

**REGION C WATER
PLANNING GROUP**

**MODEL WATER
CONSERVATION AND
DROUGHT
CONTINGENCY PLAN
FOR IRRIGATION USERS**

DECEMBER 2024

Prepared for:

**REGION C WATER
PLANNING GROUP**

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FOREWORD

This model water conservation and drought contingency plan for the fictional Poca Agua Golf Club and Turfgrass Nursery was prepared by Plummer and Freese and Nichols for the Region C Water Planning Group. It is a template for large-scale irrigation water users to use as they develop their own water conservation and drought contingency plans. Each irrigation water user should customize the details to match their unique situation. The model plan was prepared pursuant to Texas Commission on Environmental Quality rules.

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This model water conservation and drought contingency plan is based on the Texas Administrative Code in effect on December 5, 2024, and considers water conservation best management practices from the Texas Water Development Board's *Best Management Practices for Agricultural Water Users*.

**POCA AGUA GOLF
CLUB AND TURFGRASS
NURSERY**

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- Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter A, Rule §288.1 – Definitions
- Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter A, Rule §288.4 – Water Conservation Plans for Agricultural Use
- Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter A, Rule §288.21 – Drought Contingency Plans for Irrigation Use

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Poca Agua Golf Club and Turfgrass Nursery

Water Conservation and Drought Contingency Plan December 2024

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 supplies. 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. It is therefore important that we make efficient use of our 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 rules governing the development of water conservation and drought contingency plans for irrigation users (Appendix B).^{1,2} The Poca Agua Golf Club and Turfgrass Nursery has adopted this water conservation and drought contingency plan pursuant to TCEQ rules.

This model water conservation plan includes measures that are intended to result in ongoing, long-term water savings. Best management practices established by the Texas Water Development Board were also considered in the development of the water conservation measures.³ This plan replaces a previous model plan dated August 2019.

This model plan is a template for irrigation users to use as they develop their own water conservation and drought contingency plans. This model plan includes all of the elements required by TCEQ. Each irrigation user should customize the details to match its unique situation. At a minimum, this will include:

- Setting five-year and ten-year goals for per capita water use (Section 6).
- Completing a water conservation implementation report (Section 13).
- Adopting ordinance(s) or regulation(s) approving the model plan (Section 13).

The final adopted version should be provided to the TCEQ.

This plan lists the TCEQ rules; describes the irrigation process at the Poca Agua Golf Club and Turfgrass Lawn Nursery; sets water conservation goals; describes water measurement devices and methods; discusses leak detection, repair, and water loss accounting; and reports existing and future water use efficiency practices.

¹ Superscript numbers refer to references in Appendix A.

2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES

2.1 Conservation Plans

The TCEQ rules governing development of water conservation plans for agricultural use (irrigation users) are contained in Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.4 of the Texas Administrative Code (TAC), which is included in Appendix B. Holders of an existing permit, certified filing, or certificate of adjudication for the appropriation of surface water in the amount of 10,000 acre-feet a year or more for irrigation uses must develop, submit, and implement a water conservation plan.

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).”⁴ The minimum requirements plans for agricultural use (“individual irrigation user”) are as follows:

TAC Reference	Subject	Plan Location
30 TAC §288.4(a)(2)(A)	Description of Irrigation Production Process	Section 3
30 TAC §288.4(a)(2)(B)	Description of the Irrigation Method or System and Equipment	Section 4
30 TAC §288.4(a)(2)(C)	Accurate Metering	Section 5
30 TAC §288.4(a)(2)(D)	Specification of Conservation Goals	Section 6
30 TAC §288.4(a)(2)(E)	Description of Water-Conserving Irrigation Equipment and Application System	Section 7
30 TAC §288.4(a)(2)(F)	Leak Detection, Repair, and Water-Loss Control	Section 8
30 TAC §288.4(a)(2)(G)	Irrigation Timing and/or Measuring the Amount of Water Applied	Section 9
30 TAC §288.4(a)(2)(H)	Land Improvements for Retaining or Reducing Runoff and Increasing the Infiltration of Rain and Irrigation Water	Section 10
30 TAC §288.4(a)(2)(I)	Tailwater Recovery and Reuse	Section 11
30 TAC §288.4(a)(2)(J)	Other Conservation Practices, Methods, or Techniques	Section 12
30 TAC §288.4(c)	Review and Update of Plan	Section 13
30 TAC §288.30(4)	Water Conservation Implementation Report	Section 13

[The required elements of a water conservation plan are somewhat different for “agricultural users other than irrigation” and a “system providing agricultural water to more than one user.” See Appendix B for guidance.]

