



**Pineywoods Groundwater  
Conservation District**

**Management Plan**

**December 18, 2003**

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## SECTION I INTRODUCTION

### A. DEFINITIONS

- **“Abandoned or deteriorated well”** shall mean a well, as defined by these rules, which allows surface inflow or infiltration and/or that is causing or is likely to cause, pollution of groundwater in the District and includes a well which is not in use and/or a well that is not properly equipped to pump groundwater. A well that is not in compliance with applicable laws regarding proper installation, including Rules and Regulations of this District, Rules and Regulations of the Texas Department of Licensing and Regulation, Rules and Regulations of the Texas Commission on Environmental Quality, Rules and Regulations of any state or federal agency of competent jurisdiction and laws of the state of Texas is presumed to be abandoned or deteriorated.
- **“Acceptable decline rate”** is a percentage of the saturated thickness which may be removed from the groundwater reservoir annually and will encourage conservation and extend its longevity.
- **“Allowable decline”** is an amount of water, expressed in acre feet. It is calculated by multiplying the net saturated thickness of the previous year by the acceptable decline rate set by the Board. It is assigned at the center of each section of land.
- **“Annual”** shall mean recurring or done every year. The use within this document, unless otherwise stated, is based on the fiscal year of the District which is a twelve (12) month period from January 1 of the calendar year through December 31 of the same calendar year.
- **“Aquifer”** shall mean a formation or group of saturated geologic formations capable of storing and yielding fresh water in usable quantities.
- **“Beneficial use”** shall be any use which is advantageous and does not constitute waste.
- **“Board”** shall mean the governing body of the District, which shall consist of seven (7) Directors serving three-year terms.
- **“Chapter 35”** refers to Sections 35.001 through 35.019 of the Texas Water Code, which authorize the Texas Commission on Environmental Quality (TCEQ) to designate groundwater management areas and create groundwater conservation districts. This Chapter also outlines the Priority Groundwater Management Area (PGMA) process. A reference to a specific section or subsection may be identified using the symbol “§” or using the abbreviation of “Sec.”
- **“Chapter 36”** refers to Sections 36.001 through 36.374 of the Texas Water Code, which

authorizes creation of groundwater conservation districts and outlines the powers and duties of a groundwater conservation district. A reference to a specific section or subsection may be identified using the symbol “§” or using the abbreviation of “Sec.”

- **“Coliform bacteria”** is bacteria that are used to indicate the presence of pathogens. Coliform bacteria may not be pathogens but usually are present when pathogens are present and are more resistant to environmental stresses than pathogens.
- **“District”** shall mean Pineywoods Groundwater Conservation District, maintaining its principal office in Angelina County, Lufkin, Texas. Where applications, reports and other papers are required to be filed with or sent to “the District”, this means the where the District’s headquarters are at. The District shall also be known as “Pineywoods GCD”, and the acronym “PGCD” shall also refer to the Pineywoods Groundwater Conservation District.
- **“Each year”** shall mean recurring or done every calendar year.
- **“Groundwater”** shall mean water percolating below the surface of the earth.
- **“Groundwater reservoir”** shall mean a specific subsurface water-bearing reservoir having ascertainable boundaries containing groundwater.
- **“Hydraulic conductivity”** is a measurement of the capacity of a porous medium to transmit water. It is expressed as the volume of water at the kinematic viscosity that will move in a unit time under a unit hydraulic gradient through a unit area measured at right angles to the direction of flow.
- **“Irrigation distribution system or irrigation system”** shall mean a device or combination of devices having a hose, pipe or other conduit which connects directly to any water well through which water or a mixture of water and chemicals is drawn and applied to land. The term does not include any hand held-hose sprayer or other similar device which is constructed so that an interruption in water flow automatically prevents any backflow to the water source.
- **“Management plan”** is the groundwater management plan required pursuant to Texas Water Code §36.1071.
- **“Monitoring well or observation well”** shall mean an artificial excavation constructed to measure or monitor the quality or quantity or movement of substances, elements, chemicals, or fluids beneath the surface of the ground. The term shall not include any monitoring well which is used in conjunction with the production of oil, gas, or any other minerals.
- **“Natural resource”** is a material source of wealth, such as timber, water or a mineral deposit that occurs in a natural state.
- **“Owner”** shall mean and include any person or other entity, public or private, that has the right

to produce water from the land either by ownership, contract, lease, easement or any other estate in the land or water.

- **“Person”** shall mean any individual, partnership, firm or corporation.
- **“Pollution”** shall mean the alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, water in the District that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property or to public health, safety, or welfare, or which impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.
- **“Porosity”** is a measurement of the voids or openings in a medium. It may be expressed quantitatively as the ratio of the volume of openings to the total volume.
- **“Saturated thickness”** is the vertical distance between the water table and the base of the groundwater reservoir, and the pores between the solid particles are filled with water.
- **“Specific yield”** is the ratio of the volume of water that will drain under the influence of gravity to the total volume.
- **“Texas Water Code (TWC)”** shall refer to the laws which govern the use and disposition of water in the state of Texas.
- **“Texas Water Development Board (TWDB)”** shall refer to the Texas Water Development Board of the State of Texas in Austin, Texas.
- **“Underground water”** is used synonymous with groundwater.
- **“Waste”** as used herein shall have the same meaning as defined by Chapter 36 of the Texas Water Code as now or hereafter amended.

“Waste means any one or more of the following:

1. Withdrawal of groundwater from a groundwater reservoir at a rate and in an amount that causes or threatens to cause intrusion into the reservoir of water unsuitable for agricultural, gardening, domestic, or stock-raising purposes;
2. The flowing or producing of wells from a groundwater reservoir if the water produced is not used for a beneficial purpose;
3. Escape of groundwater from a groundwater reservoir to any other reservoir or a geologic stratum that does not contain groundwater;
4. Pollution or harmful alteration of groundwater in a groundwater reservoir by saltwater or by other deleterious matter admitted from another stratum or from the surface of the ground;

5. Willfully or negligently causing, suffering, or allowing groundwater to escape into any river, creek, natural watercourse, depression, lake, reservoir, drain, sewer, street, highway, road, or road ditch, or onto any land other than that of the owner of the well unless such discharge is authorized by permit, rule, or order;
6. Groundwater pumped for irrigation that escapes as irrigation tailwater onto land other than that of the owner of the well unless permission has been granted by the occupant of the land receiving the discharge; or
7. For water produced from an artesian well, “waste” has the meaning.

- **“Water”** is used synonymous with groundwater and underground water.
- **“Water rights”** shall mean a defined number of surface acres, within each section of land which a person has acquired the right to capture the groundwater from beneath, subject to the Rules of this District.
- **“Water well”** shall mean any artificial excavation constructed for the purpose of exploring for or producing groundwater. The term, however, shall not include any test or blast holes in quarries or mines, or any well or excavation for the purpose of exploring for, or producing oil, gas, or any other minerals unless the holes are used to produce groundwater. The term shall not include any injection water source well regulated by the Railroad Commission of Texas.
- **“Well”** shall mean water well, injection well, recharge well, dewatering well, test well, or monitoring well and is in compliance with the District Rules.

## **B. PURPOSE OF THE DISTRICT**

The purpose of the District is to provide for the conservation, preservation, protection, recharging, and prevention of waste of the groundwater, and of groundwater reservoirs or their subdivisions, and to control subsidence within the defined boundary of the District. The purpose of the District is achieved through rules, education programs, District-provided services, and through mutual cooperation of local, state, and federal agencies. The District issues water well permits, collects groundwater information and other services. Extensive databases are used to store, retrieve, and analyze the groundwater information for the District. It is the belief of the District’s residents and the Board of Directors that groundwater is best managed locally through a groundwater conservation district. This belief is realized by the adoption and implementation of a management plan outlining the goals, methods, and procedures to be utilized in the management of the groundwater resources of the District. This management plan will provide a better understanding of the goals and objectives of the District by the residents and promote cooperation in its implementation.

This document has been developed in accordance with the requirements of Chapter 36 of the Texas Water Code, and the provisions of Texas Administrative Code Title 31, Chapter 356 Groundwater Management Plan Certification.

## **C. HISTORY AND STATUTES**

The Texas State Legislature in 1949 authorized the creation of Underground Water Conservation Districts to perform certain prescribed duties, functions, and hold specific powers as set forth in Article 7880-3c, Texas Civil Statutes, changed to Chapter 52 of the Texas Water Code, currently Chapter 36 of the Texas Water Code. The District was created pursuant to Article 16, Section 59 of the Constitution of Texas by House Bill 2572 of the 77<sup>th</sup> Texas Legislature which became effective May 31, 2001. A confirmation election was held November 6, 2001 and was passed by the voters of the District.

## **D. THE GOVERNING BODY**

The District is currently governed by a seven-member appointed Board of Directors, each serving overlapping three year terms.

## **E. ADMINISTRATIVE**

It is the goal of the District that its activities be consistent with sound business practices; that the interest of the public shall always be considered in conducting District business; that impropriety or the appearance of impropriety shall be avoided to ensure and maintain public confidence in the District; and that the Board shall control and manage the affairs of the District lawfully, fairly, impartially, and in accordance with the stated purposes of the District. Documents have been developed and approved by the Board to assist the staff in performing their duties and meeting their responsibilities.

The District employs a General Manager to manage the administrative affairs of the District and provides for additional staff, as needed, to assist in these duties. The General Manager is responsible for ensuring that the rules, regulations, policies, and procedures adopted by the Board are followed. The General Manager is held responsible by the Board and is required to provide timely reports about the administrative affairs of the District. These reports include but are not limited to:

- Financial- Provide current year budget updates at least quarterly; monthly financial reports of all accounts; provide any information needed for the annual financial audit of the District and identify future needs for budget planning.
- Rules- Manage the implementation of the rules of the District in accordance with procedures set forth in the District Rules and/or Policies. Schedule requests for exceptions to the Rules for a hearing before the Board in accordance with proper procedure. Bring before the Board any problem with any of the activities of the District.
- Information- At each regular board meeting the Manager will report on the activities of the Manager and/or staff in carrying out their duties. These activities may include meetings and/or

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seminars attended, upcoming meetings and seminars, legislative activities, new program development, and updates on programs being developed.

