler or discharged so that the effluent is used for watering landscaping or other vegetation.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.170.1 - Section 903 amended.

**903.1 Roof extension.** Open vent pipes that extend through a roof shall be terminated not less than 12 inches above the roof. Where a roof is to be used for assembly or as a promenade, observation deck, sunbathing deck or similar purposes, open vent pipes shall terminate not less than 7 feet above the roof.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.180 - Section 1003.2.1 No water-jacketed grease trap, added.

International Plumbing Code, 2015 Edition, Section 1003.2.1 No water-jacketed grease trap, is hereby added to read as follows:

**1003.2.1 No water-jacketed grease trap.** No water-jacketed grease trap or grease interceptor shall be approved or installed.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.190 - Table 1003.3.4.1 Capacity of Grease Interceptors, amended.

International Plumbing Code, 2015 Edition, Table 1003.3.4.1 Capacity of Grease Interceptors, is hereby amended to read as follows:

Table 1003.3.4.1 Capacity of Grease Traps	
Total Flow-Through Rating (gpm)	Grease-Retention Capacity (pounds)
20 or less	40
25	50
35	70
50	100

(Ord. No. 18513, § 1, 5-31-2016)

18.20.200 - Section 1003.5 Sand interceptors in commercial establishments, amended.

International Plumbing Code, 2015 Edition, Section 1003.5 Sand interceptors in commercial establishments, is hereby amended to read as follows:

**1003.5 Sand Interceptors in Commercial Establishments.** Sand and similar interceptors or traps for heavy solids shall have a water seal of not less than six (6) inches. Traps shall have a minimum of two compartments. Each compartment shall be a minimum of 30 inches by 30 inches with a minimum depth of three (3) feet, covered with a removable grating that will allow the free entrance of waste. Trap walls and bottom shall be of concrete made watertight.

**Exception:** Sand traps are not required in commercial facilities containing less than 4 washing machines.

**1003.5.1.** Waste Line shall be a minimum of four (4) inches for uses other than residential swimming pools in which case the waste line may be three (3) inches. Outlet pipe shall leave the trap at a point not less than six (6) inches nor more than twelve (12) inches above the bottom and must rise vertically outside to the top of the trap where a properly sized cleanout shall be provided and formed by an inverted wye (y) so installed that the point of intersection of the wye (y) branches shall form the seal. Such seal shall be no less than twelve (12) inches in depth.

**1003.5.2.** Sand Traps installed within thirty (30) feet from a 3 or 4 inch stack shall have a (2) inch vent; sand traps installed over thirty (30) feet from a 3 or 4 inch stack shall have a three (3) inch vent.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.210 - Chapter 13. Nonpotable Water Systems, Non-potable water Systems, is hereby adopted in its entirety.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.220 - Appendix B is adopted in its entirety. (Ord. No. 18513, § 1, 5-31-2016)

18.20.222 - Appendix C is adopted in its entirety. (Ord. No. 18513, § 1, 5-31-2016)

18.20.224 - Appendix D is adopted in its entirety. (Ord. No. 18513, § 1, 5-31-2016)

18.20.226 - Appendix E is adopted in its entirety. (Ord. No. 18513, § 1, 5-31-2016)

18.20.230 - Conflicting ordinances.

All ordinances and parts of ordinances in conflict with the provisions of this chapter are hereby repealed.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.240 - Section 603.1.1 Protection of Water Service Entrance, added.

International Plumbing Code, 2009 2015 Edition, Section 603.1.1 Protection of Water Service Entrance is hereby added to read as follows:

**603.1.1 Protection of Water Service Entrance.** Water service entrance and risers to all structures shall be on the heated side of a conditioned space.

(Ord. No. 18513, § 1, 5-31-2016)

18.20.250 - Section 603.1.2 Plumbing within exterior walls, added.