2.2 Drought Contingency Plans

The TCEQ rules governing development of drought contingency plans for irrigation users are contained in Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.21 of the TAC, 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).”⁴ The drought contingency plan for the Poca Agua Golf Club and Turfgrass Nursery is contained in Section 14 of this water conservation and drought contingency plan.

3. DESCRIPTION OF THE IRRIGATION PRODUCTION PROCESS

[This section must include a description of the irrigation production process which shall include, but is not limited to, the type of crops and acreage of each crop to be irrigated, monthly irrigation diversions, any seasonal or annual crop rotation, and soil types of the land to be irrigated. Please amend the description below to match your situation.]

The Poca Agua Golf Club and Turfgrass Nursery, located at 8311 Poca Agua Road in the City of Poca Agua, Texas, is an approximately 450-acre complex owned and operated by Golf Course Associates, Inc. on the western shore of Poca Agua Reservoir. The complex consists of two 18-hole golf courses occupying 400 acres with the remaining 50 acres occupied by a bermudagrass sod operation. Both golf courses were constructed in 1978 with the turfgrass nursery going into production in 1983.

The current irrigation supply sources for the operation are:

- Approximately 550 acre-feet per year (ac-ft/yr) of raw water purchased from the City of Poca Agua. This water is diverted from Poca Agua Reservoir under the City's existing water right and pumped to Eagle Lake, the largest of 5 ponds located on the golf course grounds;
- Three groundwater wells; and
- Treated water purchased from the City of Poca Agua.

The wells and the treated water connection to the City of Poca Agua are for emergency purposes and are not used under normal operating conditions.

3.1 Acreage and Type of Vegetation to be Irrigated

The Poca Agua Golf Club irrigates a total of approximately 300 acres of fairways, rough, tee boxes, greens, and common grounds. The remaining 100 acres is natural and not irrigated. The vegetation located in the fairway, rough, tee boxes, and common grounds consists of a hybrid common bermudagrass with the greens planted in TifSport 319.

The turfgrass nursery irrigates approximately 45-acres of Tifgrass in production. The remaining 5-acres consists of storage and office buildings and a network of maintenance roads. Tifgrass is a hybrid form of bermudagrass suited for landscape lawn purposes.

Table 3-1 Type of Vegetation and Acreage to be Irrigated

Type of Crop/Plant	Growing Season	Acres Irrigated/Year
1. Common Bermuda	May – October	290
2. TifSport 319	May – October	10
3. Tifgrass	May – October	45
Total Number of Acres		345

3.2 Monthly Irrigation Diversions

Raw water is diverted from the Poca Agua Reservoir to Eagle Lake through a 10-inch PVC pipe. A pump station is located along the reservoir and houses a variable speed pump that is capable of delivering 600 gallons per minute at maximum efficiency. A variable speed pump was chosen because of its ability to conserve energy by using only the horsepower required to deliver the required amount of water. The water supplied by the Poca Agua Reservoir to Eagle Lake not only supplements water to the remaining 4 ponds but it provides the primary source of water for irrigation purposes for both golf courses and the turfgrass nursery. The following table details the projected amount of water necessary to maintain 495.0 feet mean sea level in Eagle Lake. During an emergency, the Poca Agua Golf Club and Turfgrass Nursery has the ability to utilize three groundwater wells located within the premises and treated water from the City of Poca Agua for irrigation purposes.