**Management Goal:** It is the goal of the District that its activities be consistent with sound business practices; that the interest of the public shall always be considered in conducting District business; that impropriety or the appearance of impropriety shall be avoided to ensure and maintain public confidence in the District; and that the Board shall control and manage the affairs of the District lawfully, fairly, impartially, and in accordance with the stated purposes of the District.

**Management Objective:** Adopt rules, regulations, policies, and procedures as needed and insure that the Management and staff have a clear understanding of their duties in accordance with the administrative goals of the District.

**Performance Standard:** Annually verify that the Administrative duties as set forth are carried out as stated.

(A list of the current Directors, Officers, and Staff is included in Appendix A.)

## SECTION II PLANNING PERIOD

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The Board may review the management plan annually and must review and readopt the plan, with or without revisions, at least once every five years. For the purpose of 31 TAC §356.5(a) this management plan uses a planning period of at least ten (10) years from the date of acceptance by the TWDB.

### Supply and Demand of the District

The following charts are projections of the supply and demand through the year 2050. These figures include ground and surface water and account for municipal, manufacturing, agriculture, mining and power supply.

## Projected Water Demands Pineywoods Groundwater Conservation District

### Angelina

WUG	River Basin	Category	2000	2010	2020	2030	2040	2050
Diboll	Neches	Municipal	882	871	869	870	867	868
Hudson	Neches	Municipal	308	319	343	375	406	447
Huntington	Neches	Municipal	298	336	369	407	447	495
Lufkin	Neches	Municipal	5,712	6,498	7,424	8,746	10,295	11,700
Zavalla	Neches	Municipal	101	106	108	114	118	123
County-Other	Neches	Municipal	3,339	3,367	3,369	3,467	3,476	3,620
Livestock	Neches	Livestock	628	649	673	702	735	773
Manufacturing	Neches	Manufacturing	30,000	32,290	34,877	37,818	41,138	45,000
Mining	Neches	Mining	36	40	45	51	57	64
<b>Total Projected Water Demands for Angelina County (acre-feet per year) =</b>			<b>41,304</b>	<b>44,476</b>	<b>48,077</b>	<b>52,550</b>	<b>57,539</b>	<b>63,090</b>

### Nacogdoches

WUG	River Basin	Category	2000	2010	2020	2030	2040	2050
Cushing	Neches	Municipal	126	125	121	122	123	126
Garrison	Neches	Municipal	256	259	262	284	301	316
Nacogdoches	Neches	Municipal	9,033	10,551	12,264	14,622	17,366	20,780
County-Other	Neches	Municipal	4,199	4,530	4,908	5,572	6,135	6,459
Irrigation	Neches	Irrigation	1,270	1,270	1,270	1,270	1,270	1,270
Livestock	Neches	Livestock	2,150	2,437	2,771	3,158	3,607	4,128
Manufacturing	Neches	Manufacturing	2,040	2,375	2,690	3,097	3,504	4,042
Mining	Neches	Mining	261	280	312	345	378	415
Steam Electric Power	Neches	Power	0	0	0	7,505	7,505	7,505
<b>Total Projected Water Demands for Nacogdoches County (acre-feet per year) =</b>			<b>19,335</b>	<b>21,827</b>	<b>24,598</b>	<b>35,975</b>	<b>40,189</b>	<b>45,041</b>

<b>Total Projected Water Demands for Pineywoods GCD (acre-feet per year) =</b>			<b>60,639</b>	<b>66,303</b>	<b>72,675</b>	<b>88,525</b>	<b>97,728</b>	<b>108,131</b>
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Source: Table 2, 2002  
State Water Plan

TWDB  
12/03/2003

**Projected Water Supplies  
Pineywoods Groundwater Conservation District**

**Angelina**

WUG	River Basin	Source Type	Source Name	2000	2010	2020	2030	2040	2050
Diboll	Neches	Groundwater	Other Aquifer	975	975	975	975	975	975
Hudson	Neches	Groundwater	Carrizo-Wilcox Aquifer	972	972	972	972	972	972
Huntington	Neches	Groundwater	Other Aquifer	435	435	435	435	435	435
Lufkin	Neches	Groundwater	Carrizo-Wilcox Aquifer	5,751	5,751	5,751	5,751	5,751	5,751
Zavalla	Neches	Groundwater	Carrizo-Wilcox Aquifer	200	200	200	200	200	200
County-Other	Neches	Groundwater	Carrizo-Wilcox Aquifer	2,419	2,419	2,419	2,419	2,419	2,419
County-Other	Neches	Groundwater	Carrizo-Wilcox Aquifer	339	339	339	339	339	339
County-Other	Neches	Groundwater	Other Aquifer	40	40	40	40	40	40
County-Other	Neches	Groundwater	Other Aquifer	1,717	1,717	1,717	1,717	1,717	1,717
Irrigation	Neches	Groundwater	Other Aquifer	30	30	30	30	30	30
Livestock	Neches	Surface Water	Livestock Local Supply	377	377	377	377	377	377
Livestock	Neches	Groundwater	Queen City Aquifer	63	63	63	63	63	63
Livestock	Neches	Groundwater	Sparta Aquifer	63	63	63	63	63	63
Livestock	Neches	Groundwater	Other Aquifer	124	124	124	124	124	124
Manufacturing	Neches	Surface Water	Kurth Lake/Reservoir	19,000	19,000	19,000	19,000	19,000	19,000
Manufacturing	Neches	Surface Water	Striker Lake/Reservoir	10,000	10,000	10,000	10,000	10,000	10,000
Manufacturing	Neches	Groundwater	Carrizo-Wilcox Aquifer	1,630	1,630	1,630	1,630	1,630	1,630
Manufacturing	Neches	Groundwater	Carrizo-Wilcox Aquifer	13,038	13,038	13,038	13,038	13,038	13,038
Manufacturing	Neches	Groundwater	Other Aquifer	851	851	851	851	851	851
Mining	Neches	Groundwater	Carrizo-Wilcox Aquifer	22	22	22	22	22	22
<b>Total Projected Water Supplies for Angelina County (acre-feet per year)</b>				<b>58,046</b>	<b>58,046</b>	<b>58,046</b>	<b>58,046</b>	<b>58,046</b>	<b>58,046</b>
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**Nacogdoches**

WUG	River Basin	Source Type	Source Name	2000	2010	2020	2030	2040	2050
Cushing	Neches	Groundwater	Carrizo-Wilcox Aquifer	242	242	242	242	242	242
Garrison	Neches	Groundwater	Carrizo-Wilcox Aquifer	387	387	387	387	387	387
Nacogdoches	Neches	Surface Water	Nacogdoches Lake/Reservoir	18,996	18,661	18,346	17,939	17,542	16,994
Nacogdoches	Neches	Groundwater	Carrizo-Wilcox Aquifer	3,762	3,762	3,762	3,762	3,762	3,762
County-Other	Neches	Groundwater	Carrizo-Wilcox Aquifer	3,030	3,030	3,030	3,030	3,030	3,030
County-Other	Neches	Groundwater	Carrizo-Wilcox Aquifer	465	465	465	465	465	465
County-Other	Neches	Groundwater	Queen City Aquifer	25	25	25	25	25	25
County-Other	Neches	Groundwater	Sparta Aquifer	29	29	29	29	29	29
County-Other	Neches	Groundwater	Other Aquifer	9	9	9	9	9	9
Irrigation	Neches	Surface Water	Irrigation Local Supply	254	254	254	254	254	254
Irrigation	Neches	Groundwater	Carrizo-Wilcox Aquifer	1,117	1,117	1,117	1,117	1,117	1,117



Livestock	Neches	Surface Water	Livestock Local Supply	1,290	1,290	1,290	1,290	1,290	1,290
Livestock	Neches	Groundwater	Carrizo-Wilcox Aquifer	472	472	472	472	472	472
Livestock	Neches	Groundwater	Queen City Aquifer	156	156	156	156	156	156
Livestock	Neches	Groundwater	Sparta Aquifer	177	177	177	177	177	177
Livestock	Neches	Groundwater	Other Aquifer	55	55	55	55	55	55
Manufacturing	Neches	Surface Water	Nacogdoches Lake/Reservoir	1,166	1,501	1,816	2,223	2,638	3,168
Manufacturing	Neches	Groundwater	Carrizo-Wilcox Aquifer	874	874	874	874	874	874
Mining	Neches	Surface Water	Other Local Supply	220	220	220	220	220	220
<b>Total Projected Water Supplies for Nacogdoches County (acre-feet per year) =</b>				<b>32,726</b>	<b>32,726</b>	<b>32,726</b>	<b>32,726</b>	<b>32,744</b>	<b>32,726</b>

<b>Total Projected Water Supplies for Pineywoods GCD (acre-feet per year) =</b>				<b>90,772</b>	<b>90,772</b>	<b>90,772</b>	<b>90,772</b>	<b>90,790</b>	<b>90,772</b>
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Source: Table 5,  
2002 State Water  
Plan

TWDB  
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## SECTION III GROUNDWATER SUPPLY

### A. GENERAL GEOLOGY, STRATIGRAPHY, AND HYDROLOGY

#### Carrizo-Wilcox Aquifer

The Wilcox Group and the overlying Carrizo Formation of the Claiborne Group form a hydrologically connected system known as the Carrizo-Wilcox aquifer. This aquifer extends from the Rio Grande in South Texas northeastward into Arkansas and Louisiana, providing water to all or parts of 60 counties. The Carrizo Sand and Wilcox Group crop out along a narrow band that parallels the Gulf Coast and dips beneath the land surface toward the coast, except in the East Texas structural basin adjacent to the Sabine Uplift, where the formations form a trough. Municipal and irrigation pumpage account for about 35 percent and 51 percent, respectively, of total pumpage. The largest metropolitan areas dependent on ground water from the Carrizo-Wilcox aquifer are Bryan-College Station, Lufkin-Nacogdoches, and Tyler. Irrigation is the predominant use in the Winter Garden region of South Texas.

