

# **REGION C WATER PLANNING GROUP**

## **MODEL WATER CONSERVATION AND DROUGHT CONTINGENCY PLAN FOR MUNICIPAL WATER USER GROUPS**

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**FEBRUARY 2005**

**Prepared for:**

**REGION C WATER  
PLANNING GROUP**

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## ACKNOWLEDGEMENTS

This model water conservation and drought contingency plan for the fictional City of Poca Agua was prepared by Freese and Nichols, Alan Plummer Associates, and Chiang, Patel, and Yerby for the Region C Water Planning Group. It is a template for municipal water user groups to use as they develop their own water conservation and drought contingency plans. Each municipal water user group should customize the details to match its unique situation. The model plan was prepared pursuant to Texas Commission on Environmental Quality rules. Some material is based on the existing water conservation plans listed in Appendix A. The water conservation and drought contingency plans for the North Texas Municipal Water District<sup>1</sup>, the City of Fort Worth<sup>2</sup>, the City of Dallas<sup>3</sup> were used extensively.

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<sup>1</sup> Superscript numbers match references listed in Appendix A.

**CITY OF POCA AGUA**

**WATER CONSERVATION  
AND DROUGHT  
CONTINGENCY PLAN**

**FEBRUARY 2005**

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- Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter A, Rule §288.1 – Definitions (Page B-1)
- Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter A, Rule §288.2 – Water Conservation Plans for Municipal Uses by Public Water Suppliers (Page B-4)
- Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter A, Rule §288.20 – Drought Contingency Plans for Municipal Uses by Public Water Suppliers (Page B-7)

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## **CITY OF POCA AGUA**

### **Water Conservation and Drought Contingency Plan**

February 2005

#### **1. INTRODUCTION AND OBJECTIVES**

Water supply has always been a key issue in the development of Texas. In recent years, the increasing population and economic development in Region C have led to growing demands for water. At the same time, local and less expensive sources of water supply are largely developed. Additional supplies to meet higher demands will be expensive and difficult to develop. Therefore, it is important that we make efficient use of existing supplies and make them last as long as possible. This will delay the need for new supplies, minimize the environmental impacts associated with developing new supplies, and delay the high cost of additional water supply development.

Recognizing the need for efficient use of existing water supplies, 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<sup>4</sup>. The TCEQ guidelines and requirements for water suppliers are included in Appendix B. The City of Poca Agua has adopted this water conservation and drought contingency plan pursuant to TCEQ guidelines and requirements.

The objectives of the water conservation plan are:

- To reduce water consumption.
- To reduce the loss and waste of water.
- To identify the level of water reuse.
- To improve efficiency in the use of water.
- To extend the life of current water supplies by reducing the rate of growth in demand.

The objectives of the drought contingency plan are:

- To conserve the available water supply in times of drought and emergency
- To maintain supplies for domestic water use, sanitation, and fire protection
- To protect and preserve public health, welfare, and safety
- To minimize the adverse impacts of water supply shortages
- To minimize the adverse impacts of emergency water supply conditions.

## **2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES**

### **2.1 Conservation Plans**

The TCEQ rules governing development of water 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 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)<sup>4</sup>.”

According to TCEQ rules, water conservation plans for public water suppliers must have a certain minimum content (Section 3), must have additional content for public water suppliers that are projected to supply 5,000 or more people in the next ten years (Section 4), and may have additional optional content (Section 5).

### **2.2 Drought Contingency Plans**

The TCEQ rules governing development of drought contingency 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)<sup>4</sup>.”

The drought contingency plan for the City of Poca Agua is contained in Section 6 of this water conservation and drought contingency plan.

### 3. MINIMUM REQUIRED WATER CONSERVATION PLAN CONTENT

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 3.1 and Appendix C
- §288.2(a)(1)(B) – Specification of Goals Before May 1, 2005 – Section 3.2
- §288.2(a)(1)(C) – Specification of Goals After May 1, 2005 – Section 3.2
- §288.2(a)(1)(D) – Accurate Metering – Sections 3.3 and 3.4
- §288.2(a)(1)(E) – Universal Metering – Section 3.4
- §288.2(a)(1)(F) – Determination and Control of Unaccounted Water – Section 3.5
- §288.2(a)(1)(G) – Public Education and Information Program – Section 3.6
- §288.2(a)(1)(H) – Non-Promotional Water Rate Structure – Section 3.7
- §288.2(a)(1)(I) – Reservoir System Operation Plan – Section 3.8
- §288.2(a)(1)(J) – Means of Implementation and Enforcement – Section 3.9, Appendix D, and Appendix E
- §288.2(a)(1)(K) – Coordination with Regional Water Planning Group – Section 3.10 and Appendix F

#### 3.1 Utility Profile

*[The utility profile must include information regarding population and customer data, water use data, water supply system data, and wastewater system data.]*

Appendix C to this water conservation plan is a water utility profile for the City of Poca Agua, based on the format recommended by the TCEQ<sup>5</sup>. Table 3.1 summarizes key facts from the Water Utility Profile.

#### 3.2 Specification of Water Conservation Goals

*[This section must include specific, quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use in gallons per capita per day.]*

Table 3.2 shows historical and projected per capita municipal water use for the City of Poca Agua. Water use is shown in units of gallons per capita per day (gpcd). Municipal water use is total use less wholesale sales to other municipal suppliers less sales to industrial users. Per capita municipal water use is municipal water use divided by population. The per capita municipal water use does not include industrial use.

Projected per capita municipal uses were obtained from the Texas Water Development Board (TWDB)<sup>6</sup> and interpolated to match the appropriate years for the 5-year and 10-year



goals. The TWDB projections are applicable for a dry year, in which outdoor water use would be high. Per capita municipal water use in a year with normal or high precipitation during the summer should be less than projected here.

**Table 3.1 Summary of Water Utility Profile for the City of Poca Agua**

<b>Water Service Area</b> = ____ square miles					
<b>Miles of Distribution Pipe</b> = ____ miles					
<b>Population:</b>					
Current Population = _____ in _____					
2000 Population = _____					
Projected 2060 Population = _____					
<b>Connections:</b>					
Current Connections = _____ in _____					
Total Increase in Connections in Last 5 Years = _____					
<b>Information on Water Use for the Last Five Years:</b>					
Year	Use (Million gallons)	Estimated Population*	Municipal per Capita	Unaccounted Water	Peak Day to Average Day
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
*Source of population estimate is _____.					
<b>Water Supply Source(s)</b> = <u>Poca Agua Reservoir</u>					
<b>Treatment and Distribution System:</b>					
Treatment Plant Capacity = _____ million gallons per day					
Elevated storage = _____ million gallons					
Ground storage = _____ million gallons					
<b>Current Total Annual Wastewater Flow</b> = _____ million gallons in _____.					

The TWDB projections include the impact of low-flow plumbing fixtures and water conservation measures that have been in effect since at least 2000 but do not include the effect of water conservation measures recommended in this plan. The impact of low-flow

plumbing fixtures has been itemized to show the total amount of projected water conservation in the City of Poca Agua. Table 3.2 shows the projected per capita water use after implementation of this water conservation and drought contingency plan. Table 3.2 also shows how much of the projected per capita water use is supplied by reclaimed water.

**Table 3.2**

**Projected Per Capita Use Without Implementation of Water Conservation Measures Beyond Those in Effect in 2000 and Water Conservation Goals**

Description	Highest Historical		Five-Year Goal	Ten-Year Goal
	Year	Gpcd	Gpcd	Gpcd
Historical Per Capita Municipal Use			-	-
Projected Per Capita Municipal Use Without Low-Flow Plumbing Fixtures	-	-		
Projected Reduction Due to Low-Flow Plumbing Fixtures	-	-		
Projected Per Capita Municipal Use With Low-Flow Plumbing Fixtures <sup>5</sup>	-	-		
Projected Reduction Due to Water Conservation Measures in this Plan	-	-		
Projected Per Capita Water Use Goals	-	-		
Projected Per Capita Use of Reclaimed Water	-	-		
Projected Per Capita Use of Raw Water	-	-		

The City’s water conservation goals include the following:

- Achieve \_\_\_\_ [*five years from date of plan*] per capita municipal water use of \_\_\_\_ gpcd or less, as shown in Table 3.2 (five-year target). This represents a reduction of \_\_\_\_ gpcd from the TWDB’s projected per capita municipal water use without low-flow plumbing fixtures or other conservation measures.
- Achieve \_\_\_\_ [*ten years from date of plan*] per capita municipal water use of \_\_\_\_ gpcd or less, as shown in Table 3.2 (ten-year target). This represents a reduction of \_\_\_\_ gpcd from the TWDB’s projected per capita municipal water use without low-flow plumbing fixtures or other conservation measures.
- Implement and maintain a meter replacement program (Section 3.4).
- Keep the level of unaccounted water in the system less than \_\_\_\_ percent in \_\_\_\_ [*target year*] and subsequent years (Section 3.5). [*For most urban and suburban water user groups, the goal should be between 10 and 15 percent. For some rural water user groups with long distances between customers, the goal should be between 10 and 20 percent.*]

- Raise public awareness of water conservation and encourage responsible public behavior through a public education and information program, as discussed in Section 3.6.

*[Note that water conservation goals below this point are based on optional water conservation plan content. Customize this section to represent the measures that you are planning to implement.]*

- *Decrease waste in lawn irrigation through implementation and enforcement of a landscape water management ordinance (Section 5.4).*
- *Decrease indoor water use by implementing the following programs:*
  - *Showerhead and aerator retrofit program (Section 5.2.1)*
  - *Water-efficient toilet replacement program (Section 5.2.2)*
  - *Customer indoor water audit (Section 5.6)*
  - *Water-efficient clothes washer rebate program (Section 5.7).*
- *Decrease outdoor water use by implementing the following programs:*
  - *Customer irrigation audit (Section 5.8)*
  - *Landscape irrigation systems rebate program (Section 5.9)*
  - *Landscape design and conversion program (Section 5.10)*
- *Decrease industrial, commercial, and institutional (ICI) water use by implementing the following programs:*
  - *General ICI rebate (Section 5.11)*
  - *ICI water audit, water waste reduction program, and site-specific water conservation program (Section 5.12)]*

### **3.3 Accurate Metering of Raw Water Supplies and Treated Water Deliveries**

*[This section must include a description of metering device(s) with an accuracy of plus or minus 5 percent that are used to measure and account for the amount of water diverted from the source of supply.]*

The City of Poca Agua meters all raw water diversions from Poca Agua Reservoir and meters all treated water deliveries to the distribution system from the water treatment plant. Each meter has an accuracy of plus or minus 2 percent. The meters are calibrated on a semiannual basis by City of Poca Agua personnel to maintain the required accuracy and are repaired and/or replaced as needed.

### **3.4 Metering of Customer and Public Uses and Meter Testing, Repair, and Replacement**

*[This section must include a program for universal metering of both customer and public uses of water, for meter testing and repair, and for periodic meter replacement.]*

Water usage for all customers of the City of Poca Agua, including public and governmental users, is metered. *[If there are unmetered users, describe the current metering situation and outline any plans to achieve universal metering.]*

As part of this water conservation plan, the City of Poca Agua will implement a meter replacement program that will replace every meter on a 15-year cycle. Initial efforts will focus on the oldest meters in the system.

In addition, meters registering any unusual or questionable readings will be tested and repaired to restore full functionality.