Table 3-2 Estimated Monthly Irrigation Diversions from the Supply Source

Month	Acre-Feet
January	0
February	7
March	7
April	21
May	35
June	102
July	103
August	103
September	102
October	35
November	35
December	0
TOTAL	550

3.3 Description of the Soil Type(s)

The Poca Agua Golf Club and Turfgrass Nursery have five different soil types within the 450-acres as determined by the soil survey for Poca Agua County, published by the United States Department of Agriculture, Soil Conservation Service, in cooperation with the Texas Agricultural Experiment Station. The following table details the soils that can be observed as well as their permeability characteristics.

Table 3-3 Soil Types and Permeability Classification

Soil Type	Permeability
Altoga silty clay, 3 to 5 percent slopes	Moderate
Bastrop fine sandy loam, 1 to 3 percent slopes	Moderate
Konsil fine sandy loam, 3 to 8 percent slopes	Moderate
Ovan clay, occasionally flooded	Slow
Wilson clay loam, 1 to 3 percent slopes	Very Slow

4. DESCRIPTION OF THE IRRIGATION METHOD OR SYSTEM AND EQUIPMENT

[This section must include a description of the irrigation method or system and equipment including pumps, flow rates, plans, and/or sketches of the system layout. Please amend the description below to match your situation.]

The Poca Agua Golf Club and Turfgrass Nursery uses a solid set irrigation system with impact sprinkler rotors for both golf courses. The rotors are placed on 60 feet by 80 feet centers and maintain a pressure of 70 psi. The entire system currently operates on a timer configuration with weather patterns monitored. Hand application of water to the greens is used during times of drought.

During normal operations, both golf courses use water that is pumped from Eagle Lake. Under emergency conditions, water is also available from three groundwater wells and through an emergency treated water supply agreement with the City of Poca Agua. Under normal operations, water is pumped from Eagle Lake into the system using a variable speed pump. A variable speed pump is used because of its efficiency and energy savings. Water is distributed to each of the golf courses' lateral lines through a six-inch diameter PVC main line. All of the lateral lines are PVC pipe and range from two to four inches in diameter. Valves, located in valve boxes, distribute water to each zone throughout the golf courses so that pressure is maintained throughout the entire system. An electrically activated solenoid valve is tied to the timer system that engages each zone. The impact sprinkler rotors are pressure-driven once the valve is engaged. All main and lateral lines are buried ten inches or greater to prevent freeze/thawing effects. All sprinkler heads have bleed valves to further prevent damage from freeze/thawing effects.

The turfgrass nursery also uses water from Eagle Lake for irrigation purposes. A variable speed pump pumps water from Eagle Lake to the central valve box. From there, lateral lines distribute the water to a central hose attachment that is attached to a linear move irrigation system. The linear move system distributes the water through a rolling sprinkler apparatus that travels in a straight line over the growing area. The rolling sprinkler apparatus irrigates through an elevated pipe with impact sprinkler rotors attached at 50 feet intervals. The nursery has four growing areas with grasses at various levels of maturity. At each growing area, the irrigation implement operates on a timer. The system maintains a pressure of 70 psi.

A diagram of the irrigation system for the golf courses and the turfgrass nursery is included in Appendix C.

5. ACCURATE METERING

[This section must include a description of the device(s) and/or methods within an accuracy of plus or minus 5.0%, to be used in order to measure and account for the amount of water diverted from the source of supply. Please amend the description below to match your situation.]

The Poca Agua Golf Club and Turfgrass Nursery uses a totalizing meter at the intake structure located along the Poca Agua Reservoir that is calibrated on an annual basis to within two percent accuracy. Meter readings are logged each day and reported to the City of Poca Agua on a monthly basis.

Meters are also present at each groundwater well and at the treated water connection to the City of Poca Agua. These meters are also calibrated annually to within two percent accuracy. Meter readings are logged each day that these water supplies are used.

Within the irrigation process itself, magnetic flow meters measure the following flows:

- Water distributed to the Eagle Golf Course
- Water distributed to the Hills Golf Course
- Water distributed to the Turfgrass Nursery
- Water distributed to the common grounds for irrigation uses

Each of the magnetic flow meters is calibrated on an annual basis to within two percent accuracy. If the meters appear to be malfunctioning, they are repaired or replaced as necessary.