International Plumbing Code, 2015 Edition, Section 603.1.2 Plumbing within exterior walls is hereby added to read as follows:

**603.1.2 Plumbing within exterior walls.** Placement of plumbing within exterior walls is prohibited unless the walls are at minimum, 2 by 6 walls and adequate provision is made to protect such pipes from freezing in accordance with Section 305.6 of the International Plumbing Code. Placement of water lines in ceiling areas is prohibited unless the water

lines are placed on the warm side with a minimum of 1 0 inch insulation on the exterior/roof side of the structure.

**Exceptions:**

a. A service entrance may enter a non-conditioned space provided that the riser/service entrance is within an approved, heated valve protective enclosure also known as a "hot box", or

b. Cross linked polyethylene, also known as PEX, or approved equal, is used as the service entrance material, and

c. Any hose bibs installed shall be freeze proof. (Ord. No. 18513 , § 1, 5-31-2016)

## APPENDIX G

### RESOLUTION OF ADOPTION OF 2019 WATER CONSERVATION PLAN

A RESOLUTION OF THE EL PASO WATER UTILITIES PUBLIC SERVICE BOARD ADOPTING THE 2019 WATER CONSERVATION PLAN IN ACCORDANCE WITH THE GUIDELINES OF THE TEXAS WATER DEVELOPMENT BOARD AND THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY.

**WHEREAS**, the El Paso City Council, in response to the El Paso Water Utilities water demand and availability study and future drought water use concerns in 1991, enacted the El Paso Water Conservation Ordinance to begin a comprehensive water conservation program with a wide range of voluntary and mandatory programs along with the El Paso Water Utility water conservation policies designed to reach long-term water conservation goals, El Paso Municipal Code Title 15.13 Water Conservation; and,

**WHEREAS**, the El Paso Water Utility set a ten year water use limitation goal in 1991 to reach a per capita water use demand reduction from 200 gallons per person per day to 160 gallons per person per day by the year 2000, which goal was surpassed in 1999; and,

**WHEREAS**, the water demand reduction goal for 2020 was to maintain a level of consumption at or below 130 gallons per day per person and the citizens of El Paso achieved the level of 128 gallons per day per person in 2016 and have maintained that usage level or lower since then; and,

**WHEREAS**, Title 30, Texas Administrative Code, Chapter 288 requires the review and revision to water conservation plans in Texas cities be submitted to the Texas Commission on Environmental Quality (TCEQ) every five years for review, such plans to include five year and ten-year water savings targets, goals for water loss reduction programs and goals for municipal water use in gallons per day; and,

**WHEREAS**, the City of El Paso, acting by and through, the El Paso Water Utilities has set forth the 2019 Water Conservation Plan, which includes updates to the targets for water savings, including a five year target of 126.5 gallons per person per day and a ten year target of 125 gallons per person per day.

NOW, THEREFORE, BE IT RESOLVED BY THE EL PASO WATER UTILITIES PUBLIC SERVICE BOARD OF THE CITY OF EL PASO, TEXAS:

**Section 1.** The findings and recitations set out in the preamble hereto are hereby accepted and adopted as part of this Resolution by this reference for all purposes.

**Section 2.** The El Paso Water Utilities Public Service Board hereby adopts the 2019 Water Conservation Plan (Plan) as the water conservation plan for the ratepayers of the water and sewer system of the City of El Paso, Texas. A copy of the Plan with attachments is incorporated herein by this reference for all purposes.

**Section 3.** It is officially found, determined and declared that the meeting at which this Resolution was adopted was open to the public and public notice of the time, place and subject matter of the public

business to be considered at such meeting, including this Resolution, was given, all as required by Chapter 551, as amended, of the Texas Government Code.

**Section 4.** This Resolution shall be effective immediately upon its passage and adoption by the El Paso Water Utilities Public Service Board.

**PASSED, APPROVED and ADOPTED** at the regular meeting of the Public Service Board, this 8<sup>th</sup> day of May, 2019.