### **3.5 Determination and Control of Unaccounted Water**

*[This section must include measures to determine and control unaccounted uses of water. In 2003, the Texas Water Code (Chapter 16.0121) was amended to require that every five years, a retail public utility that provides potable water shall perform and file with the TWDB a water audit computing the utility's most recent annual system water loss. The audit shall account for the various components of system water loss, including loss from distribution lines, inaccuracies in meters or accounting practices, and theft. At this time, the TWDB is developing the rules for water system audits.]*

Unaccounted water is the difference between raw water drawn from Poca Agua Reservoir and metered deliveries to customers. (This includes authorized but unmetered uses such as fire fighting and releases for flushing of lines.) Unaccounted water can include several categories:

- Inaccuracies in customer meters (customer meters tend to run more slowly as they age and under-report actual use).
- Losses due to water main breaks and leaks in the water distribution system.
- Losses due to illegal connections.
- Other.

The City of Poca Agua will conduct an annual water audit using the International Water Association (IWA) format. The IWA format divides water losses into apparent losses and real losses. Apparent water losses include water that was actually used but not accounted for, such as customer meter errors or theft. Accounting for apparent losses increases the city's utility revenue but does not reduce water usage. Real losses include leakage and overflows at the water treatment plant. Identifying and preventing real losses decreases a

utility's costs and decreases water usage. The City will target real losses under this water conservation strategy.

*[Note that the annual water audit discussed above exceeds the requirement for a water system audit every five years. For a public water supplier that has not been performing water system audits, it may be helpful to perform annual audits for the first few years and to refine different parts of the audit each year.]*

*As an example, the first year audit might involve gathering all available data and estimating quantities that have not been measured. Between the first and second year audits, the supplier might investigate distribution system leaks to refine and reduce the estimated leakage in the second year audit. Between the second and third audits, the supplier could investigate apparent losses, such as meter or accounting errors, to refine and reduce the estimated apparent losses in the third year audit. The actual implementation of this strategy may be different for different suppliers.*

*In addition, although the IWA format is discussed above, the TWDB has not yet published rules that identify the required audit format.]*

As shown in Appendix C, unaccounted water for the City of Poca Agua has varied from \_\_\_ percent to \_\_\_ percent in the last five years. With the measures described in this plan, the City of Poca Agua intends to maintain the unaccounted water below \_\_\_ percent in \_\_\_ [target year] and subsequent years. If unaccounted water exceeds this goal, the City of Poca Agua will implement a more intensive audit to determine the source(s) of water loss and reduce the unaccounted water.

### **3.6 Continuing Public Education and Information Campaign**

*[This section must include a program of continuing public education and information regarding water conservation.]*

The continuing public education and information campaign on water conservation for the City of Poca Agua includes the following elements:

- Promote the City's water conservation measures (presented in Sections 3, 4, and 5).
- Include inserts on water conservation with water bills at least twice per year. Inserts will include material developed by City of Poca Agua staff and material obtained from the TWDB, the TCEQ, and other sources.
- Encourage local media coverage of water conservation issues and the importance of water conservation.
- Notify local organizations, schools, and civic groups that City of Poca Agua staff is available to make presentations on the importance of water conservation and ways to save water.

- Make the *Texas Smartscape CD*, water conservation brochures, and other water conservation materials available to the public at the City of Poca Agua Utility Department and other public places.
- Make information on water conservation available online at [www.ci.pocaagua.tx.us](http://www.ci.pocaagua.tx.us) and will include links to the *Texas Smartscape* website and to information on water conservation on the TWDB and TCEQ web sites.

### 3.7 Non-Promotional Water Rate Structure

*[This section must include a water rate structure that is not “promotional,” i.e., a rate structure which is cost-based and which does not encourage excessive use of water.]*

With the intent of encouraging water conservation and discouraging waste and excessive use of water, the City of Poca Agua has adopted an increasing block rate water structure where the unit price of water increases with increasing water use. Current water rates are shown in Tables 7.1 and 7.2.

**Table 3.3**

#### Monthly Customer Charges

Meter Size (in)	Total Charge	Meter Size (in)	Total Charge
5/8	\$_____	2	\$_____
3/4	\$_____	3	\$_____
1	\$_____	4	\$_____
1 1/4	\$_____	6	\$_____
1 1/2	\$_____		

**Table 3.4**  
**Volume Unit Charges**

<b>Water User</b>	<b>Type/Volume</b>	<b>Volume Unit Charge (\$/1,000 gal)</b>
Single-Family	0-2,000 gallons	\$____
	2,001-9,000 gallons	\$____
	9,001-15,000 gallons	\$____
	More than 15,000 gallons	\$____
Multi-Family		\$____
Commercial		\$____
Large Volume/Industrial		\$____
Golf Courses		\$____

*[An increasing block rate structure, where the unit cost increases as water usage increases, is recommended. The price difference between blocks is very important in influencing water usage. Prices between blocks should increase at least 25 percent; for maximum effectiveness, consider a price increase between blocks of at least 50 percent<sup>7</sup>. Also consider peak and off-peak rates for non-residential uses to encourage water conservation.]*

**3.8 Reservoir System Operation Plan**

*[This section must include a reservoir system operation plan, if applicable, providing for the coordinated operation of reservoirs owned by the applicant within a common watershed or river basin in order to optimize available water supplies. Attach a copy of the reservoir system operation plan if available.]*

The City of Poca Agua has the following rights to divert water from Poca Agua Reservoir:

- Up to 8,000 ac-ft/yr based on the natural yield of the reservoir
- Up to 2,000 ac-ft/yr based on the reclaimed water discharge from the City’s North Wastewater Treatment Plant

Poca Agua Reservoir is not operated in coordination with any other raw water supply sources; therefore, no additional yield can be gained through system operation.

**3.9 Implementation and Enforcement of the Water Conservation Plan**

*[This section must include a means of implementation and enforcement of the plan. This shall be evidenced by a copy of the ordinance, resolution, or tariff indicating official*

*adoption of the water conservation plan by the water supplier and a description of the authority by which the water supplier will implement and enforce the conservation plan.]*

Appendix D contains a copy of the resolution of the City of Poca Agua City Council adopting this water conservation and drought contingency plan. The resolution designates responsible officials to implement and enforce the water conservation and drought contingency plan. Appendix E, the landscape water management ordinance for the City of Poca Agua, also includes information about enforcement.

### **3.10 Coordination with Regional Water Planning Group**

*[This section must include documentation of coordination with the Regional Water Planning Group(s) for the service area of the public water supplier in order to insure consistency with the appropriate approved regional water plan(s).]*

Appendix F includes a copy of a letter sent to the Chair of the Region C Water Planning Group with this water conservation and drought contingency plan.



#### 4. ADDITIONAL REQUIRED WATER CONSERVATION PLAN CONTENT

*[Section 4 does not apply if you are not projected to supply a population of 5,000 people or more in the next ten years.]*

The Texas Administrative Code also includes additional requirements for water conservation plans for public drinking water suppliers that serve a population of 5,000 people or more and/or a projected population of 5,000 people or more within the next ten years:

- §288.2(a)(2)(A) – Leak Detection, Repair, and Water Loss Accounting – Sections 3.5, 4.1, and 5.5
- §288.2(a)(2)(B) – Record Management System – Section 4.2
- §288.2(a)(2)(C) – Requirement for Water Conservation Plans by Wholesale Customers – Section 4.3

##### 4.1 Leak Detection and Repair; Pressure Control

*[If you are projected to supply 5,000 people or more in the next ten years, this section must include a program of leak detection, repair, and water loss accounting for the water transmission, delivery, and distribution system in order to control unaccounted-for uses of water. Water loss accounting is also discussed in Sections 3.5 and 5.5.]*

Measures to control unaccounted water are part of the routine operations of the City of Poca Agua. Meter readers watch for and report signs of illegal connections so they can be addressed quickly. Crews and personnel look for and report evidence of leaks in the water distribution system. Maintenance crews respond quickly to repair leaks reported by the public and city personnel. The City of Poca Agua spends \$\_\_\_\_\_ per year to repair and replace water distribution lines and uses \_\_\_ [number] distribution line maintenance crews. Areas of the water distribution system in which numerous leaks and line breaks occur are targeted for replacement as funds are available.

To reduce real water losses, the City of Poca Agua will maintain a proactive water loss program. As part of this program, the City will implement the following actions:

*[No actions have been specified here. Customize this section to fit your situation. Potential actions include<sup>8</sup>:*

- *Conduct regular inspections and soundings of all water main fittings and connections;*
- *Use a leakage modeling program;*
- *Meter individual pressure zones;*
- *Establish district metering areas and measure monthly flows;*
- *Conduct intermittent night-flow measurements;*

- *Install temporary leak noise detectors and loggers;*
- *Reduce repair time on leaks by adding repair staff;*
- *Control pressure to just above the minimum standard-of-service level including fire requirements;*
- *Operate pressure zones based on topography;*
- *Limit surges in pressure; and*
- *Reduce nighttime pressure where feasible to reduce losses from background leaks.]*

#### **4.2 Record Management System**

*[If you are projected to supply 5,000 people or more in the next ten years, this section must include a record management system to record water pumped, water deliveries, water sales, and water losses which allows for the desegregation of water sales and uses into residential, commercial, public and institutional, and industrial user classes.*

*If you are required to have such a record management system and you do not, please describe your plan to meet this requirement within the next five years.]*

As required by TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(2)(B), the record management system for the City of Poca Agua records water pumped, water delivered, and water sold; estimates water losses; and allows for the separation of water sales and uses into residential, commercial, public/institutional, and industrial categories. This information will be included in an annual conservation report, as described in Section 5.5 below.

#### **4.3 Requirement for Water Conservation Plans by Wholesale Customers**

*[If you are projected to supply 5,000 people or more in the next ten years, this section must include a requirement that 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 TAC Title 30, Part 1, Chapter 288. If the customer intends to resell the water, then the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with applicable provisions of TAC Title 30, Part 1, Chapter 288.]*

At this time, the City of Poca Agua is not a wholesale water provider. After adoption of this plan, each contract for the wholesale sale of water by the City of Poca Agua will include a requirement that the wholesale customer develop and implement a water conservation plan meeting the requirements of Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code. This requirement will also extend to each successive wholesale customer in the resale of the water.