The Carrizo-Wilcox aquifer is predominantly composed of sand locally interbedded with gravel, silt, clay, and lignite

deposited during the Tertiary Period. South of the Trinity River and north of the Colorado River, the Wilcox Group is divided into three distinct formations: the Hooper, Simsboro, and Calvert Bluff. Of the three, the Simsboro typically contains the most massive water-bearing sands. This division cannot be made south of the Colorado River or north of the Trinity River due to the absence of the Simsboro as a distinct unit. Aquifer thickness in the down dip artesian portion ranges from less than 200 feet to more than 3,000 feet. Well yields are commonly 500 gal/min, and some may reach 3,000 gal/min in the down dip where the aquifer is under artesian conditions. Some of the greatest yields (more than 1,000 gal/min) are produced from the Carrizo Sand in the southern, or Winter Garden, area of the aquifer. Yields of greater than 500 gal/min are also obtained from the Carrizo and Simsboro formations in the central region. Regionally, water from the Carrizo-Wilcox aquifer is fresh to slightly saline. In the outcrop, the water is hard, yet usually low in dissolved solids. Down dip, the water is softer, has a higher temperature, and contains more dissolved solids. Hydrogen sulfide and methane may occur locally. Excessively corrosive water with high iron content is common throughout much of the northeastern part of the aquifer. Localized contamination of the aquifer in the Winter Garden area is attributed to direct infiltration of oil field brines on the surface and to downward leakage of saline water to the overlying Bigford Formation. Significant water-level declines have developed in the semiarid Winter Garden portion of the Carrizo aquifer, as the region is heavily dependent on ground water for irrigation. Since 1920, water levels have declined as much as 100 feet in much of the area and more than 250 feet in the Crystal City area of Zavala County. Significant water-level declines resulting from extensive municipal and industrial pumpage also have occurred in Northeast Texas. Tyler and the Lufkin-Nacogdoches area have experienced declines in excess of 400 feet, and in a few wells, as much as 500 feet since the 1940s. In this area, conversion to surface-water use is slowing the rate of water-level decline. The northeast outcrop area has been dewatered in the vicinity of lignite surface-mining operations, and the Simsboro Sand Formation of the Wilcox Group has been affected by water-level declines in parts of Robertson and Milam counties. (Map 1)

### **Queen City Aquifer**

The Queen City aquifer extends across Texas from the Frio River in South Texas northeastward into Louisiana. The aquifer provides water for domestic and livestock purposes throughout most of its extent, significant amounts of water for municipal and industrial supplies in Northeast Texas, and water for irrigation in Wilson County. Yields of individual wells are commonly low, but a few exceed 400 gal/min. Sand, loosely cemented sandstone, and interbedded clay units of the Queen City Formation of the Tertiary Claiborne Group make up the aquifer. These beds fill the East Texas structural basin adjacent to the Sabine Uplift and then dip gently to the south and southeast toward the Gulf Coast. Although total aquifer thickness is usually less than 500 feet, it can approach 700 feet in some areas of Northeast Texas. Water of excellent quality is generally found within the outcrop and for a few miles down dip, but water quality deteriorates with depth in the down dip direction. In some areas, water of acceptable quality may occur at depths of approximately 2,000 feet. The water may be acidic in much of Northeast Texas and relatively high in iron concentrations in some locations. (Map 2)

## **Sparta Aquifer**

The Sparta aquifer extends in a narrow band from the Frio River in South Texas northeastward to the Louisiana border in Sabine County. The Sparta provides water for domestic and livestock supplies throughout its extent, and water for municipal, industrial, and irrigation purposes in much of the region. Yields of individual wells are generally less than 100 gal/min, although most high-capacity wells average 400 gal/min to 500 gal/min. A few wells produce as much as 1,200 gal/min. The Sparta Formation, part of the Claiborne Group deposited during the Tertiary, consists of sand and interbedded clay with massive sand beds in the basal section. These beds dip gently to the south and southeast toward the Gulf Coast and reach a total thickness of up to 300 feet. Water of excellent quality is commonly found within the outcrop and for a few miles down dip, but it deteriorates with depth in the down dip direction. Locally, water within the aquifer may contain iron concentrations in excess of drinking water standards. (Map 3)

## **Yegua-Jackson Aquifer**

The Yegua-Jackson aquifer extends in a narrow band from the Rio Grande and Mexico across the State to the Sabine River and Louisiana. Although the occurrence, quality, and quantity of water from this aquifer are erratic, domestic and livestock supplies are available from shallow wells over most of its extent. Locally water for municipal, industrial, and irrigation purposes is available. Yields of most wells are small, less than 50 gallons per minute, but in some areas, yields of adequately constructed wells may range to more than 500 gallons per minute. The Yegua-Jackson aquifer consists of complex associations of sand, silt, and clay deposited during the Tertiary Period. Net freshwater sands are generally less than 200 feet deep at any location within the aquifer. Water quality varies greatly within the aquifer, and shallow occurrences of poor-quality water are not uncommon. In general, however, small to moderate amounts of usable quality water can be found within shallow sands (less than 300 feet deep) over much of the Yegua-Jackson aquifer. (Map 4)

## **B. CURRENT VOLUME IN STORAGE:**

**Scope:** The entire counties of Nacogdoches and Angelina and all areas within their boundaries.

**Methodology:** Using the Groundwater Availability Model (GAM) developed by the TWDB, county map data and the historical data from representative wells in the District; the available volume, decline and projections (GAM run 03-06 TWDB) were developed using the estimated storage by calculating layer thickness for each model cell (layer top elevation minus bottom elevation), multiplying by cell area (1 mi<sup>2</sup>) and specific yield, and summing all of the model cells within Nacogdoches and Angelina counties.

County	Area of County	Area calculated in District	Percent
Angelina	864.4 sq. mi.	859 sq. mi	90
Nacogdoches	902 sq. mi.	980 sq. mi	111
<b>Total</b>	<b>1,766.4 sq. mi</b>	<b>1,839 sq. mi.</b>	

**Results:\***

County	Layer	Av. Thickness (ft)	Total area (mi <sup>2</sup> )	Total storage ac-ft
<b>Nacogdoches</b>	<b>1</b>	<b>43</b>	<b>674</b>	<b>3,732,000</b>
	<b>2</b>	<b>192</b>	<b>794</b>	<b>19,530,000</b>
	<b>3</b>	<b>112</b>	<b>917</b>	<b>13,167,000</b>
	<b>4</b>	<b>648</b>	<b>969</b>	<b>80,398,000</b>
	<b>5</b>	<b>1,074</b>	<b>980</b>	<b>134,708,000</b>
	<b>6</b>	<b>412</b>	<b>980</b>	<b>51,676,000</b>
	<b>Total</b>	<b>2,482</b>		<b>303,212,000</b>
<b>Angelina</b>	<b>1</b>	<b>50</b>	<b>859</b>	<b>5,520,000</b>
	<b>2</b>	<b>209</b>	<b>859</b>	<b>22,947,000</b>
	<b>3</b>	<b>133</b>	<b>859</b>	<b>14,654,000</b>
	<b>4</b>	<b>1,023</b>	<b>859</b>	<b>112,455,000</b>
	<b>5</b>	<b>1,498</b>	<b>859</b>	<b>164,732,000</b>
	<b>6</b>	<b>625</b>	<b>859</b>	<b>68,749,000</b>
	<b>Total</b>	<b>3,538</b>		<b>389,058,000</b>

Note:

1. Layer 1: Queen City aquifer
2. Layer 2: Reklaw unit
3. Layer 3: Carrizo aquifer
4. Layer 4: Upper Wilcox aquifer (Calvert Bluff)
5. Layer 5: Middle Wilcox aquifer (Simsboro)
6. Layer 6: Lower Wilcox aquifer (Hooper)
7. Specific yield assumed to be a uniform value of 0.2
8. Total storage rounded to the nearest 1,000 acre-ft

\*GAM run 03-06 TWDB

### C. ESTIMATED ANNUAL DECLINE <sup>(1)</sup>

**Scope:** Two Upper Wilcox wells in northern and central Nacogdoches County were used and two Carrizo aquifer wells in the northern and southern parts of the county were used. Two Carrizo wells in northern Angelina County were used. These wells were determined to be representative of the

District. The annual withdrawal from permitted wells is around 29,000 ac-ft, based on production figures from Pineywoods GCD. 2

**Methodology:** The net decline was plotted from hydrographs of six representative wells in the two counties. The average decline was calculated for each well for the time period represented by the data (1975-2000).

**Nacogdoches County**

The northern Upper Wilcox well (37-10-302) shows a net decline of less than 5 feet from 1975 to 1999. The central well (37-20-902) in the Upper Wilcox well shows 45 feet net decline in 25 years. The northern Carrizo well (37-19-301) shows a net decline of less than 5 feet from 1975-2000. The southern Carrizo well (37-27-506) shows a net water rise of ~80 feet in a 24 year span.

**Angelina County**

The well (37-36-501) shows no net decline and the well (37-35-703) shows a net decline of 160 feet from 1975 to 1999.

- Results:**
- 37-10-302 had an average decline of 0.2 feet per year.
  - 37-20-902 had an average decline of 1.8 feet per year.
  - 37-19-301 had an average decline of 0.2 feet per year.
  - 37-27-506 had an average increase of 3.33 feet per year.
  - 37-36-501 had an average decline of 6.67 feet per year.

<sup>(1)</sup> GAM run 03-06 Parameters and assumptions

## D. PROJECTED DECLINE <sup>(1)</sup>

**Scope:** The counties included in the Pineywoods GCD (Angelina and Nacogdoches) were the targeted areas. The GAM model run included parts of surrounding counties in order to predict the aquifers decline.

**Methodology:** Utilizing extracted maps for the period 2000-2050 from the final model report of the Northern Carrizo-Wilcox Aquifer (Friar and others 2003) water level declines for the period 2000-2050 were predicted. Pumpage input during the predictive period is based on the Regional Water Planning Group predictions. These predictions include a drop in total pumping in Angelina and Nacogdoches counties.