Meter readings from all of the above meters are logged daily and monitored for any water losses. Any future water supply sources will be metered in a similar fashion.

6. SPECIFICATION OF CONSERVATION GOALS

[This section must include specification of 5-year and 10-year targets for water savings, including, where appropriate, quantitative goals for irrigation water use efficiency, and a pollution abatement and prevention plan. The goals established by an individual irrigation water user under this subparagraph are not enforceable. Please amend the description below to match your situation.]

This section presents the water conservation goal at the Poca Agua Golf Club and Turfgrass Nursery and describes pollution prevention and abatement.

6.1 Water Conservation Goal

The Poca Agua Golf Club and Turfgrass Nursery has set a five-year water conservation goal of reducing total water usage by 20 percent (from 550 ac-ft/yr to 440 ac-ft/yr) by the year ____ *[five years from date of plan]*. The ten-year goal is the same as the five-year goal. This reduction in water use will be achieved by the following methods:

- Switch to a central, computer-controlled irrigation system with weather monitoring stations located throughout the 450-acre property (golf courses and nursery). This change is projected to save ____ ac-ft/yr.
- Replacement of golf-course sprinkler rotors with more efficient models. This change is projected to save ____ ac-ft/yr.
- Replacement of the linear move irrigation system with a drip/micro-emitter irrigation system. This change is projected to save ____ ac-ft/yr.
- Reduce irrigation to the rough on both golf courses. This change is projected to save ____ ac-ft/yr.

[In response to a charge by the 82nd Texas Legislature, the Texas Water Development Board and the TCEQ, in consultation with the Water Conservation Advisory Council, developed water use and calculation methodology for preparation of water use reports and water conservation plans in accordance with TCEQ rules. The guidance document⁵ contains a chapter on developing and evaluating water use in the agricultural sector, including identifying total water use, appropriate metrics for evaluating water use, factors that may affect agricultural water use, establishment of water conservation goals, and measurement of water savings.]

6.2 Pollution Prevention and Abatement

The Poca Agua Golf Club and Turfgrass Nursery is committed to maintaining water quality in its golf course ponds. Potential threats to water quality from golf and turfgrass operations include pesticides, herbicides, and fertilizers. The Golf Club and Nursery minimizes chemical runoff from the golf courses and turfgrass growing areas through the following best management practices:

- Integrated pest management (IPM) approach to controlling pests. This approach includes use of biological pest control agents such as milky spore, bats, and nematodes and limited application of pesticides. When pesticides are applied, only Category III and IV pesticides (as designated by the U.S. Environmental Protection Agency) are used; these are the least toxic pesticides available.
- Careful limiting of irrigation water application rates.
- Avoiding application of pesticides, herbicides, and fertilizers when rain is in the near-term forecast.
- Use of low-phosphorus, slow-release fertilizers that are applied based on soil analysis.
- Vegetative buffers around each golf course pond.
- Furrow diking around turfgrass growing areas to retain runoff on-site.
- 40-foot “no-spray” zones around each water feature.

[These are example BMPs. If applicable, the irrigation water user should also describe integrated stormwater management (iSWM) and/or low impact development (LID) measures that prevent or abate pollution.]

Other potential pollutant sources during normal operations include parts washing, golf cart and vehicle maintenance, oil and chemical storage, and waste disposal. These potential sources are managed by following all applicable federal, state, and local regulations and through good housekeeping practices. In this way, the Golf Club and Nursery maintains a clean, organized, environmentally responsible maintenance facility.

7. DESCRIPTION OF WATER-CONSERVING IRRIGATION EQUIPMENT AND APPLICATION SYSTEM

[This section must include a description of water-conserving irrigation equipment and application system or method including, but not limited to, surge irrigation, low pressure sprinkler, drip irrigation, and nonleaking pipe. Please amend the description below to match your situation.]