THE EL PASO WATER UTILITIES  
PUBLIC SERVICE BOARD



Christopher Antcliff, Chair

ATTEST:

APPROVED AS TO FORM:



Kristina Mena  
Secretary-Treasurer



Lee Ann B. Koehler  
General Counsel

## APPENDIX H

### **RULES AND REGULATIONS NO. 17 DROUGHT AND WATER EMERGENCY MANAGEMENT RESPONSE RULE**

PURSUANT TO THE AUTHORITY VESTED IN THE EL PASO WATER UTILITIES PUBLIC SERVICE BOARD, TRUSTEES, UNDER TEXAS GOVERNMENT CODE SECTION 1502.070, CITY ORDINANCE 752, PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF EL PASO, TEXAS MAY 22, 1952, 30 TEXAS ADMINISTRATIVE CODE SECTION 288.20, DROUGHT CONTINGENCY AND CHAPTER 15.13 WATER CONSERVATION OF THE EL PASO MUNICIPAL CODE; BE IT RESOLVED BY THE PUBLIC SERVICE BOARD OF THE CITY OF EL PASO, THAT THE FOLLOWING RULE AND REGULATION NO. 17 CONCERNING A DROUGHT AND WATER EMERGENCY MANAGEMENT RESPONSE RULE IS ESTABLISHED AND EFFECTIVE.

#### SECTION I GENERAL

The Drought and Water Emergency Management Response Rule for the City of El Paso and the El Paso area served by the El Paso Water Utilities Public Service Board (Public Service Board) is an integral part of the overall Water Resources Management Plan for the El Paso area in compliance with State and Local law. The City of El Paso, El Paso Municipal Code Section 15.12.010, sets out that the Public Service Board is authorized to promulgate Rules and Regulations on all subjects relevant to the operation of the City's water and sewer systems, which Rules and Regulations shall have like effect as if adopted by ordinance.

Drought is a naturally occurring climate condition in the West and has occurred in varying severity numerous times and will occur again. The purpose of Rules and Regulations No. 17 is to provide a management framework for dealing with severe drought. In addition, these Rules and Regulations will be used to manage temporary or sudden water emergencies which result in temporary loss or reduction in water or wastewater service due to other non-climate-related factors or conditions.

As El Paso becomes more dependent on the Rio Grande River as a renewable water source, it becomes more vulnerable to long-term, drought-induced water shortages. In the event surface water deliveries to water treatment plants are curtailed, water deliveries to customers may be required to be curtailed. Rules and Regulations No. 17 have as one of its major purposes to provide an equitable management framework to deal with curtailed water deliveries.

The Drought and Water Emergency Management Response Rule is triggered as the result of reductions in surface water allotment from the Rio Grande Federal Reclamation Project or as a result of the inability to satisfy system water demands for any other reason. The Rule sets out response Stages based on allotment of surface water or when demand for water is projected by the Public Service Board to exceed supply. Each Stage is associated with a menu of possible response measures. Each successive Stage being from Stage I to Stage III represents a response to an increasingly severe condition and includes an increasingly stringent list of response measures.

Although the President/CEO of El Paso Water Utilities (EPWU) may ask at any time he or she deems necessary for a voluntary reduction in water consumption by customers, the Drought and Water Emergency Response Rule is intended to provide a structured framework of responses in Stages that is available and noticed to the public in advance of the need to implement such emergency measures.

#### SECTION II PURPOSE

The purpose of this Drought and Water Emergency Response Rule is:

1. To provide for measured, contingency plans to manage a drought or water emergency.
2. To continue to deliver to the maximum extent possible during a drought or water emergency a cost-effective, adequate, safe and reliable supply of high quality water to the customers.
3. To identify successful public information strategies which will inform and motivate the community to reduce normal water consumption to drought allowances.
4. To evaluate water emergency and drought management practices in various similar sized cities around the United States and recommend the best practices use in El Paso.
5. To identify critical points of change which would result in an acute or long-term water outage in the service area and to establish preemptive measures to address such conditions.
6. To recommend a programmed response for each Stage which would most effectively reduce water consumption to the available supply level with the least adverse impact to El Paso Water Utilities customers.
7. To comply with local, state and federal laws for drought or water emergency contingencies.