**Results:** Predicted water-level declines from 2000 to 2050 for the Carrizo Aquifer and the Upper Wilcox Aquifer are shown in Figures 1 and 2, respectively. The figures indicate a water level rebound over much of the area. The rebound results from a decrease in model pumpage input from the calibration/verification period (1975-1999) to the predictive period (2000-2050).

<sup>(1)</sup> GAM run 03-06 Parameters and assumptions

## E. RECHARGE

**Scope:** The scope of the recharge is restricted to the flow in and out of an aquifer from: 1) another aquifer, or 2) a stream or lake seepage or infiltration from precipitation or surface runoff – for Angelina and Nacogdoches counties.

**Methodology:** The transient (1975-1999) and predictive (2000-2050) models for the Northern Carrizo-Wilcox aquifer Groundwater Availability Model (Fryar and others, 2003) and queried the budget files for each aquifer layer in Angelina and Nacogdoches counties for steady-state, 1989, 1999, 2002, 2003.

**Results:** Table 1 shows the water budget for the Northern Carrizo-Wilcox GAM model in Angelina and Nacogdoches counties for the years 1989, 1999, 2002, and 2003. A budget is also shown for the steady-state model. Recharge values from the model are listed in the table. Angelina County has zero direct recharge because there is no outcrop in that county. However, leakage into the aquifers is listed in the columns “upper Z flow in and lower Z flow in” (Table 1). Based on the projected use to the year 2050, there is no need to consider artificial recharge at this time.

## SECTION IV COLLECTION OF DATA

### A. WATER QUANTITY

#### **Water Well Registration:**

The Rules require an exempt well that produces less than 25,000 gallons per day and meets other criteria as an exempt well, to be registered with the District prior to drilling. The registration is reviewed by the staff to determine it to be in compliance with the District’s Rules and spacing waivers are assessed if requested. Upon completion of the well and submittal of the well log by the driller, the deposit is refunded and the well is recorded by the District. Water wells for oil and gas wells permitted by the Texas Railroad Commission must be registered with the District prior to drilling and a well log is to be submitted upon completion of the well.

#### **Water Well Permit Application:**

The Rules require an application be made to the District for a water well permit prior to drilling a well capable of producing groundwater in excess of 25,000 gallons per day. The first step in this process is to provide certain basic data to the District. The application requires the owner’s name, address, legal description of the land, location of the well on the property, estimated amount of production, proposed use, and distance from other wells on the property as well as adjoining property, the name of the driller, and the date drilling is planned. The staff will assist in determining

some of this information as well as determining if the proposed location will meet the Rules of the District. After an application is completed and the deposit has been paid, the staff will then verify the information and schedule it for review by the appropriate individual or Board and consider it in accordance with District Rules. If at anytime during this process a discrepancy is found which would invalidate the application, the applicant is notified and a correction may be made. After Board approval, the permit is then placed in a pending file until the well log and registration form is received from the applicant or driller. Well drilling may be started as soon as the application is completed by the applicant; however, until it has been reviewed by the staff and approved by the Board, drilling is at the risk of the applicant. A water well permit is in effect for 90 days from the time the application is made. An applicant may apply for two extensions for an additional 90 days each. After the expiration date of the original application or extensions, the permit expires. After that time another application must be submitted with the appropriate fee.

**Management Goal:** Provide prompt and timely processing of all applications for water well permits.

**Management Objective:** Complete administrative review process, including staff review and schedule for Board consideration within 30 to 60 days of application date.

**Performance Standard:** Annually compare all water well permit applications with the Board Meeting Minutes to determine if they were considered by the Board within 60 days of application date, provided they were administratively complete and had been recommended for approval.

### **Well Log and Registration:**

The Rules require that the District be provided a well drilling log and completion report within 30 days after completion of the well and before production begins. In some cases a well may be completed but not equipped. In this case, the available well completion information is submitted to the District and will remain incomplete until the pump has been installed and that information provided to the District. The deposit is not returned until required information has been received by the District in accordance with District policy.

The information required on the well log and registration form adds needed data about the well and includes: a location of the well using longitude and latitude measurements, a descriptive log of the formation from the surface to the bottom of the well, the total depth of the well and casing, zone or zones of perforation, and size and depth of the pump. After this information is received by the District it is reviewed for accuracy in relation to the well permit application and field-verified. Information is then entered into the well log database. Additional requested information includes discharge in gallons per minute, and any other production tests that may have been made (such as pumping level and production under pressure).

**Management Goal:** Maintain a well completion/equipment information database to include each permitted well completed.

**Management Objective:** Review Well Log and Registration information for accuracy and enter information into databases within 30 working days of receipt.

### **Water Level Observation Wells:**

A water level observation program will be initiated within the District. This program will consist of annual static water levels measurements in representative wells across the District. A staff member will collect data from each of the observation wells and attempt to obtain a static water level measurement. The data will be recorded. These measurements will be corrected to land surface elevation and tabulated to reflect the change in water level elevations between the current year and the previous year. During these field visits observations will be made about the condition of the well, the accuracy of the data obtained from the well and whether the well is still a satisfactory representative of the wells within the area. The staff will tabulate the data and check for discrepancies. After completion, the information is entered into the District's water level database. Annually a tabulation sheet showing all measurements will be forwarded to the Ground Water Division of the Water Development Board in Austin. Data will also be received from industries and municipalities within the District and added to the database.

**Management Goal:** Maintain the most accurate and representative database of water level elevation information possible within the equipment, staff and financial capabilities of the District.

**Management Objective:** Annually obtain a static water level measurement from at least eighty percent of the wells, review static water level tabulations for accuracy (visit observation wells if necessary to resolve any inaccuracy) and enter observation well tabulations in the water level database.

**Performance Standard:** Annually compare the number of water level observation well measurements obtained, tabulated, and entered into the database with the total number of water level observation wells.

## **B. USE OF WATER QUANTITY DATA**

Well permitting, registration, and the water level observation program provide the District with baseline information. The following programs use part or all of the information

The District will prepare saturated thickness maps of the District on approximately ten-year intervals. These maps will be developed from the base of the aquifer information obtained from the well logs and the current water level elevations from the observation wells.

Annually the District will develop a water table decline map of the District. In conjunction with the decline map, hydrographs for each of the observation wells will also be developed each year. Water level measurements for the current year are tabulated to reflect a one-year change for each observation well.

**Management Goal:** Provide accurate and timely depletion information of the District.

**Management Objective:** Prepare necessary information by December 31 each year.

**Performance Standard:** Annually review data for completeness.

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**Information Reports:**

The data generated from the programs outlined above provides the District with the capability to develop various informational reports in regard to the quantity of water within the District. These reports are available to the general public upon request in addition to summary reports published in certain editions of the District newsletter (*PGCD Newsletter*). One issue of the newsletter will carry a summary of recent water level changes, plus an annual average change for each county of the District. Each edition of the newsletter includes a report of the number of well permit applications and the number of new wells completed for each county for the previous quarter. The District will have available the following reports, when completed:

- The existing total usable amount of groundwater,
- Estimates of the amount of groundwater being used on an annual basis,
- Projected groundwater supply,
- Activity of well permitting/well drilling per year by county and District-wide, and
- Annual water level changes for current year by county and District-wide.

**Management Goal:** Develop readily available up-to-date water quantity reports for the general public.

**Management Objective:** Update current water quantity reports within thirty days after new data is tabulated.

**Performance Standard:** Annually check to see if water quantity reports are updated and are readily available to the general public.

**Responding to Other Requests:**

The District receives requests from individuals and organizations within the District as well as outside the District and Texas in regard to the groundwater supply, depletion, saturated thickness, expected yield and projected life of the aquifer. Some of these requests are general in nature or are considered routine operations; for some, a pre-prepared report may meet the request. Other times, the information must be generated for a specific area or areas of the District and may require considerable time to prepare, and an estimated time of delivery may be required.

**Management Goal:** Respond to all requests for information.

**Management Objective:** Within 10 days from the time a specific request is made, provide the requested information or provide an estimate of time needed to develop the information.

**Performance Standard:** Annually compare date of request with date information or estimate of time to develop information is provided.

## C. WATER QUALITY

The quality of the groundwater within the District is considered very good. With a few exceptions, the total dissolved solids (TDS) average less than 500 mg/L. The areas of higher TDS are generally considered naturally occurring and include higher concentrations of sodium, chloride and/or sulfate. The range is from a high of 14,356 mg/L TDS (Sparta, Angelina Co., unusually high) to 10 mg/L TDS (Carrizo, Nacogdoches Co.) The water quality information collected from the Texas Water

#### **D. COLLECTION OF WATER QUALITY DATA**

The District collects water data from the groundwater users and new well data to compile a database to use to track the water quality variances in the District. This information is to be compared to data collected by the TWDB and sent to the TWDB.

**Management Goal:** Maintain a water quality observation well network to provide adequate information to determine any change in the water quality within the District and seek remedial or corrective action if warranted. To have a representative sampling of the counties in the District.

**Management Objective:** Collect and enter results in the District water quality database of the water quality observation wells annually.

**Performance Standard:** Annually check the number of water quality well samples collected, analyzed, verified, and entered in the database.

**Management Objective:** Annually review current water well analysis with previous analyses to determine any significant change, make additional field visits to all wells which indicate a significant change, prepare a remediation plan for wells if a source of contamination is identified and present it to the Board for consideration.

**Performance Standard:** Annually determine if any significant change was detected from comparison of analyses from current year to previous years' analysis.

1. If changes were observed, check the report and remediation proposal.
2. If proposal was presented to Board, review action taken.

**Analysis on Request:** The District staff will assist any person in the District to interpret a water analysis of their wells and make recommendations if requested or warranted.

### **SECTION V MANAGEMENT AND PROTECTION OF THE GROUNDWATER SUPPLY**

#### **A. RULES**

The Powers and Duties of Chapter 36 (Subchapter D) and the Rules of the District provide an outline for many of the items contained within this Management Plan. In addition to the Rules; the Board, County Committees, landowners, residents, and the staff of the District have developed programs, policies and services which are put into practice and in accordance with other provisions of Chapter 36 of the Water Code. As changes are made in the Water Code and other state or federal laws that

relate to a district as defined in §35.002 and in respect to the Texas Water Code, §36.052, the District will update its rules, policies, procedures and management plan accordingly.