At present, personnel use general information provided by the Texas Agricultural Extension Agency to calculate evapotranspiration rates. With these data, personnel adjust the amount of irrigation applied by reprogramming the timer system. By _____ *[five years from date of plan]*, the current timer system will be upgraded to a centrally-controlled computer system with weather stations placed periodically throughout the 450 acre property. This system is a software-based irrigation control center that will allow for more precision in irrigation management. Weather stations will provide rainfall, high and low ambient temperatures, wind speed and direction, soil temperatures, barometric pressures, relative humidity, and solar radiation data. The control system will analyze data provided by the weather stations and by soil-moisture sensors to estimate the current evapotranspiration rate. Once the evapotranspiration rate is estimated, the system determines an irrigation schedule that will provide only the amount of water needed under existing atmospheric and terrestrial conditions. The system can also shut down irrigation during periods of high wind, rain, or other climatic conditions not favorable to optimal irrigation.

By _____ *[five years from date of plan]*, the Poca Agua Golf Club and Turfgrass Nursery will replace existing impact rotors with higher efficiency rotors. These sprinkler heads will apply water more evenly with less evaporation, thereby, reducing water usage.

By _____ *[five years from date of plan]*, the turfgrass nursery will convert from the linear move irrigation system to a micro-emitter irrigation system. The micro-emitter irrigation system will further increase water conservation by reducing the evaporative losses.

8. LEAK DETECTION, REPAIR, AND WATER-LOSS CONTROL

[This section must include a description of leak detection, repair, and water loss control. Please amend the description below to match your situation.]

At the Poca Agua Golf Club and Turfgrass Nursery, leaks are identified through the following means:

- Golf course and turfgrass personnel observe, operate, and maintain facilities throughout the day. Inspection of sprinkler heads, piping, and pump stations are a normal component of employee duties.
- Golf course and turfgrass personnel log and aggregate meter readings into a daily log. Abnormal values may signify a leak from the readings.
- Leak detection equipment is used on occasion if a below-ground leak is suspected.

If a water leak is indicated by any of the above means, the source of the leak is investigated and personnel are instructed to repair the leak as necessary.

9. SCHEDULING THE TIMING AND/OR MEASURING THE AMOUNT OF WATER APPLIED

[This section must include a description of scheduling the timing and/or measuring the amount of water applied (for example, soil moisture monitoring). Please amend the description below to match your situation.]

The Poca Agua Golf Club and Turfgrass Nursery currently uses a timer system and evapotranspiration-based calculations from weather data collected from the Texas Agricultural Experiment Station to obtain an optimal water schedule. However, by _____ *[five years from date of plan]*, the operation will convert to an automated, computer-controlled system. The centrally-controlled system will analyze data obtained from various weather stations and soil moisture sensors located throughout the 450-acre property. The data obtained will consist of rainfall, high or low temperatures, wind speed and direction, soil temperatures, soil moisture, barometric pressure, relative humidity, and solar radiation. From these data, the program will determine an irrigation schedule that will complement the atmospheric and terrestrial conditions to optimize irrigation scheduling.

When possible, irrigation will not be conducted between the hours of 10 AM and 8 PM to minimize evaporative losses. Furthermore, during periods of high wind, rain, or other climatic conditions not favorable to optimal irrigation, the system will shut down.

In addition to the central control system, meters will be monitored to track and record the amount of water being applied through the system.

10. LAND IMPROVEMENTS FOR RETAINING OR REDUCING RUNOFF AND INCREASING THE INFILTRATION OF RAIN AND IRRIGATION WATER

[This section must include a description of any land improvements for retaining or reducing runoff, and increasing the infiltration of rain and irrigation water including, but not limited to, land leveling, furrow diking, terracing, and weed control. Please amend the description below to match your situation.]

The Poca Agua Golf Club maintains 100 acres of natural areas surrounding both golf courses as well as 5 ponds on the golf courses. Each course is sloped to allow all excess water from irrigation or storm events to flow to the natural areas or to the water features, thereby retaining and reducing runoff.