## 5. OPTIONAL WATER CONSERVATION PLAN CONTENT

*[Any combination of the following strategies shall be selected by the water supplier, in addition to the requirements of Section 3 and Section 4, if they are necessary to achieve the state water conservation goals of the plan.]*

TCEQ rules also list optional (not required) conservation strategies, which may be adopted by suppliers to achieve the stated goals of the plan. The following optional strategies are listed in the rules and included in this plan:

- §288.2(a)(3)(A) – Conservation Oriented Water Rates – Section 3.7
- §288.2(a)(3)(B) – Ordinances, Plumbing Codes or Rules on Water-Conserving Fixtures – Section 5.1
- §288.2(a)(3)(C) – Programs for the Replacement or Retrofit of Water-Conserving Plumbing Fixtures in Existing Structures – Section 5.2
- §288.2(a)(3)(D) – Reuse and Recycling of Wastewater – Section 5.3
- §288.2(a)(3)(E) – Pressure Control and/or Reduction – Section 4.1
- §288.2(a)(3)(F) – Landscape Water Management Ordinance – Section 5.4 and Appendix E
- §288.2(a)(3)(G) – Monitoring Method – Section 5.5 and Appendix G
- §288.2(a)(3)(H) – Other Conservation Methods – Sections 5.6 through 5.12

*[The final optional water conservation strategy listed in the TCEQ rules is “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.” Several more optional conservation methods have been listed below to assist you in conservation planning. ]*

In addition, the City of Poca Agua will also pursue the following optional water conservation strategies that exceed those suggested in the rules:

- Customer Indoor Water Audit – Section 5.6
- Water-Efficient Clothes Washer Rebate Program – Section 5.7
- Customer Irrigation Audit – Section 5.8
- Landscape Irrigation System Rebate Program – Section 5.9
- Landscape Design and Conversion Program – Section 5.10
- General ICI Rebate Program – Section 5.11
- ICI Water Audit, Water Waste Reduction Program, and Site-Specific Water Conservation Program – Section 5.12

## **5.1 Ordinances, Plumbing Codes, or Rules on Water-Conserving Fixtures**

*[OPTIONAL STRATEGY: If you have a plumbing ordinance that requires water-conserving fixtures, please describe the ordinance here and include a copy in an appendix.]*

The State of Texas has required water-conserving fixtures in new construction and renovations since 1992. The state standards call for flows of no more than 2.5 gallons per minute (gpm) for faucets, 3.0 gpm for showerheads, and 1.6 gallons per flush for toilets. Similar standards are also required under federal law. These state and federal standards assure that all new construction and renovations in the City of Poca Agua will use water-conserving fixtures.

In addition, federal rules requiring energy-conserving clothes washers by 2007 are expected to assure that new clothes washers in the City of Poca Agua will be water-efficient.

## **5.2 Programs for the Replacement or Retrofit of Water-Conserving Plumbing Fixtures in Existing Structures**

*[OPTIONAL STRATEGY: If you are planning programs to implement the replacement or retrofit of water-conservation plumbing fixtures in existing structure, please describe these programs below. Such programs might include distribution of free fixtures, vouchers for discounted fixtures, rebates on fixtures, etc.]*

### **5.2.1 Showerhead and Faucet Aerator Retrofit Program**

As discussed previously, state and federal plumbing standards require water-efficient plumbing fixtures for new construction and remodel projects. However, there are still a significant number of water-inefficient plumbing fixtures in use in the City of Poca Agua. Under this program, the City will provide free retrofit kits to City residents for their installation. High quality, low flow plumbing devices to be distributed under this program include: showerheads (2.0 gpm or less), kitchen faucet aerators (2.2 gpm or less), and bathroom faucet aerators (1.5 gpm or less). The showerhead and faucet aerator retrofit program is targeted toward single- and multi-family homes constructed before 1992 that have not been retrofitted with water-efficient plumbing fixtures.

The projected reduction in per capita use from a showerhead and faucet aerator retrofit program is \_\_\_ gpcd in \_\_\_\_ [*five years from date of plan*] and \_\_\_ gpcd in \_\_\_\_ [*ten years from date of plan*].

### **5.2.2 Water-Efficient Toilet Replacement Program**

As discussed previously, state and federal plumbing standards require water-efficient toilets for new construction and remodel projects. However, there are still a significant number of water-inefficient toilets in use in the City of Poca Agua. Under this program, the City will provide free water-efficient toilets (1.6 gallons per flush) to City residents, along with a \$\_\_\_\_ rebate for installation. The City of Poca Agua is targeting single- and multi-family

residential customers with homes constructed before 1992 that have not been retrofitted with water-efficient toilets.

The projected reduction in per capita use from the water-efficient toilet replacement program is \_\_\_ gpcd in \_\_\_\_\_ [*five years from date of plan*] and \_\_\_ gpcd in \_\_\_\_\_ [*ten years from date of plan*].

### **5.3 Reuse and Recycling of Wastewater**

*[OPTIONAL STRATEGY: If you are planning to reuse or recycle wastewater, please describe this program below.]*

The City of Poca Agua operates two wastewater treatment plants: the North Wastewater Treatment Plant (WWTP) and the South WWTP. The North WWTP discharges approximately 2,000 ac-ft/yr of reclaimed water to Poca Agua Creek upstream of Poca Agua Reservoir, where it is mixed with ambient water. Based on its water right, the City of Poca Agua withdraws up to 2,000 ac-ft/yr of this reclaimed water from Poca Agua Reservoir for water treatment and potable use. This reuse project provides approximately 20 percent of the City's total water supply.

The South WWTP discharges approximately 3,000 ac-ft/yr of reclaimed water to Poca Agua Creek downstream of Poca Agua Reservoir. Reclaimed water discharged from the South WWTP is used to satisfy downstream water rights and to maintain instream flows.

### **5.4 Water Waste Prohibition**

*[OPTIONAL STRATEGY: If you have an ordinance that prohibits water waste, please describe the ordinance below and attach a copy of the ordinance.]*

As part of the development of this water conservation plan, the City of Poca Agua adopted a landscape water management ordinance (Appendix E). This ordinance is intended to minimize waste in landscape irrigation. The ordinance<sup>8</sup> includes the following elements:

- Prohibition of outdoor watering with sprinklers from 10:00 a.m. to 6:00 p.m. every day from June 1 through September 30. (Watering with hand-held hoses, soaker hoses, or dispensers is allowed.)
- Requirement that all new irrigation systems include rain sensors capable of multiple programming.
- Requirement that all new irrigation systems be in compliance with state design and installation regulations (Texas Administrative Code Title 30, Part 1, Chapter 344).
- Prohibition of designs and installations that spray directly onto impervious surfaces such as sidewalks and roads or onto other non-irrigated areas.
- Prohibition of use of poorly maintained sprinkler systems that waste water.
- Prohibition of outdoor watering during any form of precipitation.

- Enforcement of the ordinance by a system of warnings followed by fines for continued or repeat violations.

### **5.5 Monitoring of Effectiveness and Efficiency - Annual Conservation Report**

*[OPTIONAL STRATEGY: If you are planning to monitor the effectiveness and efficiency of the water conservation plan, please describe how you will do so.]*

Appendix G is a form that will be used in the development of an annual conservation report for the City of Poca Agua. This form will be developed by March 31 for the preceding calendar year and will be used by the City of Poca Agua to monitor the effectiveness and efficiency of the water conservation program and to plan conservation-related activities for the next year. The form records the water use by category, per capita municipal use, and unaccounted water for the current year and compares them to historical values.

*[The remainder of Section 5 includes “other” optional water conservation strategies that are not specifically enumerated in the TCEQ rules.]*

### **5.6 Residential Customer Water Audit**

*[OPTIONAL STRATEGY: If you are planning a program to provide audits of residential water use, please describe the program below.]*

The City of Poca Agua will conduct water audits for single- and multi-family residential customers. The four main purposes are: to educate customers about conservative water use habits and replacement of inefficient toilets, clothes washers, and dishwashers; to install water-efficient showerheads and faucet aerators; and to identify (and possibly repair) leaks; and to optimize irrigation water usage. The City’s auditor will review the current watering schedule and recommend any appropriate changes to the watering schedule, will inspect the system operation, and will recommend any equipment repairs or changes to increase the efficiency of the irrigation system.

The projected reduction in per capita use from the customer indoor water audit program is \_\_\_ gpcd in \_\_\_\_\_ *[five years from date of plan]* and \_\_\_ gpcd in \_\_\_\_\_ *[ten years from date of plan]*.

### **5.7 Water-Efficient Clothes Washer Rebate Program**

*[OPTIONAL STRATEGY: If you are planning a program to encourage the use of water-efficient clothes washers, please describe the program below. Such programs generally includes rebates on the purchase of water-efficient clothes washers. In addition, since water-efficient clothes washers are also energy efficient, water utilities can sometimes partner with energy providers in offering rebates.]*

New, high-efficiency clothes washers use up to 40 percent less water than older, traditional clothes washers. Under this program, the City of Poca Agua will provide a \$\_\_\_\_\_ rebate

toward the purchase of residential clothes washers with a water efficiency factor (gallons per load divided by tub size in cubic feet) of 9.5 or less. In addition, the City of Poca Agua will provide a \$\_\_\_\_\_ rebate toward the purchase of commercial clothes washers with a water efficiency factor (gallons per load divided by tub size in cubic feet) of 9.5 or less.

The projected reduction in per capita use from the water-efficient clothes washer rebate program is \_\_\_ gpcd in \_\_\_\_\_ [*five years from date of plan*] and \_\_\_ gpcd in \_\_\_\_\_ [*ten years from date of plan*].

## **5.8 Impact of Increasing Water Prices**

*[OPTIONAL STRATEGY: If you are expecting to increase water prices, please describe the expected water conservation savings below.]*

The City of Poca Agua expects to raise water prices by \_\_\_ percent over the next five years and by \_\_\_ percent over the next ten years. A recent rate study predicted that the elasticity of water demand is \_\_\_\_\_.

The projected reduction in total water use from increasing water prices is \_\_\_ gpcd in \_\_\_\_\_ [*five years from date of plan*] and \_\_\_ gpcd in \_\_\_\_\_ [*ten years from date of plan*].

## **5.9 Landscape Irrigation System Rebate Program**

*[OPTIONAL STRATEGY: If you are planning a program to encourage the use of water-efficient landscape irrigation equipment, please describe the program below.]*

The City of Poca Agua will offer a rebate to residential and industrial, commercial, and institutional (ICI) customers to improve the efficiency of their existing irrigation system. By improving the efficiency of irrigation system, outdoor water usage can be reduced while maintaining a healthy landscape. Irrigation system equipment that could qualify for a rebate includes: irrigation controllers that allow percentages of programmed amounts for use with evapotranspiration-based water budgets, low-precipitation-rate sprinkler heads, drip irrigation equipment, pressure regulators, soil moisture sensors, and rain sensors.

The City of Poca Agua will offer the following rebates, with a total not to exceed \$\_\_\_\_\_:

- \$\_\_\_\_\_ rebate on a new evapotranspiration-based irrigation controller
- \$\_\_\_\_\_ rebate on a pressure reducing valve
- \$\_\_\_\_\_ rebate on a rain shut-off device
- Other equipment such as sprinkler heads and valves are eligible.

The projected reduction in per capita use from the landscape irrigation system rebate program is \_\_\_ gpcd in \_\_\_\_\_ [*five years from date of plan*] and \_\_\_ gpcd in \_\_\_\_\_ [*ten years from date of plan*].

## **5.10 Landscape Design and Conversion Program**

*[OPTIONAL STRATEGY: If you are planning a program to encourage the use of water-wise landscaping, please describe the program below.]*

The City of Poca Agua will provide a rebate of \$\_\_\_\_ per square foot (up to 800 square feet) to residential and ICI customers that convert existing high-water-use landscaping to water wise landscaping. In addition, the City of Poca Agua encourages new construction to follow water wise landscaping principles on all or part of the property.

The seven principles of water wise landscaping include:

- Planning and design,
- Soil analysis and improvement,
- Appropriate plant selection,
- Practical turf areas,
- Efficient irrigation,
- Use of mulches, and
- Appropriate maintenance.

Customers must agree to refund the rebate to the City if water use does not decline after installation of water wise landscaping or if water use returns to previous levels within five years.

The projected reduction in per capita use from the landscape design and conversion program is \_\_\_\_ gpcd in \_\_\_\_ [*five years from date of plan*] and \_\_\_\_ gpcd in \_\_\_\_ [*ten years from date of plan*].