The Board adopted Rules for the District on February 7, 2002. The Rules of the District are in compliance with Chapter 36, Texas Water Code. The following is the Table of Contents of the current Rules of the District:

- Rule 1 Definitions and Concepts
- Rule 2 Waste
- Rule 3 Permit and Registration Required
- Rule 4 Fees and Reports
- Rule 5 Issuance of Permits
- Rule 6 Requirements of Drillers Log, Casing, and Pump Data
- Rule 7 Minimum Spacing of Wells
- Rule 8 Exception to Spacing Rules
- Rule 9 Place of Drilling Well
- Rule 10 Right to Inspect and Test Wells
- Rule 11 Open Wells to be Capped
- Rule 12 General Rules of Procedure for Hearing
- Rule 13 Well Validation
- Rule 14 Transfer of Groundwater Out of the District
- Rule 15 Enforcement

(A copy of the Rules is included in Appendix B)

The Rules of the District are considered to be the most important tool available to the District to manage the groundwater supply.

**Water Quality Protection:** It is the District's belief that the number one avenue for contaminants to enter our groundwater is through a well or well bore. This includes active as well as abandoned wells. To help prevent contamination the District requires wells to be completed in accordance with the Texas Water Well Drillers Act. Abandoned wells are required to be capped or plugged. If the District is informed of an abandoned well which is not capped or plugged, the District will require the landowner to cap or plug the well. In the event this well is located where contaminants could enter the well, the District will require the well to be properly plugged.

**Management Goal:** Enforce the Rules of the District to conserve and protect the quantity and quality of the resource to the best of the District's ability through the powers and duties provided in Chapter 36 of the Texas Water Code.

**Management Objective:** Ensure that all rules of the District are enforced fairly and equitably within the District, through the use of hearings before the Board of Directors and/or any other measures available to the District in rendering a decision if a dispute arises in regard to rules, procedures, policies, services, and any other activity of carrying out the purpose of the District.

**Performance Standard:** Annually review the Minutes of Board Meetings to determine if decisions in regard to the enforcement of, or exceptions to, the Rules of the District were rendered in accordance with the provisions of the Rules of the District and Chapter 36 of the Texas Water Code.

## **B. GROUNDWATER QUALITY PROTECTION MEASURES:**

The District will take appropriate actions when it becomes aware of any contaminate threatening the water quality of the aquifers of the District. Whether it is point source or non-point source, the District will use any controls at its disposal to maintain high quality water. This can be in the form of education or enforcement actions.

**Management Goal:** Take appropriate action within the powers of the District to protect the quality of the groundwater, and keep the public educated to help prevent contamination.

**Management Objective:** Maintain a constant awareness of activities which may be or become a threat to the quality of groundwater and be prepared to adopt rules, resolutions, orders and/or directives to address the issue.

**Performance Standard:** Annually review the Minutes of Board Meetings to determine if all water quality issues considered by the Board were addressed.

## **C. WASTE:**

It is the intent of the District to prevent the waste of groundwater. When possible sources of waste become known to the District, the District will take whatever actions are determined to be correct.

**Management Goal:** To prevent the waste of groundwater in the District and promote its efficient use in order to maintain ample water supplies for the future.

**Management Objective:** Determine waste as defined in the Rules of the District and the Water Code and respond to reports of waste within 4 days.

**Performance Standard:** Annually review all reported sources of waste, and if corrective actions were taken when warranted.

## **D. NATURAL RESOURCE ISSUES**

There are no known Natural Resource Issues in the District that have an impact on the groundwater quantity or quality at this time.

## E. DROUGHT CONDITIONS

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During drought conditions within the District, all efforts will be made to see that all municipalities and public water supply companies follow their Drought Contingency Plans as they have been presented to the District. During severe drought conditions, the District staff will closely monitor the aquifer levels to ensure that adequate quantities of water are available to the District, and coordinate with the Region I Water Planning Area.

**Management Goal:** The District will prevent any waste of groundwater by any public or private source by promoting the most efficient use of groundwater during drought conditions whether the conditions are mild, moderate or severe.

**Management Objective:** The District shall call for the most efficient use of groundwater by all users in the District. To maintain sufficient groundwater aquifer resources during periods of drought and for future resources by preventing waste and by regulation of users, if necessary, to prevent depletion of the aquifers. To work closely with groundwater users and provide assistance where it is possible to control customer usage as is outlined in their Drought Contingency Plans.

**Performance Standard:** Annually review the Texas Palmer Drought Index and the Texas Drought Preparedness Report, and monitor production figures quarterly. Report to the Board of Directors any recommendations and make necessary changes, as needed.

## SECTION VI WATER CONSERVATION PROGRAMS

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Water conservation is an important part of protection of the aquifers in the District. In order for the groundwater to provide for the future needs of the District, conservation of the resource must be constantly addressed. Conservation includes, but is not limited to, preventing waste and making use of the groundwater in a beneficial way. Education is a large part of conservation. The District will encourage conservation by using the newsletter and other public educational material it determines to be beneficial to the conservation of water in the District.

**Management Goal:** Prevent unnecessary waste of the groundwater and encourage conservation.

**Management Objective:** Maintain a constant review of all projects to ensure that they are using the best available technology. Publish a newsletter at least quarterly and include some educational information to promote conservation. Provide public education at any opportunity to promote conservation.

**Performance Standard:** Annually review all projects to determine if they are using best available technology and if educational materials are benefiting the conservation program.

## SECTION VII PUBLIC RELATIONS & EDUCATION

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One of our goals is that the activities of the District be consistent with sound business practices, insure that the public interest is always considered and make every effort possible to maintain public confidence. It is the District's opinion that public relations and education is a necessity to achieve this goal. The District will provide information and education opportunities to the public upon request and will seek any opportunity within its ability to promote public trust and protection of the groundwater.

## **A. INFORMATION**

### **Quarterly Newsletter:**

A newsletter is published no less than quarterly, or as information is needed to the principles of the District. This newsletter will include current information that will be useful to the District to promote conservation and prevent waste and contamination.

### **News Articles and News Releases:**

News articles will be issued as needed to promote beneficial use of groundwater, encourage conservation and correct information make public that is incorrect by other sources.

**Management Goal:** Provide current information to the residents of the District about water conservation and waste prevention.

**Management Objective:** Publish current information and or reports in the newsletter and other local news media as they become available.

**Performance Objective:** Annually verify that each edition of the newsletter contains current information and or reports about water conservation and waste prevention.

## **B. EDUCATION**

### **Public Education Programs:**

The District will provide educational programs upon request when feasible to do so. The limited staff of the District will prevent an aggressive program of public education, but every effort will be made to supply every demand of the public for education.

**Management Goal:** Inform people within the District and outside the District about the benefits, goals, programs, duties and responsibilities of the District.

**Management Objective:** Inform people about the benefits, goals, programs, duties and responsibilities of the District.

**Performance Standard:** Annually review programs the District has provided or helped to provide which inform people about the goals, programs, duties and responsibilities of the District, and determine if more is needed and can be done to promote the District and its benefits.

### **Public School Education Programs:**

The District encourages the cities and other entities within the District to promote public education through school programs. Several of the cities in the District have such programs now. The District staff will strive to

help school programs in the District to educate students about the necessity and benefits of conservation.

**Management Goal:** Encourage the cities and rural areas to help provide public school education material to the schools of the District and to provide assistance from the District when available.

**Management Objective:** Inform the cities and rural areas of the District about the benefits of providing conservation education to the schools through the newsletters and other correspondence.

**Performance Standard:** Periodically review school education programs that cities and rural areas have began.

## SECTION VIII OTHER ISSUES

### A. SURFACE WATER

One city in the District currently uses surface water. The City of Nacogdoches treats surface water from Lake Nacogdoches and is in the process of expanding their plant to a 25 MGD, which is up from the present 6.75 MGD plant. The expansion should be completed by mid 2005. This will reduce the demand on the Carrizo-Wilcox aquifer by the City of Nacogdoches.

The City of Lufkin is in the planning stages of construction of a surface water treatment plant on Sam Rayburn Reservoir. This plant, when completed, will supply water to the Cities of Zavalla, Huntington and Lufkin. This will reduce the demand on the Carrizo-Wilcox and Yegua-Jackson aquifers in the District.

It is the opinion of the District that the Conjunctive Surface Water goal is not an issue in the District.

### B. SUBSIDENCE

It is the opinion of the District that subsidence is not an issue within the District.

### C. RECHARGE

A small part of the northeast portion of Nacogdoches County is the outcrop of the Carrizo-Wilcox aquifer. This area of the county is rural and is the only recharge site for the Carrizo-Wilcox in the District. The main recharge areas lay in counties in the north and east of the Pineywoods GCD.

From the information contained in the above report, the District has determined that for the reasons listed, recharge, natural or artificial is not a feasible management goal of the District at this time.

### D. REGIONAL PLAN

The East Texas Regional Water Planning Area covers all or a portion of 20 counties. Counties whose boundaries fall entirely in the region include Anderson, **Angelina**, Cherokee, Hardin, Houston, Jasper, Jefferson, **Nacogdoches**, Newton, Orange, Panola, Rusk, Sabine, San Augustine, Shelby, Tyler. Counties located within the ETRWPG and Region H includes Polk and Trinity counties. Henderson County is located within the ETRWPG and Region C. Smith County is located within the ETRWPG and Region D.

The major water resources include groundwater from the Carrizo-Wilcox and Gulf Coast Aquifers and surface water from reservoirs and run-of-river located within the Neches and Sabine River Basins. The planning area also encompassed portions of the Trinity Basin, Neches-Trinity Coastal Basin and approximately one square mile in Cypress Creek Basin. The District will participate in the efforts of the ETRWPG in the development of a regional plan for the area.

