

REGION C WATER PLANNING GROUP

MODEL WATER CONSERVATION AND DROUGHT CONTINGENCY PLAN FOR IRRIGATION USERS

FEBRUARY 2005

Prepared for:

**REGION C WATER
PLANNING GROUP**

Brian K. McDonald, P.E.
Alan Plummer Associates, Inc.

Thomas C. Gooch, P.E.
Freese and Nichols, Inc.

Stephanie W. Griffin, P.E.
Freese and Nichols, Inc.

Prepared by:

**Alan Plummer Associates,
Inc.**

7524 Mosier View Court,
Suite 200
Fort Worth, TX 76118
817/806-1700

Freese and Nichols, Inc.

4055 International Plaza
Suite 200
Fort Worth, TX 76109
817/735-7300

**Chiang, Patel, and Yerby,
Inc.**

1820 Regal Row, Suite 200
Dallas, Texas 75235
214/638-0500

ACKNOWLEDGEMENTS

This model water conservation and drought contingency plan for the fictional Poca Agua Golf Club and Turfgrass Nursery was prepared by Alan Plummer Associates, Freese and Nichols, and Chiang, Patel and Yerby 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.

Questions regarding this model water conservation and drought contingency plan should be addressed to the following:

Brian McDonald, P.E.
Alan Plummer Associates, Inc.
(817) 806-1700
bmcDonald@apainv.com

Tom Gooch, P.E.
Freese and Nichols, Inc.
(817) 735-7300
tcg@freese.com

Stephanie Griffin, P.E.
Freese and Nichols, Inc.
(817) 735-7300
swg@freese.com

**POCA AGUA GOLF
CLUB AND TURFGRASS
NURSERY**

**WATER CONSERVATION
AND DROUGHT
CONTINGENCY PLAN**

FEBRUARY 2005

Prepared by:

**EFICIENTE ENGINEERS, INC.
123 MAIN STREET
POCA AGUA, TX 76026**

TABLE OF CONTENTS

1. INTRODUCTION AND OBJECTIVES 1-1

2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES..... 2-1

 2.1 Conservation Plans2-1

 2.2 Drought Contingency Plans2-1

3. DESCRIPTION OF THE IRRIGATION PRODUCTION PROCESS..... 3-1

 3.1 Acreage and Type of Vegetation to be Irrigated.....3-1

 3.2 Monthly Irrigation Diversions3-2

 3.3 Description of the Soil Type(s).....3-2

4. DESCRIPTION OF THE IRRIGATION METHOD OR SYSTEM AND EQUIPMENT..... 4-1

5. ACCURATE METERING 5-1

6. SPECIFICATION OF CONSERVATION GOALS 6-1

 6.1 Water Conservation Goal.....6-1

 6.2 Pollution Prevention and Abatement6-1

7. DESCRIPTION OF WATER-CONSERVING IRRIGATION EQUIPMENT AND APPLICATION SYSTEM 7-1

8. LEAK DETECTION, REPAIR, AND WATER-LOSS CONTROL 8-1

9. SCHEDULING THE TIMING AND/OR MEASURING THE AMOUNT OF WATER APPLIED 9-1

10. LAND IMPROVEMENTS FOR RETAINING OR REDUCING RUNOFF AND INCREASING THE INFILTRATION OF RAIN AND IRRIGATION WATER 10-1

11. TAILWATER RECOVERY AND REUSE 11-1

12. OTHER CONSERVATION PRACTICES, METHODS, OR TECHNIQUES 12-1

13. IMPLEMENTATION OF THE WATER CONSERVATION PLAN..... 13-1

14. DROUGHT CONTINGENCY PLAN 14-1

 14.1 Introduction14-1

 14.2 State Requirements for Drought Contingency Plans14-1

 14.3 Provisions to Inform the Public and Opportunity for Public Input14-2

 14.4 Coordination with the Region C Water Planning Group14-2

 14.5 Initiation and Termination of Drought Response Stages14-2

 14.6 Procedures for Determining the Allocation of Irrigation Supplies to Individual Users.14-3

 14.7 Drought and Emergency Response Stages.....14-3

 14.7.1 Stage 1, Mild.....14-4

 14.7.2 Stage 2, Moderate14-4

 14.7.3 Stage 3, Severe.....14-5

 14.7.4 Stage 4, Emergency14-5

 14.8 Procedures for Use Accounting14-5

 14.9 Procedures for the Transfer of Water Allocations Among Individual Users14-5

 14.10 Procedures for Enforcement of Water Allocation Policies14-5

 14.11 Consultation with Wholesale Supplier.....14-6

 14.12 Protection of Public Water Supplies14-6

 14.13 Review and Update of Drought Contingency Plan14-6

APPENDICES

APPENDIX A **List of References**

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

- 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

APPENDIX C **Diagram of the Irrigation System**

APPENDIX D **Board of Directors Resolution Adopting this Water Conservation and Drought Contingency Plan**