### SECTION III PUBLIC SERVICE BOARD WATER RESOURCES MANAGEMENT

Since the beginning of the 20th Century, El Paso County has relied on both surface water and groundwater wells for its municipal water supply. Currently, El Paso Water Utilities supplies approximately 90% of all water used for municipal purposes in El Paso County. Surface water is supplied from the Rio Grande Federal Reclamation Project. The Rio Grande River flows that are diverted to El Paso are primarily derived from snowmelt runoff in southern Colorado and northern New Mexico. Historically, there are also occasional flood surges associated with major storms during the summer monsoon season. Spring runoff is stored in the Elephant Butte Reservoir in southern New Mexico before releases by the Federal Bureau of Reclamation are made for irrigation and municipal uses in southern New Mexico and the El Paso area.

EPWU is a customer of the local irrigation district (El Paso County Water Improvement District No. 1) and obtains water based on its ownership of water rights land in the Rio Grande Federal Reclamation Project area and the leasing of water rights from agricultural irrigation water rights holders in El Paso County.

EPWU surface water treatment plants have a combined capacity of 100 million gallons per day. Under normal river flow conditions, the plants operate seven months during the year, i.e., during the programmed irrigation season. Currently, El Paso has water rights of about 70,000 acre feet per year from the Rio Grande Federal Reclamation Water Project.

Groundwater supplies are pumped by wells from the Mesilla Bolson and the Hueco Bolson. The Mesilla Bolson is an underground water aquifer located in the Canutillo area and is used to provide water for the western part of El Paso. The Hueco Bolson is an underground water aquifer located on the eastern side of the Franklin Mountains and is used as a primary water supply for northeast and east El Paso. Both aquifers are regional in their extent and underlie portions of New Mexico, Texas and Chihuahua, Mexico.

El Paso Water Utilities conjunctively uses surface water and groundwater to meet water demands. Based on a full Rio Grande River allotment, use of surface water will be maximized and pumping from the Hueco Bolson is minimized. Conversely, during times of protracted drought with resulting low Rio Grande River allotment, pumping from the Hueco Bolson must be maximized. This includes maximizing the use of the Kay Bailey Hutchison Desalination Plant. During a severe drought, pumping from the Mesilla Bolson will also increase.

Conjunctive use management of surface water and groundwater resources recognizes that there are limits to surface water supplies and limits to groundwater supplies. The management of local groundwater use requires the recognition of limits with respect to the ability of local groundwater basins to supply water readily over the long term, measured in decades.

As the Regional Water Supply Planner, El Paso Water Utilities is a member of the Far West Texas Regional Water Planning Group. As a member of this group and as required by State law, EPWU prepares and updates a 50-year water plan. The plans from the various regions of the State provide an evaluation and projection of current and future populations, water demands, water supply sources, water management strategies and costs. Planning and implementation of future water supply projects will allow the City to meet future water demands. However, such projects will not negate the need for the City to reduce its water usage over time and, in some instances, mandate certain drought contingencies during times of severe drought or water emergencies.

In addition to water supply projects, it may be necessary from time-to-time for EPWU to seek variances from the Texas Commission on Environmental Quality (TCEQ) to utilize groundwater supplies that, while still potable, may not meet maximum contaminant levels for sulfate, chloride, iron, manganese or other total dissolved solids. Such measures will utilize groundwater of secondary drinking water standards, which, although the water will be safe to drink, it may not be as palatable as customers are used to.

#### SECTION IV NOTIFICATION, INITIATION AND TERMINATION OF DROUGHT AND WATER EMERGENCY ACTION OR STAGES

At the request of the President/CEO of El Paso Water Utilities and based on his or her assessment of the situation, the Mayor may declare a drought or water emergency in the event of any condition that significantly interrupts the ability of the Public Service Board to supply water to its customers. Initially,

actions based on this declaration may include any measure the President/CEO deems necessary to respond to the drought or water emergency, to include any part of the drought and water emergency stages listed herein.

The President/CEO will be responsible for notifying the Director of the Texas Commission on Environmental Quality within five (5) days following the implementation of any mandatory water use restriction. In the event that the drought or water emergency is expected to continue for more than five (5) days, the President/CEO shall make a report to the Chair of the Public Service Board and the Mayor setting out the nature and expected severity of the drought or water emergency. The Mayor shall call a City Council meeting to have the City Council adopt the continuing use of the Rule.