## **SECTION IX FUTURE ACTIVITIES, PLANS AND PROGRAMS**

The District is always open for suggestions which will help in the conservation and protection of water. This section of the Management Plan is provided to identify plans, programs, services, and activities the District may develop in the future. Some items may be in some stage of development only through the association it may have with current activities of the District. Other items may only be suggestions and never be developed. All activities, plans and programs of the District have been developed after consideration and approval of the Board based on the benefit to the residents and the financial and staff capabilities of the District.



**SECTION X  
DOCUMENTATION**

**A. CERTIFICATION OF ISSUES NOT APPLICABLE**

**Conjunctive Surface Water Goal:**

I do hereby affirm and attest that the Conjunctive Surface Water Goal is not an issue in the Pineywoods Groundwater Conservation District.

David Alders 12-18-03  
David Alders, President Date

Attest: Keith Wright 12-18-03  
Keith Wright, Secretary Date

26

**Subsidence:**

I do hereby affirm and attest, that the Management Goal of controlling and preventing subsidence, as specified in Texas Water Code §36.107(a) (3), is not specifically applicable to the operation of the Pineywoods Groundwater Conservation District at this time.

David Alders 12-18-03  
David Alders, President Date

Attest: Keith Wright 12-18-03  
Keith Wright, Secretary Date

27

**Recharge:**

I do hereby affirm and attest that the Management Goal of recharge, natural or artificial is not specifically applicable to the operations of the Pineywoods Groundwater Conservation District at this time.

David Alders 12-18-03  
David Alders, President Date

Attest: Keith Wright 12-18-03  
Keith Wright, Secretary Date

**Regional Water Plan:**

I do hereby affirm and attest that the water supply needs addressed for the Pineywoods Groundwater Conservation District in this Management Plan are not in conflict with the ETRWPG.

David Alders 12-18-03  
David Alders, President Date

Attest: Keith Wright 12-18-03  
Keith Wright, Secretary Date

**Natural Resource Issues:**

I do hereby affirm and attest that there are no known natural resource issues within the Pineywoods Groundwater Conservation District at this time.

David Alders 12-18-03  
David Alders, President Date

Attest: Keith Wright 12-18-03  
Keith Wright, Secretary Date

30

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**B. COPIES OF LETTERS TO SURFACE WATER ENTITIES IN REGION I**



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

12

December 19, 2003

Westwood Shores Municipal Utility  
President / Mack Hurd  
P.O. Box 1768,  
Trinity, Texas 75862-1768

Dear Sir or Madam:

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.

Included in the requirements of §36.1071 (a) (4), we are required to develop this plan in coordination with surface water management entities on a regional basis. I have addressed the issue of conjunctive use of surface water and groundwater within the Management Plan.

I ask that you review the plan and if you want to, provide copies to your Board or Commissioners. After your review, let me know if you have any comments in regard to the Plan. Texas Water Code chapter 36 does not require any formal documentation from the surface water entities; however, I would appreciate a written response from you and/or Board or Commissioners if possible.

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Please feel free to contact me if you have any questions or comments in regard to the Management Plan.

Sincerely,

David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

12

December 19, 2003

Lakeway Harbor  
Vice President / John McClellan  
11031 SH 198,  
Mabank, Texas 75147

Dear Sir or Madam:,

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General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

1d

December 19, 2003

City of Tyler  
Mayor / Kevin Eltife  
P.O. Box 2039,  
Tyler, Texas 75710-2039

Dear Sir or Madam:.

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.

Included in the requirements of §36.1071 (a) (4), we are required to develop this plan in coordination with surface water management entities on a regional basis. I have addressed the issue of conjunctive use of surface water and groundwater within the Management Plan.

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David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

12

December 19, 2003

City of Huxley  
Mayor / Larry Vaughn  
RR 1 Box 1410,  
Shelbyville, Texas 75973-9735

Dear Sir or Madam:.

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.

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David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

City of Center  
Mayor / John Windham  
P.O. Box 1744,  
Center, Texas 75935-0311

Dear Sir or Madam:,

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.

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David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan





# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

City of San Augustine  
Mayor / Gertrude Lane  
301 S. Harrison St.,  
San Augustine, Texas 75972-1912

Dear Sir or Madam:.

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.

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Sincerely,

David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

12

December 19, 2003

Fun & Feather Lodge  
Owner / President George Pickett  
P.O. Box 810,  
Hemphill, Texas 75948-0810

Dear Sir or Madam:.

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Sincerely,

David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

Pendleton Utility Corp-Pendleton Harbor  
Owner/President W.A. Neel  
P.O. Box 591,  
Marshall, Texas 75671-0591

Dear Sir or Madam,;

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Included in the requirements of §36.1071 (a) (4), we are required to develop this plan in coordination with surface water management entities on a regional basis. I have addressed the issue of conjunctive use of surface water and groundwater within the Management Plan.

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Sincerely,

David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

Beechwood WSC  
President / Ben Powell  
HC 52 Box 763,  
Hemphill, Texas 75948-9624

Dear Sir or Madam:,

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.

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Sincerely,

David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

El Camino Bay Water System  
President / Kirby Vincent  
103 Lakeview Dr.,  
Hemphill, Texas 75948-9408

Dear Sir or Madam:.,

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Sincerely,

A handwritten signature in black ink, appearing to read "David Alford".

David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

12

December 19, 2003

Paradise Point Marina  
Harry Hand / Vernon Sumpter  
HC 52 Box 569,  
Hemphill, Texas 75948-9621

Dear Sir or Madam:

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Sincerely,

David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

City of Hemphill  
Mayor / Robert Hamilton  
P.O. Box 788,  
Hemphill, Texas 75948-0788

Dear Sir or Madam:.

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General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

New Salem WSC  
President / Jim Walls  
P.O. Box 144,  
Reklaw, Texas 75784

Dear Sir or Madam:.

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General Manager

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# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

Livingston Regional WS  
Asst Reg Mgr / D. Coburn  
P.O. Box 1554,  
Huntsville, Texas 77342

Dear Sir or Madam:.

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David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

12

December 19, 2003

City of Carthage  
Mayor / Carson Joines  
P.O. Box 400,  
Carthage, Texas 75633-0400

Dear Sir or Madam:

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David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

EI Dupont-Sabine River Works  
Power Area Supt. / Keith Carlin  
P.O. Box 1089,  
Orange, Texas 77631

Dear Sir or Madam:,

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.

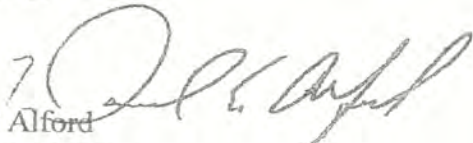
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Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

North Star Steel Texas Inc.  
Plant Mgr / John Harrell  
P.O. Box 2390,  
Beaumont, Texas 77704-2390

Dear Sir or Madam:,

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.

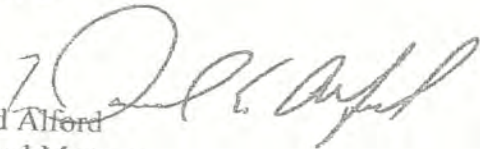
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Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

City of Nacogdoches  
David Smith  
P.O. Box 630648,  
Nacogdoches, Texas 75963-0648

Dear Sir or Madam:,

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# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

Chemical Waste Mgmt. Inc.  
Env.Mgr. / Kelly Hargraves  
P.O. Box 2563,  
Port Arthur, Texas 77643-2563

Dear Sir or Madam:.

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Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

12

December 19, 2003

EI Dupont DeNemours & Co.Inc.  
Envir Ctrl Supt. / Connie Hargraves  
P.O. Box 3269,  
Beaumont, Texas 77704-3269

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Please feel free to contact me if you have any questions or comments in regard to the Management Plan.

Sincerely,

David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

City of Nome  
Mayor / David Studdert  
P.O. Box D,  
Nome, Texas 77629-0218

Dear Sir or Madam:.

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.

Included in the requirements of §36.1071 (a) (4), we are required to develop this plan in coordination with surface water management entities on a regional basis. I have addressed the issue of conjunctive use of surface water and groundwater within the Management Plan.

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David Alford  
General Manager

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# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

City of Groves  
Mayor / Mr. W.L. Jobe  
P.O. Box 346,  
Groves, Texas 77619-0846

Dear Sir or Madam:

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.

Included in the requirements of §36.1071 (a) (4), we are required to develop this plan in coordination with surface water management entities on a regional basis. I have addressed the issue of conjunctive use of surface water and groundwater within the Management Plan.

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General Manager

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# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

12

December 19, 2003

City of Port Neches  
Mayor / Francis Monk  
P.O. Box 755,  
Port Neches, Texas 77651-0755

Dear Sir or Madam:.

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.

Included in the requirements of §36.1071 (a) (4), we are required to develop this plan in coordination with surface water management entities on a regional basis. I have addressed the issue of conjunctive use of surface water and groundwater within the Management Plan.

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General Manager

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# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

City of Port Arthur  
Mayor / Oscar Ortiz  
P.O. Box 1089,  
Port Arthur, Texas 77641

Dear Sir or Madam:,

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General Manager

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# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

City of Nederland  
Mayor / Homer Nagle  
P.O. Box 967,  
Nederland, Texas 77627-0967

Dear Sir or Madam:

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.

Included in the requirements of §36.1071 (a) (4), we are required to develop this plan in coordination with surface water management entities on a regional basis. I have addressed the issue of conjunctive use of surface water and groundwater within the Management Plan.

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Sincerely,

David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

12

December 19, 2003

Jefferson County WCID No.10  
President / John Early  
3707 Central Blvd.  
Nederland, Texas 77627-3225

Dear Sir or Madam,;

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Sincerely,

David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

City of Beaumont  
City Manager / Stephen Bonczek  
P.O. Box 3827,  
Beaumont, Texas 77704-3827

Dear Sir or Madam:

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.

Included in the requirements of §36.1071 (a) (4), we are required to develop this plan in coordination with surface water management entities on a regional basis. I have addressed the issue of conjunctive use of surface water and groundwater within the Management Plan.

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Sincerely,

David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

USFS-Boykin Springs Recreation  
District Ranger / Glen Donahoe  
701 N. First Street,  
Lufkin, Texas 75901

Dear Sir or Madam:,

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.