## **5.11 General ICI Rebate Program**

*[OPTIONAL STRATEGY: If you are planning a general rebate program to encourage ICI water conservation, please describe the program below.]*

The City of Poca Agua will encourage its industrial, commercial, and institutional (ICI) customers to convert to water-saving equipment and practices by rebating a portion of the acquisition and installation cost of new water-saving equipment. Examples of equipment changes that might be eligible for a rebate are:

- Replacement of single-pass cooling systems with recirculating or air-cooling systems.
- Reuse of high quality rinse water for landscape irrigation or for wash cycles in laundry equipment.
- Improvements in cleaning processes.



- Installation of water-savings equipment in a car wash.

The City will rebate the lesser of the following:

- Half the purchase price of the equipment (up to \$\_\_\_\_\_) or
- \$\_\_\_\_ for each gallon per day saved up to \_\_\_\_\_ gallons and then \$\_\_\_\_ per gallon saved per day for the next \_\_\_\_\_ gallons up to a maximum rebate of up to \$\_\_\_\_\_.

The projected reduction in per capita use from the general ICI rebate program is \_\_\_ gpcd in \_\_\_\_\_ [five years from date of plan] and \_\_\_ gpcd in \_\_\_\_\_ [ten years from date of plan].

#### **5.12 ICI Water Audit, Water Waste Reduction Program, and Site-Specific Water Conservation Program**

*[OPTIONAL STRATEGY: If you are planning a program to assist ICI water users in performing on-site water audits, identifying water waste, and developing a site-specific water conservation program, please describe the program below.]*

The City of Poca Agua realizes that its ICI customers use water for a wide variety of purposes and have a wide variety of usage patterns. As such, the most feasible water conservation strategies for an individual ICI customer may be highly site-specific. The ICI water audit, water waste reduction program, and site-specific water conservation program is a strategy intended to serve as a way to identify, evaluate, and implement water conservation for individual ICI customers.

With the assistance of the customer, an ICI water audit will:

- Accurately measure all water entering the facility
- Inventory and calculate all on-site water uses
- Identify any unused water sources or waste streams available
- Calculate water related costs
- Identify potential water conservation measures within a facility

Potential water efficiency measures may include water waste reduction and/or best management practices. ICI water-wasting activities may include wasteful irrigation practices and scheduling, single-pass cooling, non-recycling decorative fountains, discharge of process water, inefficient use of water softeners, and wash and rinse processes. In addition to water waste reduction, ICI best management practices may include sub-metering, cooling tower audits, cooling system audits, rinsing/cleaning, boiler and steam

systems, water treatment, refrigeration, management and employee programs, landscape, and alternative sources and reuse of process water.

The projected reduction in per capita use from the ICI water audit, water waste reduction program, and site-specific water conservation program is \_\_\_ gpcd in \_\_\_\_\_ [*five years from date of plan*] and \_\_\_ gpcd in \_\_\_\_\_ [*ten years from date of plan*].

## **6. DROUGHT CONTINGENCY PLAN**

### **6.1 Introduction**

The purpose of this drought contingency plan is as follows:

- To conserve the available water supply in times of drought and emergency
- To maintain supplies for domestic water use, sanitation, and fire protection
- To protect and preserve public health, welfare, and safety
- To minimize the adverse impacts of water supply shortages
- To minimize the adverse impacts of emergency water supply conditions.

### **6.2 State Requirements for Drought Contingency Plans**

This drought contingency plan is consistent with Texas Commission on Environmental Quality (TCEQ) guidelines and requirements for the development of drought contingency plans by public drinking water suppliers, contained in Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.20 of the Texas Administrative Code. This rule is included in Appendix B.

TCEQ's minimum requirements for drought contingency plans are addressed in the following subsections of this report:

- 288.20(a)(1)(A) – Provisions to Inform the Public and Provide Opportunity for Public Input – Section 6.3
- 288.20(a)(1)(B) – Provisions for Continuing Public Education and Information – Section 6.4
- 288.20(a)(1)(C) – Coordination with the Regional Water Planning Group – Section 6.9
- 288.20(a)(1)(D) – Criteria for Initiation and Termination of Drought Stages – Section 6.5
- 288.20(a)(1)(E) – Drought and Emergency Response Stages – Section 6.6
- 288.20(a)(1)(F) – Specific, Quantified Targets for Water Use Reductions – Section 6.6
- 288.20(a)(1)(G) – Water Supply and Demand Management Measures for Each Stage – Section 6.6
- 288.20(a)(1)(H) – Procedures for Initiation and Termination of Drought Stages – Section 6.5
- 288.20(a)(1)(I) - Procedures for Granting Variances – Section 6.7
- 288.20(a)(1)(J) - Procedures for Enforcement of Mandatory Restrictions – Section 6.8
- 288.20(a)(3) – Consultation with Wholesale Supplier – Not applicable
- 288.20(b) – Notification of Implementation of Mandatory Measures – Section 6.5
- 288.20(c) – Review and Update of Plan – Section 6.10

*[If you receive water from a wholesale supplier, you must include in your plan appropriate provisions for responding to reductions in the wholesale water supply.]*

### **6.3 Provisions to Inform the Public and Opportunity for Public Input**

The City of Poca Agua provided opportunity for public input in the development of this drought contingency plan by the following means:

- Providing written notice of the proposed plan and the opportunity to comment on the plan by newspaper, posted notice, and notice on City of Poca Agua’s web site, [www.ci.pocaagua.tx.us](http://www.ci.pocaagua.tx.us).
- Making the draft plan available on City of Poca Agua’s web site, [www.ci.pocaagua.tx.us](http://www.ci.pocaagua.tx.us).
- Providing the draft plan to anyone requesting a copy.
- Holding a public meeting at the City of Poca Agua City Hall at \_\_\_\_\_ [time] on \_\_\_\_\_ [date].

### **6.4 Provisions for Continuing Public Education and Information**

The City of Poca Agua will inform and educate the public about its drought contingency plan by the following means:

- Preparing a bulletin describing the plan and making it available at city hall and other appropriate locations.
- Making the plan to the public available through the City of Poca Agua web site at [www.ci.pocaagua.tx.us](http://www.ci.pocaagua.tx.us).
- Including information about the drought contingency plan on the City of Poca Agua’s web site, [www.ci.pocaagua.tx.us](http://www.ci.pocaagua.tx.us).
- Notifying local organizations, schools, and civic groups that City of Poca Agua staff members are available to make presentations on the drought contingency plan (usually in conjunction with presentations on water conservation programs).

At any time that the drought contingency plan is activated or the drought stage changes, the City of Poca Agua will notify local media of the issues, the drought response stage, and the specific actions required of the public. The information will also be publicized on the City of Poca Agua web site, [www.ci.pocaagua.tx.us](http://www.ci.pocaagua.tx.us). Billing inserts will also be used as appropriate.

## **6.5 Initiation and Termination of Drought Response Stages**

### **6.5.1 Initiation of Drought Response Stages**

The Utility Director or his/her official designee may order the implementation of a drought response stage or water emergency when one or more of the trigger conditions for that stage is met. The following actions will be taken when a drought stage is initiated:

- The public will be notified through local media.
- Wholesale customers (none at present) will be notified by telephone with a follow-up letter or fax.
- If any mandatory provisions of the drought contingency plan are activated, the City of Poca Agua will notify the Executive Director of the TCEQ within 5 business days.

For other trigger conditions, the Utility Director or his/her designee may decide not to order the implementation of a drought response stage or water emergency even though one or more of the trigger criteria for the stage are met. Factors that could influence such a decision include, but are not limited to, the time of the year, weather conditions, the anticipation of replenished water supplies, or the anticipation that additional facilities will become available to meet needs.

### **6.5.2 Termination of Drought Response Stages**

The Utility Director or official designee may order the termination of a drought response stage or water emergency when the conditions for termination are met or at his/her discretion. The following actions will be taken when a drought stage is terminated:

- The public will be notified through local media.
- Wholesale customers will be notified by telephone with a follow-up letter or fax.
- When any mandatory provisions of the drought contingency plan that have been activated are terminated, the City of Poca Agua will notify the Executive Director of the TCEQ within 5 business days.

The Utility Director or his/her designee may decide not to order the termination of a drought response stage or water emergency even though the conditions for termination of the stage are met. Factors that could influence such a decision include, but are not limited to, the time of the year, weather conditions, or the anticipation of potential changed conditions that warrant the continuation of the drought stage.

## 6.6 Drought and Emergency Response Stages

### 6.6.1 Stage 1, Mild

#### 6.6.1.1 TRIGGERING AND TERMINATION CONDITIONS FOR STAGE 1, MILD

- The water level in Poca Agua Reservoir has fallen below elevation 484.0 feet msl.
- Demand exceeds 90% of the amount that can be delivered to customers for seven consecutive days.
- Water demand for all or part of the delivery system approaches delivery capacity because delivery capacity is inadequate.
- Supply source becomes contaminated.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- Water demand is approaching the limit of the permitted supply.

*[The following are examples of other potential triggering criteria that may be used in one or more successive stages of a drought contingency plan. Select one or more of these if appropriate to your system, or devise additional triggering criteria tailored to your system<sup>9</sup>:*

1. *Annually, beginning on May 1 through September 30.*
2. *When the water supply available to the City of Poca Agua is equal to or less than \_\_\_\_\_ (acre-feet, percentage of storage, etc.).*
3. *When, pursuant to requirements specified in the (name of water supplier) wholesale water purchase contract with (name of wholesale water supplier), notification is received requesting initiation of Stage 1 of the Drought Contingency Plan.*
4. *When flows in the (name of stream or river) are equal to or less than \_\_\_\_\_ cubic feet per second.*
5. *When the static water level in the (name of water supplier) well(s) is equal to or less than \_\_\_\_\_ feet above mean sea level.*
6. *When the specific capacity of the (name of water supplier) well(s) is equal to or less than \_\_\_\_\_ percent of the well's original specific capacity.*

7. *When total daily water demand equals or exceeds \_\_\_\_ million gallons for \_\_\_\_ consecutive days or \_\_\_\_ million gallons on a single day (e.g., based on the “safe” operating capacity of water supply facilities).*
8. *Continually falling treated water reservoir levels which do not refill above \_\_\_\_ percent overnight (e.g., based on an evaluation of minimum treated water storage required to avoid system outage).]*

Stage 1 can be terminated when the water level in Poca Agua Reservoir rises above 488.0 feet msl or when the circumstances that caused the initiation of Stage 1 no longer prevail.

#### **6.6.1.2 GOAL FOR USE REDUCTIONS AND ACTIONS AVAILABLE UNDER STAGE 1, MILD**

The goal for water use reduction under Stage 1, Mild, is a \_\_\_\_ percent reduction of the use that would have occurred in the absence of drought contingency measures. The purpose of actions under State 1, Mild is to raise public awareness of potential drought problems. The Utility Director or his/her designee can order the implementation of any of the actions listed below, as deemed necessary:

- Request voluntary reductions in water use by the public and by wholesale customers.
- Increase public education efforts on ways to reduce water use.
- Review the problems that caused the initiation of Stage 1.
- Notify major water users and work with them to achieve voluntary water use reductions.
- Intensify efforts on leak detection and repair.
- Reduce non-essential city government water use. (Examples include street cleaning, vehicle washing, operation of ornamental fountains, etc.)
- Reduce city government water use for landscape irrigation.
- Ask the public to follow voluntary landscape watering schedules.
- Notify wholesale customers of actions being taken in the City of Poca Agua and request implementation of similar procedures.