During the period of time covered by the drought or water emergency, the President/CEO will implement and direct such measures as he or she may deem necessary to be taken as set forth herein to include, but not by way of limitation, the implementation of the set out Stages. Such other measures may be implemented as the President/CEO may deem necessary or appropriate to respond to the drought or water emergency to bring the emergency to a close with the minimum loss of property and due consideration for the public health and safety. The Public Service Board shall be responsible to see that all public notification and outreach education measures and activities related to the drought or water emergency and such restrictions and Stages as have been implemented shall be taken.

In a declared drought or water emergency, any combination of management response options may be used system-wide or in any section of the region as circumstances may require in the judgment of the President/CEO. Any of the measures provided for in this Rule shall be implemented conditioned that they will not adversely affect public safety, hospitals or sanitary uses.



The Public Service Board through the President/CEO will monitor the drought or water emergency and promptly recommend that the President/CEO request the Mayor declare the drought or water emergency to be concluded. The termination of the declaration of a drought or water emergency lasting more than five (5) days shall be by the City Council resolution after receiving and reviewing a report from the President/CEO of El Paso Water Utilities.

SECTION V DROUGHT AND WATER EMERGENCY RESPONSE MANAGEMENT RULE STAGES

A. STAGE I

When El Paso County Water Improvement District No. 1 declares a surface water allotment that is less than 0.5 acre foot per acre on or before April 1 of any year, or water demand is projected to exceed available capacity as determined by El Paso Water Utilities, Stage I. will be implemented as follows:

EPWU will ask customers for a voluntary reduction in water usage and do the following:

1. Request customers to reach a voluntary reduced water use goal of 25% in indoor and outdoor use.
2. Increase public education and outreach regarding water use reduction.
3. Request all restaurants to voluntarily discontinue serving water except upon customer request.
4. Urge hotels and motels to implement water conservation measures, including the reduction of laundry water usage.
5. Request manufacturing industries using water provided by EPWU to reduce their consumption by 25%.
6. Request all other water purveyors to comply voluntarily with all drought management response measures as set forth by EPWU. However, if such have contracts, wholesale or retail, with EPWU and if such contracts have drought and water emergency provisions, they are exempt from this Stage.
7. The President/CEO shall authorize additional personnel to issue citations for violations of the Water Conservation Ordinance and the Drought and Water Emergency Response Rule, consistent with local, state and federal law.

B. STAGE II

When El Paso County Water Improvement District No. 1 declares a surface water allotment of less than 1.0 acre foot per acre after April 1 but before May 1 of any year, or there is not enough continuous release of surface water, or water demand is projected by EPWU to exceed available capacity Stage II will be implemented as follows:

All Stage I options remain in effect. Additionally:

1. Outdoor watering by commercial or residential customers will be limited to once per week in accordance with the following schedule: Watering will be permitted before 9:00 a.m. and after 7:00 p.m. for no more than two hours each day. The last number of the street address will determine the watering days for each customer based on the following schedule:

Day of the Week	Mon	Tue	Wed	Thurs	Fri	Sat	Sun
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Last # of Address      No Watering      0      1,3      2,4      5      6,8      7,9

(Outdoor watering performed with a reclaimed water system is exempt. Using a bucket to water trees, shrubs and flowers is permitted. Use of household grey water is encouraged.)