The Poca Agua Turfgrass Nursery uses furrow dikes, which are small earthen dams, to retain irrigation/storm water on-site. In so doing, much of the excess water infiltrates into the soil. Surrounding the turfgrass area is a small drainage channel that discharges collected water back into Eagle Lake, which is the primary irrigation water supply.

11. TAILWATER RECOVERY AND REUSE

[This section must include a description of tailwater recovery and reuse. Please amend the description below to match your situation.]

The Poca Agua Turfgrass Nursery uses a small drainage channel to route any excess water from the turfgrass area to Eagle Lake, where it is used/reused for irrigation.

12. OTHER CONSERVATION PRACTICES, METHODS, OR TECHNIQUES

[This section must include information on any other water conservation practice, method, or technique which the user shows to be appropriate for preventing waste and achieving conservation. Please amend the section below to match your situation.]

No other water conservation practices, methods, or techniques are necessary to achieve the water conservation goals for the Poca Agua Golf Club and Turfgrass Nursery.

13. IMPLEMENTATION OF THE WATER CONSERVATION PLAN

Appendix D contains a copy of the Water Conservation Implementation Report for the Poca Agua Golf Club and Turfgrass Nursery. *[From 30 TAC §288.30(4), an implementation report for irrigation use must include the following:*

- *The list of dates and descriptions of the conservation measures implemented;*
- *Data about whether or not targets in the plans are being met;*
- *The actual amount of water saved; and*
- *If the targets are not being met, an explanation as to why any of the targets are not being met, including any progress on that particular target.]*

Appendix E contains a copy of the resolution of the Board of Directors of the Poca Agua Golf Club and Turfgrass Nursery adopting this water conservation plan. The resolution designates responsible officials to implement and enforce the water conservation plan.

Appendix F contains a copy of a letter to the chairman of the Region C Water Planning Group to inform the group of this water conservation plan.

The Poca Agua Golf Club and Turfgrass Nursery will review this water conservation 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 water conservation plan will be submitted to the TCEQ and the RCWPG for their records.

14. DROUGHT CONTINGENCY PLAN

14.1 Introduction

The purpose of this drought contingency plan is as follows:

- To conserve the available water supply in times of drought and emergency
- To minimize the adverse impacts of water supply shortages
- To minimize the adverse impacts of emergency water supply conditions.
- To coordinate drought contingency efforts with the City of Poca Agua, the wholesale water supplier for the Poca Agua Golf Club and Turfgrass Nursery.

14.2 State Requirements for Drought Contingency Plans

This drought plan is consistent with Texas Commission on Environmental Quality (TCEQ) guidelines and requirements for the development of drought contingency plans by irrigation users, contained in Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.21 of the Texas Administrative Code. This rule is included in Appendix B.

Minimum Requirements

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

TAC Reference	Subject	Plan Location
30 TAC §288.21(a)(1)(A)	Provisions to Inform the Public and Provide Opportunity for Public Input	Section 14.3
30 TAC §288.21(a)(1)(B)	Document Coordination with Regional Planning Group	Section 14.4
30 TAC §288.21(a)(1)(C)	Criteria for Initiation and Termination of Drought Stages	Section 14.7
30 TAC §288.21(a)(1)(D)	Specific, Quantified Targets for Water Use Reduction	Section 14.7
30 TAC §288.21(a)(1)(E)	Procedures for Determining the Allocation of Irrigation Supplies to Individual Users	Section 14.6
30 TAC §288.21(a)(1)(F)	Procedures for Initiation and Termination of Drought Stages	Section 14.5
30 TAC §288.21(a)(1)(G)	Procedures for Use Accounting	Section 14.8
30 TAC §288.21(a)(1)(H)	Procedures for the Transfer of Water Allocations Among Individual Users	Section 14.9
30 TAC §288.21(a)(1)(I)	Procedures for Enforcement of Water Allocation Policies	Section 14.10
30 TAC §288.21(a)(2)	Consultation with Wholesale Supplier	Section 14.11
30 TAC §288.21(a)(3)	Protection of Public Water Supplies	Section 14.12
30 TAC §288.21(a)(3)(b)	Review and Update of Plan	Section 14.13

14.3 Provisions to Inform the Public and Opportunity for Public Input

The Poca Agua Golf Club and Turfgrass Nursery is a private business that uses water for irrigation. It is not a supplier of irrigation water to any other users. Therefore, it is not obligated to inform the public or provide opportunity for public input.