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Sincerely,

A handwritten signature in black ink, appearing to read "David Alford", is written over a faint circular stamp.

David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

GTRVC Rayburn 100  
President / Dewey Boudreaux  
115 Rayburn 100,  
Brookland, Texas 75931-9722

Dear Sir or Madam:,

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Sincerely,

David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan





# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

Houston County WCID No.1  
President / Stanley Maxwell  
P.O. Box 1246,  
Crockett, Texas 75835-1246

Dear Sir or Madam:.

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Sincerely,

David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

West Cedar Creek Municipal Utility  
President / Clifton Smith Jr.  
P.O. Box 67-5,  
Kemp, Texas 75143-8504

Dear Sir or Madam:,

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General Manager

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# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

City of Star Harbor  
Mayor / Grady Phillips  
P.O. Box 949,  
Malakoff, Texas 75148-0949

Dear Sir or Madam:

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# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

Beachwood Estates  
Vice President / John McClellan  
6116 N. Central Expressway, Suite 1300  
Dallas, Texas 75206

Dear Sir or Madam:.

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# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

East Cedar Creek FWSD  
Mayor / Harvie Basham  
P.O. Box 309,  
Mabank, Texas 75147-0309

Dear Sir or Madam:,

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# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

City of Athens  
Mayor / Jerry King  
508 E. Tyler St.,  
Athens, Texas 75751-2068

Dear Sir or Madam:.

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# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

City of Trinidad  
Mayor / J.C. Airheart  
P.O. Box 345,  
Trinidad, Texas 75163-0345

Dear Sir or Madam:,

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# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

City of Jacksonville  
Mayor / Thomas Dement  
P.O. Box 1390,  
Jacksonville, Texas 75766-1390

Dear Sir or Madam:,

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# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003

12

City of Palestine  
LE Kurt Reddoch  
504 N. Queen St.,  
Palestine, Texas 75801-2733

Dear Sir or Madam:,

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Enclosure: Adopted PGCD Management Plan

## C. PUBLIC NOTICE OF HEARING

### PUBLIC HEARING

The Board of Directors for the Pineywoods Groundwater Conservation District is considering adopting a Management Plan at their regularly scheduled meeting on December 18, 2003 at 3:30 PM in the City of Nacogdoches Commissioners Room. The purpose of the hearing is to receive comments and/or discuss the 2003 District Management Plan prior to Board adoption and submittal to the Texas Water Development Board for certification.

Copies of the proposed Management Plan will be available on December 16, 2003 at the District Office at Lufkin City Hall, 300 E. Shepherd suite 237, (936) 630-0582, or at the City of Nacogdoches Engineering Department, Nacogdoches City Hall. The Management Plan will also be available for reviewing or downloading at their website at [www.pgcd.org](http://www.pgcd.org).

Published in the December 14, 2003 Edition of the *Lufkin Daily News* and *Nacogdoches Sentinel*

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## **D. BOARD RESOLUTION**

### **RESOLUTION PINEYWOODS GROUNDWATER CONSERVATION DISTRICT 2003 MANAGEMENT PLAN**

**WHEREAS**, Texas Water Code, Chapter 36, §36.1071 required the District to develop a comprehensive management plan to address the following management goals as applicable: (1) providing the most efficient use of groundwater; (2) Controlling and preventing waste of groundwater; (3) controlling and preventing subsidence; (4) addressing conjunctive surface water management issues; (5) addressing natural resource issues; (6) addressing drought conditions; and (7) addressing conservation. and

**WHEREAS**, The Texas Water Development Board has adopted rules under Title 31. Natural Resource and Conservation Part X. Texas Water Development Board, Chapter 356. Groundwater Management Plan Certification. and

**WHEREAS**, The Pineywoods Groundwater Conservation District was created in 2001 and has operated under the requirements of Chapter 36 of the Texas Water Code or other chapters of the Texas Water Code or sections of the Texas Administrative Code since creation. and

**WHEREAS**, The Pineywoods Groundwater Conservation District intends to continue to carry out the purpose for which the people created the District. and

**WHEREAS**, The Texas Water Code, §36.1071 requires the District to identify the performance standards and management objectives under which the District will operate to achieve the management goals. and

**WHEREAS**, The Board of Directors of the Pineywoods Groundwater Conservation District believes that the 2003 Management Plan of the District reflects the best management of the groundwater for the District and meets the requirements of §36.1071 as applicable. and

**WHEREAS**, The Board further believes that the description of activities, programs, procedures and Rules of the District included in the Plan provide performance standards and management objectives necessary to effect the Plan in accordance with §36.1071. and

**WHEREAS**, The Plan includes estimates of the usable amount of groundwater, the amount of groundwater being used, projected groundwater supply and demand within the District as well as addresses recharge. and

**WHEREAS**, The District has adopted rules, resolutions, and directives to implement this plan. And

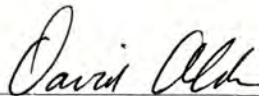
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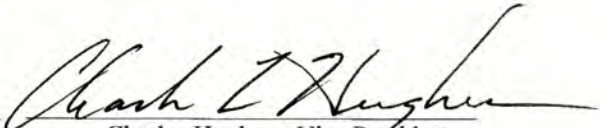
**WHEREAS,** The District is fully prepared to amend and or adopt additional rules or adopt resolutions or issue directives in the future as determined by the Board of Directors to address issues identified in the future . and

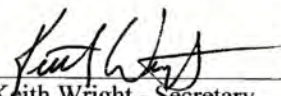
**WHEREAS,** The District is fully prepared to amend this Plan as determined by the Board of Directors as necessary and in accordance with applicable laws of this state.

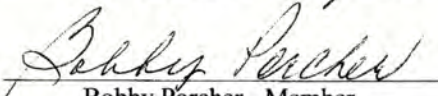
**NOW THEREFORE BE IT RESOLVED:**

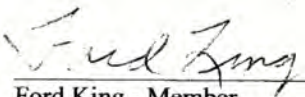
The Board of Directors of the Pinewoods Groundwater Conservation District does hereby adopt the 2003 Pinewoods Groundwater Conservation District Management Plan. This the 18<sup>th</sup> day of December, 2003.

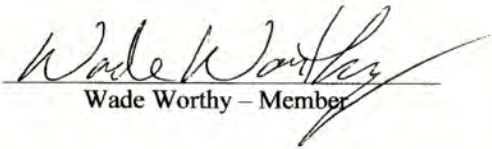
  
\_\_\_\_\_  
David Alders - President

  
\_\_\_\_\_  
Charles Hughes - Vice President

  
\_\_\_\_\_  
Keith Wright - Secretary

  
\_\_\_\_\_  
Bobby Porcher - Member

  
\_\_\_\_\_  
Ford King - Member

  
\_\_\_\_\_  
Wade Worthy - Member

  
\_\_\_\_\_  
David Smith - Member

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## **Appendix A**

### **Pineywoods Groundwater Conservation District Board**

Pineywoods Groundwater Conservation District Board  
Suite 237  
300 East Shepherd  
Lufkin Texas 75901  
Telephone (936)630-0582      Email pgcd@cityoflufkin.com

#### **David Alders**

President  
8740 FM 226  
Nacogdoches, TX 75961  
936-569-1284 936-569-1284 (FAX)  
dalders@txucom.net  
Nacogdoches County Appointment

#### **Charles Hughes**

Vice President  
Abitibi Consolidated  
P.O. 1149 Hwy 103 E.  
Lufkin, Texas 75902  
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Angelina County Appointment

#### **Keith Wright, City Engineer**

Secretary  
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City of Lufkin Appointment

#### **Ford King**

Member  
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Nacogdoches County Appointment

#### **Wade Worthy**

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**David Smith, City Engineer**

Member

City of Nacogdoches

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City of Nacogdoches Appointment

**Ms. Bobbie Porcher**

Member

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Lufkin, TX 75901-2961

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Angelina County Appointment

**STAFF**

**David Alford**  
General Manager

**Linda Baillie**  
Administrative Assistant

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# PINEYWOODS GROUND WATER CONSERVATION DISTRICT

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## *DISTRICT RULES*

**BOARD MEMBERS:**

*David Alders - President*

*Charles Hughes - Vice President*

*Keith Wright - Secretary*

*David Smith - Member*

*Bobby Porcher - Member*

*Ford King - Member*

*Wade Worthy - Member*

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# PINEYWOODS GROUNDWATER CONSERVATION DISTRICT

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# **RULES OF THE PINEYWOODS**

## **GROUNDWATER CONSERVATION DISTRICT**

**Effective as of Feb. 7, 2002**

In accordance with Section 59 of Article 16 of the Texas Constitution and with the Acts of the 77<sup>th</sup> Legislature (2001), Ch. 313, H.B. 2572 and Chapters 35 and 36 of the Texas Water Code, Pineywoods Groundwater Conservation District adopts the following Rules as the Rules of the District. Each rule as worded below herein has been in effect since date of passage and as may be amended.

The Rules, regulations, and modes of procedure contained below are and have been adopted for the purposes of achieving the goals of the District Act and the Management Plan, prevent waste, and protect rights of owners of interest in groundwater while simplifying procedure, avoiding delays, saving expense, and facilitating the administration of the groundwater laws of the State and the Rules of this District. To the end that these objectives be attained, these Rules shall be so construed.

These Rules may be used as guides in the exercise of discretion, where discretion is vested. However, under no circumstances and in no particular case shall they, or any of them, be construed as a limitation or restriction upon the exercise of any discretion of the Board, where such exist; nor shall they in any event be construed to deprive the Board of an exercise of powers, duties and jurisdiction conferred by law, nor to limit or restrict the amount and character of data or information which may be required for the proper administration of the law. Any reference to the Texas Water Code includes the section referenced and any subsequent amendments.

### **RULE 1 – DEFINITIONS AND CONCEPTS**

1.1 Unless the context indicates a contrary meaning, the words hereinafter defined shall have the following meaning in these Rules:

(a) "Beneficial use" means:

- (1) agricultural, gardening, domestic, stock raising, municipal, mining, manufacturing, industrial, commercial, recreational, or pleasure purposes;
- (2) exploring for, producing, handling, or treating oil, gas, sulfur, or other minerals; or
- (3) any other purposes that is useful and beneficial to the user and approved by the Board.