2. Parks and schools served by EPWU shall water in accordance with a special permit issued by EPWU and shall reduce water consumption by a specific amount per month based on reduction targets as set by EPWU to meet basic demands. (Parks and schools irrigating with reclaimed water are exempt.)
3. Private and municipal golf courses irrigating with potable water supplied by EPWU shall water in accordance with a special permit issued by EPWU and will reduce consumption by a specific amount per month based on reduction targets set by EPWU to meet basic demands. (Golf courses irrigating with reclaimed water are exempt.)
4. Plant, grass or tree nurseries shall water plant stock in accordance with the special permit issued by EPWU.
5. No new landscaping shall be installed or planted in the City and no new landscape watering permits will be issued except for Xeriscapes that are irrigated with reclaimed water or brackish groundwater. New landscaping watering permits shall be granted for a 7-day period for landscaping that incorporates compost in the area at the rate of 5 cubic yards per 1,000 square feet of turf.
6. All evaporative coolers that require a bleed-off system must have a restricted bleed-off line or an automatic drainage system.
7. All Water Conservation Ordinance variances are automatically suspended and no new variances will be issued.
8. Routine fire hydrant flushing and testing shall cease.
9. Existing swimming pools cannot be drained and filled with potable water supplied by EPWU after May 1. Single-family residential swimming pools must be covered when not in use.
10. Upon the second violation of any part of the Drought and Water Emergency Management Response Rule, the President/CEO may order the installation of a restriction device or downsizing of the water line or water meter at the customer's cost.
11. Restaurants shall only serve water upon request.
12. Water misters shall not be operated except by special permit for health and safety reasons.
13. Water can be used for aesthetic purposes, such as ornamental fountains, in accordance with a special permit issued by EPWU.
14. Impervious surface cleaning with potable water shall be prohibited, except where conducted by order of the City Department of Public Health, Police or Fire Department.
15. Hotels and motels must implement water conservation measures, including the reduction of laundry water usage.
16. Apartment complexes and large turf water users shall water in accordance with a special permit issued by EPWU and will reduce water consumption based on reduction targets as set by EPWU.

C. STAGE III

When El Paso County Water Improvement District No. 1 declares a surface water allotment of less than 1.5

acre foot per acre after May 1 but before May 15 of any year, or there is not a continuous release of surface water, or water demand is projected by EPWU to exceed available capacity, Stage III will be implemented as follows:

All Stage I and Stage II drought management response options shall remain in effect. Additionally:

1. All outdoor watering is prohibited, except when performed with a bucket or where reclaimed water or brackish groundwater is used.
2. The irrigation of golf courses with potable water supplied by EPWU is prohibited.
3. All car, trailer, truck or boat washing is prohibited, except in facilities certified by EPWU and displaying approved signage.
4. No swimming pools shall be filled.
5. All water use for construction, dust control and/or compaction is prohibited, except with reclaimed or brackish groundwater.
6. New water meters shall be approved for connection to the water system only as required for military expansion or use and/or high priority economic development projects, as determined by President/CEO and the Public Service Board in consultation with the Mayor and City Manager.
7. All street sweeping shall be discontinued, except that performed with reclaimed or brackish groundwater.

#### SECTION VI VARIANCES

Customer-specific variances may be granted in cases of hardship or special conditions. After recommendation by the Water Conservation Manager, an EPWU review board will consider a hardship or special conditions case to determine whether a particular circumstance warrants a variance. A variance shall be granted only for reasons of severe economic hardship, medical hardship or for a legitimate public health concern. A fee of \$50.00 shall be assessed per application to defray administrative costs. The fee may be waived by the review board upon the execution of an affidavit that the applicant for the variance is unable to pay any fee or is indigent.

#### SECTION VII WHOLESALE WATER CUSTOMERS

In accordance with Texas Water Code Section 11.039, when necessary as determined by the EPWU, water deliveries to wholesale water customers shall be curtailed on a pro-rata basis. Every wholesale water contract entered into or renewed after adoption of this Rule, including contract extensions, shall include a provision that in the case of a drought or water emergency declaration, water to be distributed shall be divided in accordance with Texas Water Code Section 11.039.

#### SECTION VIII ENFORCEMENT

Any person violating any provision of this Rule and Regulation No. 17 shall be deemed guilty of a misdemeanor and upon conviction shall be punished by a fine as prescribed in Section 15.13.080 of the El Paso City Code.

#### SECTION IX DEFINITIONS

All words shall have their usual meaning unless otherwise provided for herein.

Acre-Feet or Acre-Foot:

The amount of water required to cover an acre of land to a depth of one foot and equivalent to 325,850 gallons of water.