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

LIST OF TABLES

TABLE 3-1 **TYPE OF VEGETATION AND ACREAGE TO BE IRRIGATED 3-1**

TABLE 3-2 **ESTIMATED MONTHLY IRRIGATION DIVERSIONS FROM THE SUPPLY SOURCE..... 3-2**

TABLE 3-3 **SOIL TYPES AND PERMEABILITY CLASSIFICATION..... 3-3**

Poca Agua Golf Club and Turfgrass Nursery

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 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 rules¹ governing the development of water conservation and drought contingency plans for irrigation users (Appendix B). The Poca Agua Golf Club and Turfgrass Nursery has adopted this water conservation and drought contingency plan pursuant to TCEQ rules.

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.

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)¹.” 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 Before May 1, 2005	Section 6
30 TAC §288.4(a)(2)(E)	Specification of Conservation Goals After May 1, 2005	Section 6
30 TAC §288.4(a)(2)(F)	Description of Water-Conserving Irrigation Equipment and Application System	Section 7
30 TAC §288.4(a)(2)(G)	Leak Detection, Repair, and Water-Loss Control	Section 8
30 TAC §288.4(a)(2)(H)	Irrigation Timing and/or Measuring the Amount of Water Applied	Section 9
30 TAC §288.4(a)(2)(I)	Land Improvements for Retaining or Reducing Runoff and Increasing the Infiltration of Rain and Irrigation Water	Section 10
30 TAC §288.4(a)(2)(J)	Tailwater Recovery and Reuse	Section 11
30 TAC §288.4(a)(2)(K)	Other Conservation Practices, Methods, or Techniques	Section 12

[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)¹.” 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 ground water 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. 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.

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.

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 from Rain Bird, Inc. These sprinkler heads will apply water more evenly, 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 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 E 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.

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)	Water Supply and Criteria for Initiation and Termination of Drought Stages	Section 14.5
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)	Criteria for Initiation and Termination of Drought Stages	Section 14.7
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 E 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 or fax.

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 or fax.

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 system²:

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 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 state, 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 A
List of References

- (1) Texas Commission on Environmental Quality: “Water Conservation Plans for Agricultural Use,” *Texas Administrative Code* Title 30 Part I Subchapter A §288.4, effective October 7, 2004.
- (2) 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 Agricultural Water Conservation and Drought Contingency Plans

SUBCHAPTER A: WATER CONSERVATION PLANS
§§288.1 - 288.7
Effective October 7, 2004

§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.

Adopted September 15, 2004

Effective October 7, 2004

§288.4. Water Conservation Plans for Agricultural Use.

(a) A water conservation plan for agricultural use of water must provide information in response to the following subsections. If the plan does not provide information for each requirement, the agricultural water user must include in the plan an explanation of why the requirement is not applicable.

(1) For an individual agricultural user other than irrigation:

(A) a description of the use of the water in the production process, including how the water is diverted and transported from the source(s) of supply, how the water is utilized in the production process, and the estimated quantity of water consumed in the production process and therefore unavailable for reuse, discharge, or other means of disposal;

(B) until May 1, 2005, specification of conservation 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 and the basis for the development of such goals. The goals established by agricultural water users under this subparagraph are not enforceable;

(D) a description of the device(s) and/or method(s) 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;

(E) leak-detection, repair, and accounting for water loss in the water distribution system;

(F) application of state-of-the-art equipment and/or process modifications to improve water use efficiency; and

(G) any other water conservation practice, method, or technique which the user shows to be appropriate for achieving the stated goal or goals of the water conservation plan.

(2) For an individual irrigation user:

(A) 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;

(B) a description of the irrigation method or system and equipment including pumps, flow rates, plans, and/or sketches of the system layout;

(C) 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;

(D) until May 1, 2005, specification of conservation goals including, where appropriate, quantitative goals for irrigation water use efficiency and a pollution abatement and prevention plan;

(E) beginning May 1, 2005, specific, quantified five-year and ten-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;

(F) water-conserving irrigation equipment and application system or method including, but not limited to, surge irrigation, low pressure sprinkler, drip irrigation, and nonleaking pipe;

(G) leak-detection, repair, and water-loss control;

(H) scheduling the timing and/or measuring the amount of water applied (for example, soil moisture monitoring);

(I) 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;

(J) tailwater recovery and reuse; and

(K) any other water conservation practice, method, or technique which the user shows to be appropriate for preventing waste and achieving conservation.