#### **6.6.2 Stage 2, Moderate**

##### **6.6.2.1 TRIGGERING CONDITIONS FOR STAGE 2, MODERATE**

- The water level in Poca Agua Reservoir has fallen below elevation 481.0 feet msl.
- Demand exceeds 95% of the amount that can be delivered to customers for 3 consecutive days.

- Water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate.
- Supply source becomes contaminated.
- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- Water demand is approaching the limit of the permitted supply.

*[If applicable select one or more of the additional triggering criteria discussed in Section 10.6.1.1, or devise additional triggering criteria tailored to your system.]*

Stage 2 can terminate when the water level in Poca Agua Reservoir rises above elevation 485.0 feet msl or when the circumstances that caused the initiation of Stage 2 no longer prevail. Stage 1 becomes operative on termination of Stage 2.

#### **6.6.2.2 GOAL FOR USE REDUCTION AND ACTIONS AVAILABLE UNDER STAGE 2, MODERATE**

The goal for water use reduction under Stage 2, Moderate, is a \_\_\_\_ percent reduction of the use that would have occurred in the absence of drought contingency measures. The Utility Director or his/her designee can order the implementation of any of the actions listed below, as deemed necessary:

- Continue or initiate any actions available under Stage 1.
- Initiate engineering studies to evaluate alternatives should conditions worsen.
- Further accelerate public education efforts on ways to reduce water use.
- Halt non-essential city government water use. (Examples include street cleaning, vehicle washing, operation of ornamental fountains, etc.)
- Encourage the public to wait until the current drought or emergency situation has passed before establishing new landscaping.
- Notify wholesale customers of actions being taken in the City of Poca Agua and request them to implement similar procedures.

#### **6.6.3 Stage 3, Severe**

##### **6.6.3.1 TRIGGERING CONDITIONS FOR STAGE 3, SEVERE**

- The water level in Poca Agua Reservoir has fallen below elevation 478.0 feet msl.
- Demand exceeds 98% of the amount that can be delivered to customers for 3 consecutive days.
- Water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate.
- Supply source becomes contaminated.



- Water supply system is unable to deliver water due to the failure or damage of major water system components.
- Water demand is approaching the limit of the permitted supply.

*[If applicable select one or more of the additional triggering criteria discussed in Section 10.6.1.1, or devise additional triggering criteria tailored to your system.]*

Stage 3 can terminate when the water level in Poca Agua Reservoir rises above elevation 482.0 feet msl or when the circumstances that caused the initiation of Stage 3 no longer prevail. Stage 2 becomes operative on termination of Stage 3.

### **6.6.3.2 GOAL FOR USE REDUCTION AND ACTIONS AVAILABLE UNDER STAGE 3, SEVERE**

The goal for water use reduction under Stage 3, Severe, is a reduction of \_\_\_\_ percent of the use that would have occurred in the absence of drought contingency measures. If the circumstances warrant, the Utility Director or his/her designee can set a goal for greater water use reduction.

The Utility Director or his/her designee can order the implementation of any of the actions listed below, as deemed necessary. Measures described as “requires notification to TCEQ” impose mandatory requirements on retail and wholesale customers. The City of Poca Agua staff must notify TCEQ within five business days if these measures are implemented.

- Continue or initiate any actions available under Stages 1 and 2.
- Implement viable alternative water supply strategies.
- **Requires Notification to TCEQ** – Initiate mandatory water use restrictions as follows:
  - Prohibit hosing of paved areas, buildings, or windows.
  - Prohibit operation of ornamental fountains.
  - Prohibit washing or rinsing of vehicles by hose.
  - Prohibit using water in such a manner as to allow runoff or other waste.
- **Requires Notification to TCEQ** – Limit landscape watering at each service address to once every five days based on the last digit of the address. (Exceptions: Foundations, azaleas, new plantings (first year) of trees and shrubs may be watered for up to 2 hours on any day by a hand-held hose or a soaker hose. Golf courses may water greens and tee boxes without restrictions. Restrictions do not apply to locations using treated wastewater effluent for irrigation.)
- **Requires Notification to TCEQ** – Prohibit draining and filling of existing pools and filling of new pools. (Pools may add water to replace losses during normal use.)
- **Requires Notification to TCEQ** – Prohibit establishment of new landscaping.

- Initiate a 10% rate surcharge for all water use over 4,000 gallons per connection per month.
- Discontinue city government water use for landscape irrigation, except as needed to prevent foundation damage, keep golf course greens and tee boxes alive, and preserve new plantings.
- Notify wholesale customers of actions being taken in the City of Poca Agua and request them to implement similar procedures.

#### **6.6.4 Stage 4, Emergency**

##### **6.6.4.1 TRIGGERING CONDITIONS FOR STAGE 4, EMERGENCY**

- The water level in Poca Agua Reservoir has fallen below elevation 475.0 feet msl.
- Demand exceeds the amount that can be delivered to customers.
- Water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate.
- Supply source becomes contaminated.
- Water supply system unable to deliver water due to the failure or damage of major water system components.
- Water demand is approaching the limit of the permitted supply.

*[If applicable select one or more of the additional triggering criteria discussed in Section 10.6.1.1, or devise additional triggering criteria tailored to your system.]*

Stage 4 can terminate when the water level in Poca Agua Reservoir rises above elevation 479.0 feet msl or when the circumstances that caused the initiation of Stage 4 no longer prevail. Stage 3 becomes operative on termination of Stage 4.

##### **6.6.4.2 GOAL FOR USE REDUCTION AND ACTIONS AVAILABLE UNDER STAGE 4, EMERGENCY**

The goal for water use reduction under Stage 4, Emergency, is a reduction of \_\_\_\_ percent of the use that would have occurred in the absence of drought contingency measures. If circumstances warrant, the Utility Director or his/her designee can set a goal for greater water use reduction.

The Utility Director or his/her designee can order the implementation of any of the actions listed below, as deemed necessary. Measures described as “requires notification to TCEQ” impose mandatory requirements on retail and wholesale customers. The City of Poca Agua staff must notify TCEQ within five business days if these measures are implemented.

- Continue or initiate any actions available under Stages 1, 2, and 3.
- Implement viable alternative water supply strategies.

- **Requires Notification to TCEQ** – Prohibit washing of vehicles except as necessary for health, sanitation, or safety reasons
- **Requires Notification to TCEQ** – Prohibit commercial and residential landscape watering, except that foundations may be watered for 2 hours each day with a hand-held hose or a soaker hose.
- **Requires Notification to TCEQ** – Prohibit golf course watering except for greens and tee boxes.
- **Requires Notification to TCEQ** – Prohibit any filling of private pools. Commercial and public pools may refill to replace losses during normal use.
- **Requires Notification to TCEQ** – Require all commercial water users to reduce water use by a percentage established by the Utility Director or his/her designee.
- Initiate a 25% rate surcharge over normal rates for all water use over 4,000 gallons per month.
- Notify wholesale customers of actions being taken in the City of Poca Agua and request them to implement similar procedures.

#### **6.7 Procedure for Granting Variances to the Plan**

The Utility Director or his/her designee may grant temporary variances for existing water uses otherwise prohibited under this drought contingency plan if one or more of the following conditions is met:

- Failure to grant such a variance would cause an emergency condition adversely affecting health, sanitation, or fire safety for the public or the person requesting the variance.
- Compliance with this plan cannot be accomplished due to technical or other limitations.
- Alternative methods that achieve the same level of reduction in water use can be implemented.

Variances shall be granted or denied at the discretion of City of Poca Agua staff or his/her designee. All petitions for variances should be in writing and should include the following information:

- Name and address of the petitioner(s)
- Purpose of water use
- Specific provisions from which relief is requested
- Detailed statement of the adverse effect of the provision from which relief is requested
- Description of the relief requested
- Period of time for which the variance is sought

- Alternative measures that will be taken to reduce water use
- Other pertinent information.

### **6.8 Procedure for Enforcement of Mandatory Restrictions**

Mandatory water use restrictions may be imposed in Stage 3 and Stage 4 drought stages. These mandatory water use restrictions will be enforced by warnings and penalties as follows:

- On the first violation, customers will be given a written warning that they have violated the mandatory water use restriction.
- On the second and subsequent violations, citations may be issued to customers, with fines not less than \$\_\_\_ and not to exceed \$\_\_\_\_\_ per incident.
- After two violations have occurred, the City of Poca Agua may install a flow restrictor in the line to limit the amount of water that may pass through the meter in a 24-hour period.
- After three violations have occurred, the City of Poca Agua may cut off water service to the customer.

### **6.9 Coordination with the Regional Water Planning Group**

The City of Poca Agua is located within the Region C water planning area. Appendix F includes a copy of a letter sent to the Chair of the Region C Water Planning Group (RCWPG) with this water conservation and drought contingency plan.

### **6.10 Review and Update of Drought Contingency Plan**

As required by TCEQ rules, the City of Poca Agua will review this drought contingency plan every five years, beginning in \_\_\_\_\_ [*five years from date of plan*]. The plan will be updated as appropriate based on new or updated information. As the plan is reviewed and subsequently updated, a copy of the revised Drought Contingency Plan will be submitted to the TCEQ and the RCWPG for their records.

**APPENDIX A**  
**List of References**

## Appendix A List of References

- (1) Freese and Nichols, Inc.: “North Texas Municipal Water District Water Conservation and Drought Contingency Plan,” prepared for North Texas Municipal Water District, Fort Worth, August 2004.
- (2) City of Fort Worth: “Emergency Water Management Plan for the City of Fort Worth,” Fort Worth, August 19, 2003.
- (3) City of Dallas Water Utilities Department: “City of Dallas Water Conservation Plan,” adopted by the City Council, Dallas, September 1999.
- (4) Texas Commission on Environmental Quality: “Water Conservation Plans for Municipal Uses by Public Water Suppliers,” *Texas Administrative Code* Title 30 Part I Subchapter A §288.2, effective October 7, 2004.
- (5) Texas Commission on Environmental Quality: “Water Utility Profile,” accessed online at <http://www.tnrcc.state.tx.us/permitting/waterperm/wrpa/10218.pdf>, August 2004.
- (6) Texas Water Development Board: “Water Demand Projections, 2006 Regional Water Plan Data,” accessed online at <http://www.twdb.state.tx.us/data/popwaterdemand/2003Projections/DemandProjections.asp> , August 2004.
- (7) Texas Water Development Board: *Report 362 Water Conservation Best Management Practices Guide*, prepared for the Water Conservation Implementation Task Force, Austin, November 2004.
- (8) Modeled after the City of Dallas landscape irrigation ordinance, accessed online at <http://www.dallascityhall.com/dallas/eng/pdf/dwu/DWUConservationOrd.pdf>, August 2004.
- (9) Texas Commission on Environmental Quality: “Model Drought Contingency Plan,” accessed online at <http://www.tnrcc.state.tx.us/permitting/waterperm/wrpa/contingency.html>, August 2004.

**APPENDIX B**  
**Texas Commission on Environmental Quality Rules on Municipal**  
**Water Conservation and Drought Contingency Plans**

**TITLE 30**

ENVIRONMENTAL QUALITY

**PART 1**

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

**CHAPTER 288**

WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS

**SUBCHAPTER A**

WATER CONSERVATION PLANS

**RULE §288.1**

**Definitions**

---

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; and

(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) 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.