[If you are a public entity or are otherwise required to inform the public and provide opportunity for public input, alternatives include, but are not limited to:

- *Providing written notice of the proposed plan and the opportunity to comment on the plan by newspaper and posted notice.*
- *Providing the draft plan to anyone requesting a copy.*
- *Holding a public meeting.]*

14.4 Coordination with the Region C Water Planning Group

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

14.5 Initiation and Termination of Drought Response Stages

Initiation of a Drought Response Stage

The City of Poca Agua may order implementation of a drought response stage or water emergency if one or more of the trigger conditions for that stage is met, according to the City's Drought Contingency Plan. When a drought stage is initiated, the City's Utility Director will notify the Poca Agua Golf Club and Turfgrass Nursery by telephone with a follow-up letter.

For other trigger conditions, the City of Poca Agua 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.

[If you are not subject to a municipal drought contingency plan, include in this section a description of who is authorized to order implementation of drought response stages or water emergencies.]

Termination of a Drought Stage

The City of Poca Agua may order the termination of a drought response stage or water emergency when the conditions for termination are met or at its discretion. When a drought

stage is terminated, the City's Utility Director will notify the Poca Agua Golf Club and Turfgrass Nursery by telephone with a follow-up letter.

The City of Poca Agua 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.

[If you are not subject to a municipal drought contingency plan, include in this section a description of who is authorized to terminate drought response stages or water emergencies.]

14.6 Procedures for Determining the Allocation of Irrigation Supplies to Individual Users

The Poca Agua Golf Club and Turfgrass Nursery does not supply water to other water users.

[If you supply irrigation supplies to other users, include in this section a description of the procedure for allocating supplies during drought response stages or water emergencies.]

14.7 Drought and Emergency Response Stages

Upon the implementation of a drought response stage or water emergency, the City of Poca Agua will determine whether to curtail water supply to the Poca Agua Golf Club and Turfgrass Nursery based on the severity of the drought or water emergency and according to the Drought Contingency Plan for the City of Poca Agua. A curtailed allocation would depend on the severity of the drought and/or emergency stage. The following sections of this plan describe the planned response of the Poca Agua Golf Club and Turfgrass Nursery to drought and/or emergency stages as declared by the City of Poca Agua.

[In this example, the irrigator is subject to a municipal drought contingency plan. If you are not subject to a municipal drought contingency plan, please describe what conditions trigger each of the drought response or water emergency stages below and what conditions allow termination of each drought response or water emergency stage.

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.³

- 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).]*

14.7.2 Stage 1, Mild

According to the City of Poca Agua Drought Contingency Plan, the stated goal for Stage 1 conditions is to reduce water usage by ____ percent from normal levels, and the emphasis is on public education, voluntary irrigation scheduling, and reducing non-essential water usage.

In Stage 1, the Poca Agua Golf Club and Turfgrass Nursery will voluntarily limit irrigation water usage to the hours of 6 AM to 10 AM and 8 PM to midnight. In addition, watering times for fairway areas will be reduced by ____ percent.

14.7.3 Stage 2, Moderate

According to the City of Poca Agua Drought Contingency Plan, the stated goal for Stage 2 conditions is to reduce water usage by ____ percent from normal levels, and the emphasis is on additional public education and halting non-essential water usage.

In Stage 2, the Poca Agua Golf Club and Turfgrass Nursery will voluntarily limit irrigation water usage to the hours of 6 AM to 10 AM and 8 PM to midnight. Watering times for fairway areas will be reduced to ____ percent of normal watering times, and

watering of rough areas will be discontinued. Greens, tee boxes, and turfgrass growing areas will receive normal water amounts.