(3) For a system providing agricultural water to more than one user:

(A) a system inventory for the supplier's:

(i) structural facilities including the supplier's water storage, conveyance, and delivery structures;

(ii) management practices, including the supplier's operating rules and regulations, water pricing policy, and a description of practices and/or devices used to account for water deliveries; and

(iii) a user profile including square miles of the service area, the number of customers taking delivery of water by the system, the types of crops, the types of irrigation systems, the types of drainage systems, and total acreage under irrigation, both historical and projected;

(B) until May 1, 2005, specification of water conservation goals, including maximum allowable losses for the storage and distribution system;

(C) beginning May 1, 2005, specific, quantified five-year and ten-year targets for water savings including maximum allowable losses for the storage and distribution system. The goals established by a system providing agricultural water to more than one user under this subparagraph are not enforceable;

(D) a description of the practice(s) and/or device(s) which will be utilized to measure and account for the amount of water diverted from the source(s) of supply;

(E) a monitoring and record management program of water deliveries, sales, and losses;

(F) a leak-detection, repair, and water loss control program;

(G) a program to assist customers in the development of on-farm water conservation and pollution prevention plans and/or measures;

(H) 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 applicable provisions of this chapter;

(I) official adoption of the water conservation plan and goals, by ordinance, rule, resolution, or tariff, indicating that the plan reflects official policy of the supplier;

(J) any other water conservation practice, method, or technique which the supplier shows to be appropriate for achieving conservation; and

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

(b) A water conservation plan prepared in accordance with the rules of the United States Department of Agriculture Natural Resource Conservation Service, the Texas State Soil and Water Conservation Board, or other federal or state agency 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 that agency.

(c) Beginning May 1, 2005, an agricultural water user 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. An agricultural water user 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.

Adopted September 15, 2004

Effective October 7, 2004

SUBCHAPTER B: DROUGHT CONTINGENCY PLANS
§§288.20 - 288.22
Effective October 7, 2004

§288.21. Drought Contingency Plans for Irrigation Use.

(a) A drought contingency plan for an irrigation use, where applicable, must include the following minimum elements.

(1) Minimum requirements. Drought contingency plans for irrigation water suppliers must include policies and procedures for the equitable and efficient allocation of water on a pro rata basis during times of shortage in accordance with Texas Water Code, §11.039. Such plans shall include the following elements as a minimum.

(A) Preparation of the plan shall include provisions to actively inform and to affirmatively provide opportunity for users of water from the irrigation system to provide input into the preparation of the plan and to remain informed of the plan. Such acts may include, but are not limited to, having a public meeting at a time and location convenient to the water users and providing written notice to the water users concerning the proposed plan and meeting.

(B) The drought contingency plan must document coordination with the regional water planning groups to ensure consistency with the appropriate approved regional water plans.

(C) The drought contingency plan must include water supply criteria and other considerations for determining when to initiate or terminate water allocation procedures, accompanied by an explanation of the rationale or basis for such triggering criteria.

(D) 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.

(E) The drought contingency plan must include methods for determining the allocation of irrigation supplies to individual users.

(F) The drought contingency plan must include a description of the information to be monitored by the water supplier and the procedures to be followed for the initiation or termination of water allocation policies.

(G) The drought contingency plan must include procedures for use accounting during the implementation of water allocation policies.

(H) The drought contingency plan must include policies and procedures, if any, for the transfer of water allocations among individual users within the water supply system or to users outside the water supply system.

(I) The drought contingency plan must include procedures for the enforcement of water allocation policies, including specification of penalties for violations of such policies and for wasteful or excessive use of water.

(2) Wholesale water customers. Any irrigation 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.

(3) Protection of public water supplies. Any irrigation water supplier that also provides or delivers water to a public water supplier(s) shall consult with that public water supplier(s) and shall include in the plan, mutually agreeable and appropriate provisions to ensure an uninterrupted supply of water necessary for essential uses relating to public health and safety. Nothing in this provision shall be construed as requiring the irrigation water supplier to transfer irrigation water supplies to non-irrigation use on a compulsory basis or without just compensation.

(b) Irrigation water users shall review and update, as appropriate, the drought contingency plan, at least every five years, based on new or updated information, such as adoption or revision of the regional water plan.

Adopted September 15, 2004

Effective October 7, 2004

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

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

[Insert Board resolution adopting the water conservation plan.]

Appendix E
Letter to Region C Water Planning Group

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