(4) 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).

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

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

(7) 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.

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

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

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

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

(12) Nursery grower--A person engaged in the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or nonsoil media, who grows more than 50% of the products that the person either sells or leases, regardless of the variety sold, leased, or grown. For the purpose of this definition, grow 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.

(13) 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.

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

(15) 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.

(16) 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.

(17) 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.

(18) 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).

(19) 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.

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**Source Note:** The provisions of this §288.1 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective August 15, 2002, 27 TexReg 7146; amended to be effective October 7, 2004, 29 TexReg 9384

**TITLE 30**

ENVIRONMENTAL QUALITY

**PART 1**

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

**CHAPTER 288**

WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS

**SUBCHAPTER A**

WATER CONSERVATION PLANS

**RULE §288.2**

**Water Conservation Plans for Municipal Uses by Public Water Suppliers**

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

(1) Minimum requirements. All water conservation plans for municipal uses by public drinking water suppliers must include the following elements:

(A) a utility profile including, but not limited to, information regarding population and customer data, water use data, water supply system data, and wastewater system data;

(B) until May 1, 2005, specification of conservation goals including, but not limited to, municipal per capita water use goals, the basis for the development of such goals, and a time frame for achieving the specified goals;

(C) beginning May 1, 2005, specific, quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use, in gallons per capita per day. The goals established by a public water supplier under this subparagraph are not enforceable;

(D) metering device(s), within an accuracy of plus or minus 5.0% in order to measure and account for the amount of water diverted from the source of supply;

(E) a program for universal metering of both customer and public uses of water, for meter testing and repair, and for periodic meter replacement;

(F) measures to determine and control unaccounted-for uses of water (for example, periodic visual inspections along distribution lines; annual or monthly audit of the water system to determine illegal connections; abandoned services; etc.);

(G) a program of continuing public education and information regarding water

conservation;

(H) a water rate structure which is not "promotional," i.e., a rate structure which is cost-based and which does not encourage the excessive use of water;

(I) a reservoir systems operations plan, if applicable, providing for the coordinated operation of reservoirs owned by the applicant within a common watershed or river basin in order to optimize available water supplies; and

(J) a means of implementation and enforcement which shall be evidenced by:

(i) a copy of the ordinance, resolution, or tariff indicating official adoption of the water conservation plan by the water supplier; and

(ii) a description of the authority by which the water supplier will implement and enforce the conservation plan; and

(K) documentation of coordination with the regional water planning groups for the service area of the public water supplier in order to ensure consistency with the appropriate approved regional water plans.

(2) Additional content requirements. Water conservation plans for municipal uses by public drinking water suppliers serving a current population of 5,000 or more and/or a projected population of 5,000 or more within the next ten years subsequent to the effective date of the plan must include the following elements:

(A) a program of leak detection, repair, and water loss accounting for the water transmission, delivery, and distribution system in order to control unaccounted-for uses of water;

(B) a record management system to record water pumped, water deliveries, water sales, and water losses which allows for the desegregation of water sales and uses into the following user classes:

(i) residential;

(ii) commercial;

(iii) public and institutional; and

(iv) industrial;

(C) 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 graywater;

(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) Beginning May 1, 2005, a public water supplier for municipal use shall review and update its water conservation plan, as appropriate, based on an assessment of previous five-year and ten-year targets and any other new or updated information. The public water supplier for municipal use shall review and update the next revision of its water conservation plan not later than May 1, 2009, and every five years after that date to coincide with the regional water

planning group.

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**Source Note:** The provisions of this §288.2 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384

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**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**

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(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.).

(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.

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**Source Note:** The provisions of this §288.20 adopted to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384

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**APPENDIX C**  
**Water Utility Profile**

**APPENDIX C**  
**Water Utility Profile Based on TCEQ Format**

The purpose of the Water Utility Profile is to assist an applicant with water conservation plan development and to ensure that important information and data be considered when preparing your water conservation plan and goals. You may contact the Municipal Water Conservation Unit of the TWDB at 512-936-2391 for assistance, or the Resource Protection Team at 512-239-4691 if submitted to the TCEQ. You may also contact Tom Gooch of Freese and Nichols at 817/735-7300 or Brian McDonald of Alan Plummer Associates, Inc. at 817/806-1700.

Name of Utility: \_\_\_\_\_  
Address & Zip: \_\_\_\_\_  
Telephone Number: \_\_\_\_\_  
Fax Number: \_\_\_\_\_  
Form Completed by: \_\_\_\_\_  
Title: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

Name and phone number of person/department responsible for implementing the water conservation program:  
Name: \_\_\_\_\_  
Phone Number: \_\_\_\_\_

**I. CUSTOMER DATA**

**A. Population and Service Area Data**

1. Please attach a copy of your Certificate of Convenience and Necessity (CCN) from the TCEQ, and a service-area map.
2. Service area size (square miles): \_\_\_\_\_
3. Current population of service area: \_\_\_\_\_
4. Current population served by utility:  
    water: \_\_\_\_\_  
    wastewater: \_\_\_\_\_
5. Miles of Water Distribution Pipeline:

6. Population served by utility for the previous five years.

Year	Population

7. Projected population for service area in the following decades

Year	Population
2010	
2020	
2030	
2040	
2050	
2060	

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

**B. Active Connections**

1. Current number of active connections by user type.

Check whether multi-family service is counted as Residential \_\_\_ or Commercial \_\_\_.

Treated Water Users	Metered	Non-Metered	Total
Residential			
Commercial			
Industrial			
Public			
Other			
Total			

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

Year			
Residential			
Commercial			
Industrial			
Public			
Other			
Total			

C. High Volume Customers

List annual water use for the five highest volume retail and wholesale customers.  
(Please indicate if treated or raw water delivery.)

Customer	Use (1,000 gal/yr)	Treated/ Raw Water

II. WATER USE DATA FOR SERVICE AREA

A. Water Accounting Data

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

Please indicate:    Diverted Surface Water    \_\_\_\_\_  
                                          Treated Water      X      (supplied from \_\_\_\_\_)  
                                          Ground Water    \_\_\_\_\_

Year					
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
Total					

(Insert one table for each source)

Please indicate how the above figures were determined (e.g., from a master meter located at the point of diversion, from a stream, or located at a point where raw water enters the treatment plant, or from water sales)

2. Metered amount of water (in 1,000 gallons) delivered (sold) as recorded by the following account types (See #1, Appendix C1) for the past five years.

Year	Residential	Commercial	Industrial	Wholesale	Other	Total Sold

3. List previous five years records for unaccounted-for water use (See #2, Appendix C1). Data are calculated in Appendix D.

Unaccounted Water	Million Gallons
Treated Water Deliveries	
Other Supplies	
Total Sales	
Estimated Fire Use	
Estimated Line Flushing	
Unaccounted Water	
% Unaccounted	
Goal for % Unaccounted	

4. List previous five years records for annual peak-to-average daily use ratio (See #3, Appendix C1)

Year	Average MGD	Peak MGD	Ratio

5. Municipal per capita water use for previous five years (See #4, Appendix C1)

Year	Population	Total Diverted (or Treated) (1,000 gal)	Industrial Sales (1,000 gal)	Wholesale Sales (1,000 gal)	In-City Municipal Use (1,000 gal)	Municipal per Capita Use (gpcd)

6. Seasonal water use for the previous five years (in gallons/person/day) (See #5, Appendix C1)  
 Note: The December value must be entered into #5 Appendix C1 to calculate the base per capita correctly for the first year entry.

Year	Population	Base per Capita Use (gpcd)	Summer per Capita Use (gpcd)	Seasonal Use (gpcd)

**B. Projected Water Demands**

Provide estimates for total water demands for the planning horizon of the utility. Indicate sources of data and how projected water demands were determined.

Year	Projected Demand (Ac-Ft)	Source of data	Explanation of the Methodology Used to Develop Projection

**III. WATER SUPPLY SYSTEM**

**A. Water Supply Sources**

List all current water supply sources and the amounts available with each:

Type	Source	Amount of Available (MGD)
Surface Water		
Groundwater		
Contracts		
Other		

**B. Treatment and Distribution System**

1. Design daily capacity of system:
  
2. Storage capacity:
  - Elevated        \_\_\_\_\_ MG
  - Ground         \_\_\_\_\_ MG
  
3. If surface water, so you recycle filter backwash to the head of the plant?  
 Yes \_\_\_ No \_\_\_. If yes, approximately \_\_\_ MGD.
  
4. Please describe the water system. Include the number of treatment plants, wells, and storage tanks. If possible, include a sketch of the system layout.

**IV. WASTEWATER UTILITY SYSTEM**

**A. Wastewater System Data**

1. Design capacity of wastewater treatment plant(s):                    \_\_\_\_\_ MGD
  
2. Is treated effluent used for irrigation on-site \_\_\_\_, off-site \_\_\_\_, plant washdown \_\_\_\_, or chlorination/dechlorination \_\_\_\_? If yes, approximately \_\_\_\_ gallons per month. Could this be substituted for potable water now being used in these areas \_\_\_\_?
  
3. Briefly describe the wastewater system(s) of the area services by the 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 located the plant(s) and discharge or disposal sites.

Treatment Plant Name	TCEQ Number	Operator	Owner	Receiving Stream



**B. Wastewater Data for Service Area**

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

Year			
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
Total			

**V. UTILITY OPERATING DATA**

A. List (or attach) water and wastewater rates, and rate structures for all classes.

B. Other relevant data: Please indicate other data or information that is relevant to both the applicant's water management operations and design of a water conservation plan.

**VI. CONSERVATION GOALS**

Please use the data provided in this survey to establish conservation goals (additional data may be used).

A. Water conservation goals for municipal utilities are generally established to maintain or reduce consumption, as measured in:

1. gallons per capita per day used;
2. unaccounted-for water uses;
3. peak-day to average-day ratio; and/or
4. an increase in reuse of recycling or water.

B. TCEQ/TWDB conservation staff assess the reasonableness of water conservation goals based on whether the applicant addresses the following steps:

1. identification of a water or wastewater problem;
2. completion of the utility profile;
3. selection of goals based on the technical potential to save water as identified in the utility profile; and
4. performance of a cost-benefit analysis of conservation strategies.

If at least the first three steps have been completed and are summarized in the water conservation plan, then staff can conclude that there is substantiated basis for the goals, and that the water conservation plan is integrated into water management. Therefore, the established conservation goals can be deemed reasonable.

C. Complete the following in gallons per capita per day (gpcd) to quantify the water conservation goals for the utility's service area:

1. Estimation of the technical potential for reducing per capita water use (See Appendix C2).

Method	Most Likely 5-year Savings (gpcd)	Most Likely Savings in 2020 (gpcd)
Reduction in unaccounted-for uses (See C2).		
Reduction in indoor water use due to water-conserving plumbing fixtures	Given in Table 4.1	Given in Table 4.1
Reduction in seasonal use (See C2)		
Reduction in water use due to public education and rate programs (See C2)		
<b>Total Technical Potential for Reducing per Capita Water Use</b>	<b>0.0</b>	<b>0.0</b>

\* Subtract these totals from the dry-year per capita use to calculate the long-run planning goal.

2. Planning Goal

The planning goal equals the dry-year per capita water use minus the total technical potentials calculated in number one above.