14.7.4 Stage 3, Severe

According to the City of Poca Agua Drought Contingency Plan, the stated goal for Stage 3 conditions is to reduce water usage by ___ percent from normal levels, and the emphasis is on alternative water supply strategies and mandatory water use restrictions and schedules.

In Stage 3, the Poca Agua Golf Club and Turfgrass Nursery will obtain ___ percent of its irrigation water from the three on-site wells. Irrigation will be limited to the hours of 6 AM to 10 AM and 8 PM to midnight. In addition, watering times for fairway areas will be reduced to ___ percent of normal watering times (watering of rough areas will still be discontinued). Greens, tee boxes, and turfgrass growing areas will receive normal water amounts.

14.7.5 Stage 4, Emergency

According to the City of Poca Agua Drought Contingency Plan, the stated goal for Stage 4 conditions is to reduce water usage by ___ percent from normal levels, and the emphasis is on alternative water supply strategies and mandatory water use prohibitions.

In Stage 4, the Poca Agua Golf Club and Turfgrass Nursery will obtain ___ percent of its irrigation water from the three on-site wells. Irrigation will be limited to the hours of 6 AM to 10 AM and 8 PM to midnight. In addition, watering times for fairway areas will be reduced to ___ percent of normal watering times (watering of rough areas will still be discontinued). Greens, tee boxes, and turfgrass growing areas will receive ___ percent of normal water amounts.

14.8 Procedures for Use Accounting

As discussed in Section 5, metered flows are logged daily, checked for indications of potential leaks, and reported to the City of Poca Agua on a monthly basis. Upon the initiation of a drought or emergency response stage, the Poca Agua Golf Club and Turfgrass Nursery will report withdrawals from Poca Agua Reservoir on a more frequent basis if requested by the City. This reporting will verify that the allocations provided by the initiation of a drought or emergency response stage are being satisfied.

14.9 Procedures for the Transfer of Water Allocations Among Individual Users

The Poca Agua Golf Club and Turfgrass Nursery will not transfer any water allocations to individual users.

14.10 Procedures for Enforcement of Water Allocation Policies

This section is not applicable, because the Poca Agua Golf Club and Turfgrass Nursery does not allocate water to other users.

14.11 Consultation with Wholesale Supplier

A draft of this plan was sent to Utility Director of the City of Poca Agua for review and comment, and a copy of the final plan will also be provided to the Utility Director.

Upon initiation of a drought or emergency response stage, the Poca Agua Golf Club and Turfgrass Nursery will be in direct communication with the Utility Director for the City of Poca Agua or his/her designee.

14.12 Protection of Public Water Supplies

All of the drought contingency measures discussed prior to this section are intended to protect the public water supply in Poca Agua Reservoir. No additional measures are contemplated.

14.13 Review and Update of Drought Contingency Plan

The Poca Agua Golf Club and Turfgrass Nursery will update 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 information.

As the plans are reviewed and subsequently updated, a copy of the revised Drought Contingency Plan will be submitted to the Region C Water Planning Group for their records.

Appendix A
List of References

Appendix B

Texas Commission on Environmental Quality Rules on Agricultural Water Conservation and Drought Contingency Plans

Appendix C
Diagram of the Irrigation System

Irrigation System Diagram
Poca Agua Golf Club and Turfgrass Nursery

[Insert irrigation system diagram here. Show all water uses, sources, and flowrates.]

Appendix D
Water Conservation Implementation Report

**Water Conservation Implementation Report
Poca Agua Golf Club and Turfgrass Nursery**

[Insert water conservation implementation report here. The implementation report must include the following:

- *The list of dates and descriptions of the conservation measures implemented;*
- *Data about whether or not targets in the plans are being met;*
- *The actual amount of water saved; and*
- *If the targets are not being met, an explanation as to why any of the targets are not being met, including any progress on that particular target.]*

Appendix E

**Board of Directors Resolution Adopting the Water
Conservation and Drought Contingency Plan**

[Insert Board resolution adopting the water conservation plan.]

Appendix F
Letter to Region C Water Planning Group

[Insert letter to the Region C Water Planning Group.]