Aesthetic Use:

The use of water for fountains, waterfalls, golf course water hazards, and landscape lakes or ponds where such use is predominately ornamental and serves no other purpose.

Automatic Drainage System:

An electric water pump driven system that periodically (every 6, 8 or 12 hours) pumps all water from an air-conditioner tank, thereby allowing the tank to be replenished with fresh water.

Available Capacity:

The projected firm capacity of the EPWU system to deliver water based on the number of wells in service, water treatment plant production capacity and available river supplies and/or allotments, in-service booster pumping capacity impacted by equipment outages and/or other factors. The capacity is usually expressed in available million gallons per day and shall be as stated or expressed by the EPWU Water Systems Division Manager.

Bucket:

A container which holds no more than five gallons to be used singly by one person.

Existing Landscaping Plant:

A landscaping plant existing in an area after such period of time as to accomplish an establishment and maintenance of plant growth.

Greywater:

Wastewater that has not been contaminated by fecal material; examples of such include wastewater from lavatories, bathtubs, showers and other plumbing fixtures.

Impervious Surface Area:

Any structure, street, driveway, sidewalk, patio or other surface area covered with brick, asphalt paving, tile or other impervious or nonporous material.

Landscaping Plant:

Any member of the horticultural kingdom Plantae, including any tree, shrub, vine, herb, flower, succulent, ground cover or grass species that grows or has been planted outdoors for such purpose.

Landscape Watering:

The application of water to landscape trees, shrubs, plants or grass to promote the health and/or growth of existing landscape plants.

New Landscape Plant:

Any landscaping plant, shrub or tree which has been planted in or transplanted to an area after a Drought or Water Emergency has been declared.

Restriction Device:

A pipe or valve which has an orifice designed to restrict the flow of water from a water supply line through a water meter serving a customer.

Swimming Pool:

Any structure, basin, chamber, tank or large tub, including hot tubs, containing water for swimming purposes, diving or recreational bathing and having a depth of two feet or more at any point.

Water Emergency:

A water system failure due to weather, electrical or mechanical failure, contamination of source, extremely low river water allotment, or act of God or force majeure.

Xeriscape:

A landscape design concept that uses the implementation of drought-tolerant plant material or trees, efficient irrigation utilizing drip or subsurface irrigation, limited turf area with adequate soil depth, mulching of all plant beds and proper maintenance.

SECTION X APPEALS

The Property Owner or applicant for a new development has the right of appeal Pursuant to the El Paso Water Utilities Public Service Board Rules and Regulations No. 8 of any adverse determination.

SECTION XI SEVERABILITY

If any provision, paragraph, word or section of this Rules and Regulations No. 17 is invalidated by a court of competent jurisdiction, the remaining provisions, paragraphs, words or sections shall remain in full force and effect and shall be read or interpreted so as to give effect to the purpose of this Rules and Regulations as set forth in Section II.

SECTION XII SAVINGS

This Rules and Regulations No. 17 is a part of the other Rules and Regulations adopted by the El Paso Water Utilities Public Service Board, and, save and except as amended hereby, the remaining provisions of the El Paso Water Utilities Public Service Board's Rules and Regulations shall remain in full force and effect.

SECTION XIII EFFECTIVE DATE

This Rules and Regulations No. 17 shall be and become effective from and after its adoption hereby and shall remain in effect until otherwise amended by the El Paso Water Utilities Public Service Board or operation of law.

PASSED, APPROVED and ADOPTED RULES AND REGULATIONS NUMBER 17 CONCERNING DROUGHT AND WATER EMERGENCY RESPONSE at a regularly scheduled meeting of the El Paso Water Utilities Public Service Board, this 14th day of March, 2012, at which meeting a quorum was present, said meeting being held in

accordance with the provisions of V.T.C.A., Government Code, Sections 551.001 et. seq.

EL PASO WATER UTILITIES  
PUBLIC SERVICE BOARD



Edward Escudero, Chair

ATTEST:

APPROVED AS TO FORM:



Richard T. Schoephoerster, P.E., PhD.  
Secretary-Treasurer



Robert D. Andron  
General Counsel