	5-Year	10-Year
Planning goal (in gpcd):	_____	_____
Goal to be achieved by year:	_____	_____

3. Needed reduction in per capita use to meet planning goal (gpcd)

Dry-year per capita use: \_\_\_\_\_ (See Table 4.1)

Planning goal (from #2 above): \_\_\_\_\_

Difference between current use and goal: \_\_\_\_\_

(Represents needed reduction in per capita use to meet goal.)

**APPENDIX C1**  
**Definitions of Utility Profile Terms**

1. **Residential** sales should include residential sales to residential class customers only.  
**Industrial** sales should include manufacturing and other heavy industry.  
**Commercial** sales should include all retail businesses, offices, hospitals, etc.  
**Wholesale** sales should include water sold to another utility for a resale to the public for human consumption.
  
2. **Unaccounted-for water** is the difference between water diverted or treated (as reported in Section IIIA1) and water delivered (sold) as reported in Section IIA2). Unaccounted-for water can result from:
  1. inaccurate or incomplete record keeping;
  2. meter error;
  3. unmetered uses such as firefighting, line flushing, and water for public buildings and water treatment plants;
  4. leaks; and
  5. water theft and unauthorized use.
  
3. The **peak-day to average day ratio** is calculated by dividing the maximum daily pumpage (in million gallons per day) by the average daily pumpage. Average daily pumpage is the total pumpage for the year (as reported in Section IIA1) divided by 365 and expressed in million gallons per day.
  
4. **Municipal per capita use** is defined as total municipal water use dividing by the population and the 365 days. Total municipal water use is calculated by subtracting the **industrial sales** and **wholesale sales** from the total water diverted or treated (as reported in Section IIA1)  
  
Total municipal water use = total water diverted or treated - industrial sales - wholesale sales  
Municipal per capita use (gpcd) = total municipal water use/population/365  
  
Note: The AWWA considers the municipal per capita use as the most representative figure to use in long-range water supply and conservation planning.
  
5. **Seasonal water use** is the difference between base (winter) daily per capita use and summer daily per capita use. To calculate the **base daily per capita use**, average the monthly diversions for December, January, and February, and divide this average by 30. Then divide this figure by the population. To calculate the **summer daily per capita use**, use the months of June, July, and August.

**APPENDIX C2**  
**Estimating the Technical Potential for Reducing Per Capita Water Use**

The technical potential for reducing per capita water use is the range in potential water savings that can be achieved by implementing specific water conservation measures. The bottom of the range represents the potential savings under a "most likely," or real-world conservation scenario. The top of the range represents the potential savings under an "advanced" conservation scenario. The conservation measures include:

- reducing unaccounted-for water uses;
- reducing indoor water use due to water-conserving plumbing fixtures;
- reducing seasonal water use; and
- reducing water use through public education programs.

Guidelines and examples for calculating the technical potential water savings for each of these conservation measures are given below.

**I. Reducing Unaccounted-For Water Uses**

The TCEQ considers unaccounted-for water uses of 15% or less as acceptable for communities serving more than 5,000 people. Smaller, older systems or systems that have a larger service area may legitimately experience larger losses. Losses above 15% may be an area of concern, and provide a conservation potential.

The bottom of the range for technical potential savings for unaccounted-for uses is zero. To calculate the top of the range, see the following example:

**Example:**

Unaccounted-for uses =	19.50% (App C, II.A.3)
Dry-year per capita water use =	250 gpcd (App C, VI.C.3)
<u>Potential for reduction in unaccounted-for use</u>	
=	(250 gpcd x 19.5%) - (250 gpcd x 15%)
=	48.75 gpcd - 37.5 gpcd
=	11.25 gpcd
<b>Technical Potential Savings Range = 0 to 11.25 gpcd</b>	

**Computation for \_\_\_\_\_:**

Unaccounted-for uses =	_____ (App C, II.A.3)
Dry-year per capita water use =	_____ gpcd (App C, VI.C.3)
<u>Potential for reduction in unaccounted-for use</u>	
=	_____
<b>Technical Potential Savings Range = 0 to _____ gpcd</b>	

## II. Reducing Indoor Water Use due to Water-Conserving Plumbing Fixtures

The Texas Water Development Board (TWDB) recently completed a water conservation study that estimated that the average savings of replacing higher water-use fixtures with more efficient fixtures mandated by state and federal laws would be 16 gallons per person per day (10.5 gpcd for toilets and 5.5 gpcd for showerheads). The TWDB used 1995 as their benchmark for determining the potential average per-capita water savings of an entity. The 1995 population was assumed to have less-efficient water fixtures. No additional water savings can be expected in the basis of fixture replacement for the post-1995 population. By 1995, retailers were assumed to have sold off their remaining stock of high water use plumbing fixtures. The annual rate of replacement was estimated to be 2% of the 1995 population.

The TWDB estimated the water savings due to low-flow plumbing fixture replacements as follows:

$$PCS2000 = (((POP1995 \times 10\%) + G1995-00) / POP2000) \times 16 \text{ gpcd}$$

$$GPCD1995 = PCS2000 + GPCD2000$$

where:

GPCD2000	Per person, per day in the Year 2000 (gpcd)
G1995-00	Population growth between 1995 and 2000
PCS2000	The entity's average gpcd savings due to plumbing code changes (fixture replacement) between 1995 and 2000
PCS2010	The entity's average gpcd savings in 2010 due to plumbing code changes (fixture replacement) in the previous 10 years
POP1995	July 1995 population estimate
POP2000	Census 2000 population (cities) or Year 2000 population estimate
POP2010 - POP2060	Population projections for the entity in the decades 2010 through 2060

The remaining savings was calculated as follows:

$$PCS2010 = [ ((POP1995 \times 30\%) + (POP2010 - POP1995)) / POP2010 \times 16 \text{ gpcd} ] - PCS2000$$

$$GPCD2010 = GPCD2000 - PCS2010$$

Note: These formulas work through 2040. By 2050, all of the fixture replacements would have taken place and no additional savings would occur.

The TWDB reductions are included in Table 4.1.

### III. Reducing Seasonal Water Use

The Texas Water development Board (TWDB) has calculated seasonal use as a percentage of average annual per capita use for East Texas (20%), West Texas (25%), and a statewide average of 22.5%. Seasonal water use is calculated by multiplying the average annual per capita use in gpcd by the appropriate percentage.

The technical potential for reduction in seasonal use is then calculated by multiplying the seasonal use by 7% for the "most likely" conservation scenario, and by 20% for the "advanced" scenario. Below is an example calculation:

**Example:**

Average annual dry-year per capita use =	185 gpcd	
Geographical location =	West Texas	
Seasonal use =	(185 gpcd x 25%) =	46.25 gpcd
Potential reduction in seasonal use (Most Likely scenario) =	(46.25 x 7%) =	3.24 gpcd
Potential reduction in seasonal use (Advanced scenario) =	(46.25 x 20%) =	9.25 gpcd
<b>Technical Potential Savings Range = 3.24 to 9.25 gpcd</b>		

**Computation for \_\_\_\_\_:**

Average annual dry-year per capita use =	_____ gpcd	
Geographical location =	North Texas	
Seasonal use =	_____ gpcd	
Potential reduction in seasonal use (Most Likely scenario) =		_____ gpcd
Potential reduction in seasonal use (Advanced scenario) =		_____ gpcd
<b>Technical Potential Savings Range = _____ to _____ gpcd</b>		

### IV. Reducing Water Use through Public Education and Water Rates Programs

The technical potential for water conservation from public education and wate rates programs is estimated to be from 2% of the average annual per capita use for the "most likely" conservation scenario to 5% for the "advanced" scenario, according to the "Water Conservation Guidebook," published in 1993 by the American Water Works Association. Below is an example calculation:

**Example:**

Average annual per capita use =	185 gpcd	
Potential reduction in water use (Most Likely scenario) =	(185 x 2%) =	3.70 gpcd
Potential reduction in water use (Advanced scenario) =	(185 x 5%) =	9.25 gpcd
<b>Technical Potential Savings Range = 3.7 to 9.25 gpcd</b>		

**Computation for \_\_\_\_\_:**

Average annual per capita use =	_____ gpcd	
Potential reduction in water use (Most Likely scenario) =	(185 x 2%) =	_____ gpcd
Potential reduction in water use (Advanced scenario) =	(185 x 5%) =	_____ gpcd
<b>Technical Potential Savings Range = _____ to _____ gpcd</b>		

To calculate the **total technical potential** for reducing municipal per capita water use, simply add the individual technical potential amounts calculated in items I-IV above. In this case the **total technical potential range equals 6.94 gpcd to 29.75 gpcd**

**Example Summary of Technical Potential Calculations**

Conservation Measure	Calculation Procedure	Example Result
Reducing unaccounted-for uses	(Dry year demand) x (Unacc.-for percentage if more than 15%, minus	0 to 11.25 gpcd
Reducing indoor water use due to water-efficient plumbing	Reduction expected according to TWDB	Included in Table 4.1 separately.
Reducing seasonal water use	Seasonal use (Avg. use x 22.5%) x 7% and 20%	3.24 to 9.25 gpcd
Reducing water use through public education and water rates programs	Average use x 2% and 5%	3.7 to 9.25 gpcd
	<b>Total Technical Potential Savings</b>	6.94 to 29.75 gpcd

**Summary of Technical Potential Calculations for \_\_\_\_\_**

Conservation Measure	Calculation Procedure	Result
Reducing unaccounted-for uses	(Dry year demand) x (Unacc.-for percentage if more than 15%, minus	to
Reducing indoor water use due to water-efficient plumbing	Reduction expected according to TWDB	Included in Table 4.1 separately.
Reducing seasonal water use	Seasonal use (Avg. use x 22.5%) x 7% and 20%	to
Reducing water use through public education and water rates programs	Average use x 2% and 5%	to
	<b>Total Technical Potential Savings</b>	to

To calculate the long-run planning goal, subtract these totals from the dry-year water demand.

**Example:**

<p>Long-run planning goal = (dry year water demand with low-flow fixtures) minus (total technical potential)</p> <p style="padding-left: 150px;">= 250 gpcd - 6.94 gpcd = 243 gpcd ("most likely" scenario)</p> <p style="padding-left: 150px;">= 250 gpcd - 29.75 gpcd = 220 gpcd ("advanced" scenario)</p> <p><b>Long-run planning goal for municipal water use = 243 gpcd to 220 gpcd</b></p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**Computation for \_\_\_\_\_ :**

<p>Long-run planning goal = (dry year water demand with low-flow fixtures) minus (total technical potential)</p> <p>5-year _____ ("most likely" scenario)                      10-year _____ ("most likely" scenario)</p> <p style="padding-left: 100px;">_____ ("advanced" scenario)                                              _____ ("advanced" scenario)</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**APPENDIX D**  
**City Council Resolution Adopting this Water Conservation and  
Drought Contingency Plan**



**APPENDIX D**  
**City Council Resolution Adopting the Water Conservation and Drought  
Contingency Plan**

**Ordinance No. 3566**

**AN ORDINANCE ADOPTING A CITY OF POCA AGUA WATER CONSERVATION AND DROUGHT CONTINGENCY PLAN; TO PROMOTE RESPONSIBLE USE OF WATER; ESTABLISHING RESTRICTIONS ON CERTAIN WATER USES RELATED TO DROUGHT OR SHORTAGES; PROVIDING A PENALTY OF NOT LESS THAN \_\_\_\_\_ DOLLARS (\$\_\_\_\_) PER DAY NOR MORE THAN \_\_\_\_\_ DOLLARS (\$\_\_\_\_) PER DAY FOR EACH DAY OF NONCOMPLIANCE WITH THE PROVISIONS OF THE DROUGHT CONTINGENCY PLAN, AND/OR DISCONNECTION OF WATER SERVICE FOR NONCOMPLIANCE WITH THE PROVISIONS OF THE DROUGHT CONTINGENCY PLAN AND WATER CONSERVATION PLAN.**

**WHEREAS**, the City of Poca Agua, Texas (the “City”), recognizes that the amount of water available to the City and its water customers is limited;

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

**WHEREAS**, applicable law and regulations of the Texas Commission on Environmental Quality require that the City adopt a Water Conservation Plan and Drought Contingency Plan;

**WHEREAS**, the City has determined an urgent need in the best interest of the public to adopt a Water Conservation and Drought Contingency Plan; and

**WHEREAS**, the City Council of the City of Poca Agua desires approval of the Water Conservation and Drought Contingency Plan and adopt such Plan as official City policy;  
**NOW THEREFORE**,

**BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF POCA AGUA:**

**Section 1.** The City Council hereby approves and adopts the City’s Water Conservation and Drought Contingency Plan, attached hereto as Addendum A, and to be included in full as a part of this Ordinance as if recited verbatim herein. The City commits to implement the program according to the procedures set forth in the adopted Plan.

**Section 2.** THAT Ordinance No. \_\_\_\_\_ adopted on \_\_\_\_\_ is hereby repealed.

**Section 3.** City water customers that do not comply with the Drought Contingency Plan shall be subject to (i) a penalty and fine of not less than \_\_\_\_\_ dollars (\$\_\_\_\_) per day

nor more than \_\_\_\_\_ dollars (\$\_\_\_\_) per day for each day of noncompliance; and/or  
(ii) discontinuance of water services to water customers by the City

**Section 4.** Water customers of the City that do not comply with the Drought Contingency Plan, adopted as part of this ordinance, shall be subject to the enforcement described in Section 10.8 of the attached Water Conservation and Drought Contingency Plan, including a penalty of discontinuance by the City of water services to such water customers.

**Section 5.** The City Council finds and declares that a sufficient written notice of the date, hour, place and subject of the meeting of the Council was posted at a designated place convenient to the public at the City Hall for the time required by law preceding this meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Ordinance and the subject matter thereof has been discussed, considered and formally acted upon.

The City Council further ratifies, approves and confirms such written notice and the posting thereof.

**Section 6.** THAT should any paragraph, sentence, clause, phrase or word of this Ordinance be declared unconstitutional or invalid for any reason, the remainder of this Ordinance shall not be affected thereby.

**Section 7.** THAT the City Secretary is hereby authorized and directed to cause publication of the descriptive caption of this ordinance as an alternative method of publication provided by law.

AND SO IT IS ORDERED

Passed by the City Council on this \_\_\_th day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Mayor

Attest:

\_\_\_\_\_  
City Secretary

**APPENDIX E**  
**Landscape Water Management Ordinance**

**APPENDIX E**  
**Landscape Water Management Ordinance<sup>8</sup>**

**A. Purpose**

Some landscape irrigation practices can waste a significant quantity of water, particularly during the summer months. The purpose of this landscape water management ordinance is to ensure that water being used for lawn and landscape irrigation is being applied in a manner that prevents waste and conserves our water resources.

**B. Lawn and Landscape Irrigation Restrictions**

1. A person commits an offense if he or she irrigates, waters, or causes or allows the irrigation or water of any lawn or landscape located on any property owned, leased, or managed by him or her between the hours of 10:00 a.m. and 6:00 p.m. from June 1 through September 30 of any year.
2. A person commits an offense if he knowingly or recklessly irrigates, waters, or causes or allows the irrigation or watering of lawn or landscape located on any property owned, leased, or managed by that person in such a manner that causes:
  - a. over-watering lawn or landscape, such that a constant stream of water overflows from the lawn or landscape onto a street or other drainage area, or
  - b. irrigating lawn or landscape during any form of precipitation. This includes automatic sprinkler systems.
3. A person commits an offense if he or she operates a lawn or irrigation system or device on property that he or she owns, leases, or manages that:
  - a. has broken or missing sprinkler head(s), or
  - b. has not been properly maintained to prevent the waste of water

**C. Rain Sensors**

1. Any new irrigation system installed within the city's customer service area on or after August 5, 2004, must be equipped with rain sensing devices in compliance with state design and installation regulations.
2. A person commits an offense on property owned, leased or managed by him or her if he or she:
  - a. installs or allows the installation of new irrigation systems in violation of Subsection C.1 or
  - b. operates or allows the operation of an irrigation system that does not comply with Subsection C.1.

#### D. Variances

The City Manager or his/her designee may, in special cases, grant variances from the provisions in Subsection B.1 or Subsection C. to persons demonstrating extreme hardship or need. Variances may be granted only under all of the following circumstances and conditions:

1. Applicant must sign a compliance agreement agreeing to irrigate or water the lawn and/or landscape only in the amount and manner permitted by the variance.
2. The variance must not cause an immediate significant reduction to the City's water supply.
3. The extreme hardship or need requiring the variance must relate to the health, safety, or welfare of the person making the request.
4. The health, safety, and welfare of the public and the person making the request must not be adversely affected by the requested variance.

#### E. Revocation of Variances

The director of water utilities may revoke a variance granted when the director determines that:

1. the conditions of Subsection D are not being met or no longer apply,
2. the terms of the compliance agreement are violated, or
3. the health, safety, or welfare of other persons requires revocation.

(City of Poca Agua Ordinance 3567, effective 8/5/2004)

**APPENDIX F**  
**Letter to Region C Water Planning Group**

**APPENDIX F**  
**Sample Letter to Region C Water Planning Group**

Date

Mr. Jim Parks  
Chair, Region C Water Planning Group  
North Texas Municipal Water District  
P.O. Box 2408  
Wylie, TX 75098

Dear Mr. Parks:

Enclosed please find a copy of the recently adopted water conservation and drought contingency plan for the City of Poca Agua. I am also submitting a copy of this plan to the Region C Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. These plans were developed in concert with the North Texas Municipal Water District's water conservation and drought contingency plan. The City Council of the City of Poca Agua adopted the attached plan on \_\_\_\_\_, \_\_\_\_\_.

Sincerely,

Name  
Utility Director  
City of Poca Agua

## Sample Letter to Raw Water Supplier

Date

Mr. John Doe  
Raw Water Supplier  
P.O. Box 12345  
City, TX 77777

Dear Mr. Doe:

Enclosed please find a copy of the recently adopted water conservation and drought contingency plan for the City of \_\_\_\_\_. I am submitting a copy of this plan to the \_\_\_\_\_ (raw water supplier) in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. These plans were developed in concert with the sample water conservation and drought contingency plan provided by the Region C Water Planning Group. The City Council of \_\_\_\_\_ adopted the attached plan on \_\_\_\_\_.

Sincerely,

Name \_\_\_\_\_  
Position, City of \_\_\_\_\_



**APPENDIX G**  
**Water Conservation Report**

**APPENDIX G  
WATER CONSERVATION REPORT**

Entity Reporting: \_\_\_\_\_  
 Filled Out By: \_\_\_\_\_  
 Date Completed: \_\_\_\_\_  
 Year Covered: \_\_\_\_\_  
 # of Connections \_\_\_\_\_

**Recorded Deliveries and Sales by Month (in Million Gallons):**

Month	Treated Water Deliveries	Other Supplies	Sales by Category						
			Residential	Commercial	Public/ Institutional	Industrial	Wholesale	Other	Total
January									0
February									0
March									0
April									0
May									0
June									0
July									0
August									0
September									0
October									0
November									0
December									0
<b>TOTAL</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Unaccounted Water (Million Gallons):**

Treated Water Deliveries                    0 from Table above  
 Other Supplies                                    0 from Table above  
 Total Sales                                        0 from Table above  
 Estimated Fire Use                              estimated from best available data  
 Estimated line flushing                         estimated from best available data  
 Unaccounted Water                              0  
 % Unaccounted                                  #DIV/0!  
 Goal for % Unaccounted                        12.00%

**Per Capita Municipal Use (Gallons per person per day)**

Municipal Use (MG) 0 from Table above (Deliveries - industrial sales - municipal sales - other sales)  
 Estimated Population please describe source of population estimate  
 Per Capita Use (gpcd) #DIV/0!  
 5-year Per Capita Goal (\_\_\_)  
 10-year Per Capita Goal (\_\_\_)

**Recorded Wholesale Sales by Month (in Million Gallons):**

Month	Sales to _____	Sales to _____	Sales to _____	Sales to _____	Sales to _____	Sales to _____	Sales to _____	Total Wholesale Sales
January								
February								
March								
April								
May								
June								
July								
August								
September								
October								
November								
December								
<b>TOTAL</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

**Information on Wholesale Customers:**

Customer	Estimated Population
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**Unusual Circumstances (use additional sheets if necessary):**

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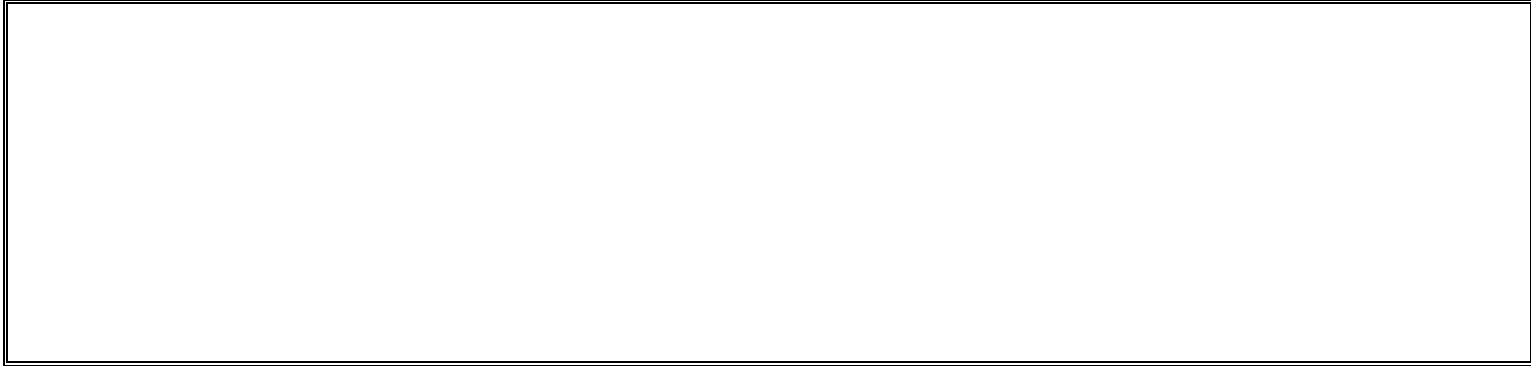
**Progress in Implementation of Conservation Plan (use additional sheets if necessary):**

--

**Conservation measures planned for next year (use additional sheets if necessary):**

--

**Other (use additional sheets if necessary):**

A large, empty rectangular box with a thin black border, intended for providing additional information or notes. The box is currently blank.