(b) The "Board" shall mean the Board of Directors of the Pineywoods Groundwater Conservation District, consisting of seven (7) Board members.

(c) "District Act" means acts of the 77<sup>th</sup> Legislature (2001), Chapter 313, H.B. 2572 and the nonconflict of provisions of Chapter 36, Texas Water Code, as same



may be amended.

- (d) "District Office or Offices" shall mean the location or locations as may be established by resolution of the Board.
- (e) "District" shall mean Pineywoods Groundwater Conservation District.
- (f) "Domestic Use" means the use of water at a single-family household to support domestic activities including drinking, washing, and sanitation. Domestic use does not include use for any commercial purpose or at any commercial establishment. Domestic use does not include a use at any commercial establishment with a single-family household.
- (g) "Drilling" includes drilling, equipping, or completing wells or modifying the size of wells or well pumps to change pumpage volume.
- (h) "Drilling Permit" means a permit issued by the District allowing a water well to be drilled.
- (i) "Fee or Fees" means the amount required to be paid as established by the Board of Directors.
- (j) "Groundwater" means water percolating below the surface of the earth.
- (k) "Hearing Body" means the Board, any committee of the Board, or a hearing examiner at any hearing held under the authority of the District Act.
- (l) "Hearing Examiner" means a person appointed by the Board to conduct a hearing or other proceeding.
- (m) "Hearing Rules and Procedures" means the rules and procedures for hearings adopted by the Board for hearings and other proceedings of the District, as they may be supplemented or amended from time to time.
- (n) "Operator" shall mean the person who operates a well.
- (o) "Operating Permit" means a permit issued by the District for a water well, allowing groundwater to be withdrawn from a water well for a designated period.
- (p) "Owner" shall mean and include any person that has the right to produce water from the land either by ownership, contract, lease or easement
- (q) "Person" shall mean any individual, partnership, firm, or corporation, limited liability company, or other legal entity.
- (r) "Rules" shall mean these Rules of the District and the Hearing Rules and Procedures as they may be supplemented or amended from time to time.

(s) "Waste" means any one or more of the following:

- (1) withdrawal of groundwater from a groundwater reservoir at a rate and in an amount that causes or threatens to cause intrusion into the reservoir of water unsuitable for agricultural, gardening, domestic, or stock raising purposes;
- (2) the flowing or producing of wells from a groundwater reservoir if the water produced is not used for a beneficial purpose;
- (3) escape of groundwater from a groundwater reservoir to any other reservoir or geologic strata not containing groundwater;
- (4) pollution or harmful alteration of groundwater in a groundwater reservoir by saltwater or by other deleterious matter from another stratum or from the surface of the ground;
- (5) willfully or negligently causing, suffering, or allowing groundwater to escape into any river, creek, natural watercourse, depression, lake reservoir, drain, sewer, street, highway, road, or road ditch, or onto any land other than that of the owner of the well unless such discharge is authorized by permit, rule, or order issued by the commission under Chapter 26, Texas Water Code; groundwater released on well startup or well development in order to improve water quality shall not constitute waste as defined above.
- (6) groundwater pumped for irrigation that escapes as irrigation tailwater onto land other than that of the owner of the well unless permission has been granted by the occupant of the land receiving the discharge; or
- (7) for water produced from an artesian well, "waste" has the meaning assigned by Section 11.205, Texas Water Code.

(t) "Well" or "Water Well" shall mean and include any artificial excavation constructed for the purpose of producing groundwater including a test well constructed for the purpose of determining the location, quality or quantity of groundwater.

- (1) "Abandoned or deteriorated well" shall mean a well, as defined by these rules, or any other well which allows surface inflow or infiltration and/or that is causing, or is likely to cause, pollution of groundwater in the District and includes a well which is not in use and/or compliance with applicable laws regarding proper installation, including Rules and Licensing and Regulation, Rules and Regulations of the Texas Commission on Environmental Quality, Rules and Regulations of any state or federal agency of competent jurisdiction and laws of the state of Texas is presumed to be abandoned or deteriorated.

- (u) "Exempt Well" shall mean any well for which the District is prohibited to require a permit under the District Act, Texas Water Code §36.117 or the District Rules. Exempt wells include wells used solely for domestic or agriculture use or for providing water for livestock or poultry that is either drilled, completed, or equipped so that it is incapable of producing more than 25,000 gallons per day and certain wells for hydrocarbon production. Wells to supply water for a subdivision of land for which plat approval is required by law or regulation are not exempt. For all purposes herein, an Exempt Well shall be exempt from permitting requirements and production fees but shall not be exempt from pre-registration or registration requirements.
  - (v) "Monitor Well," means any well used for the sampling or measurement of any chemical or physical property of subsurface strata or their contained fluids.
  - (w) "Remediation Well" means any well used to produce contaminated water from a subsurface strata pursuant to a plan approved by the Texas Commission on Environmental Quality or other agency with applicable jurisdiction.
- 1.2 The definitions contained in Texas Water Code Section 36.001 shall also be included to the extent that they are used in these Rules.
  - 1.3 Purpose of Rules. The Rules are the foundation for achieving the goals of the District Act and Management Plan.
  - 1.4 Use and Effect of Rules. The District uses these Rules as guides in the exercise of the powers conferred by law and in the accomplishment of the purposes of the District Act and Management Plan.
  - 1.5 Amendment of Rules. The Board may, following notice and hearing, amend these Rules or adopt new Rules from time to time.
  - 1.6 Headings and Caption. The section and other headings and captions contained in these Rules are for reference purposes only. They do not affect the meaning or interpretation of these Rules in any way.
  - 1.7 Construction. A reference to a title, chapter or section without further identification is a reference to a title, chapter or section of the Water Code, Construction of words and phrases are governed by the Code Construction Act, Subchapter B, Chapter 311, Government Code.
  - 1.8 Method of Service under these Rules. Except as otherwise expressly provided in these Rules, any notice or documents required by these Rules to be served or delivered may be delivered to the recipient, or the recipient's authorized representative, in person, by agent, by courier receipted delivery, by certified mail sent to the recipient's last known address, or by telephonic document transfer to the recipient's current telecopier number. Service by mail is complete upon deposit in a post office or other official depository of the United States Postal Service. Service by telephonic document transfer is complete upon

transfer, except that any transfer occurring after 5:00 p.m. will be deemed complete on the following business day. If service or delivery is by mail, and the recipient has the right, or is required, to do some act within a prescribed time after service, three days will be added to the prescribed period. Where service by one of more methods has been attempted and failed, the service is complete upon notice publication in a general circulated newspaper in Angelina or Nacogdoches County.

- 1.9 Severability. If any one or more of the provisions contained in these Rules are for any reason held to be invalid, illegal, or unenforceable in any respect, the invalidity, illegality, or unenforceability may not affect any other Rules or provisions of these Rules, and these Rules must be construed as if such invalid, illegal or unenforceable Rules or provision had never been contained in these Rules.
- 1.10 Burden of Proof: In all matters regarding applications for permits, exceptions, and other matters for which District approval is required, the burden shall be upon the applicant or other persons seeking a permit, exception, or other authority to establish that all conditions, criteria, standards, or prerequisites have been met.

## **RULE 2 – WASTE**

- (a) Groundwater shall not be produced within, or used within or without the District, in such a manner or under such conditions as to constitute waste as defined in Rule 1 hereof.
- (b) Any person producing or using groundwater shall use every possible precaution, in accordance with the most approved methods, to stop and prevent waste of such water.
- (c) No person shall pollute or harmfully alter the character of a groundwater reservoir of the District by means of salt water or other deleterious matter admitted from other stratum or strata or from the surface of the ground.
- (d) No person shall commit waste as that term is defined by Rule 1.1 (s).

## **RULE 3 – PERMIT AND REGISTRATION REQUIRED**

- 3.1 No person shall drill, modify, complete, change type of use, plug, abandon, or alter the size of a well within the District without first registering the well with the District, or making application for a new well even though the well may be exempt from the requirement of a permit under Texas Water Code Section 36.117 or Rule 1.1 (u).
- 3.2 The District staff will review the application for registration and make a preliminary determination on whether the well meets the requirements,

exclusions, or exemptions.

- 3.3 No permit shall be required for the drilling of wells exempt by Texas Water Code §36.117 or Rule 1.1 (u). Regardless of whether a permit is required, all wells must be installed consistent with 16 Texas Administrative Code §76.1000 (Technical Requirements – Locations and Standards of Completion for Wells).
- 3.4 Exempted Wells shall be registered with the District before drilling. All exempt wells shall be equipped and maintained so as to conform to the District's Rules requiring installation of casing, pipe and fittings to prevent the escape of groundwater from a groundwater reservoir to any reservoir not containing groundwater and to prevent the pollution or harmful alteration of the character of the water in any groundwater reservoir. Forms for registrations and applications for permits shall be provided by the District.
- 3.5 Any existing operational well not exempt under Rule 1.1 (u), in existence prior to effective date of these Rules is considered grandfathered and will automatically be granted an operating permit upon completion of the well validation procedure as provided in Rule 13. These grandfathered wells will not be assessed a registration or permit fee if the procedure is completed by January 1, 2003 and the owner or operator provides all the information requested by the District. The volume allowed by the permit will be determined by past or planned production of the well.
- 3.6 A water well used solely to supply water for a rig that is actively engaged in drilling or exploration operations for an oil or gas well permitted by the Texas Railroad Commission is exempt from District Fees provided the person holding the permit is responsible for drilling and operating the water well and it is located on the same lease or field associated with the drilling rig.
- 3.7 A well-exempted under provision Rule 1.1 (u) above must be permitted and comply with all District Rules if:
  - (1) the purpose of the well is no longer solely to supply water for a rig that is actively engaged in drilling or exploration operations for an oil or gas well permitted by the Railroad Commission of Texas; or
  - (2) the withdrawals are no longer necessary for mining activities or are greater than the amount necessary for mining activities specified in the permit issued by the Railroad Commission of Texas under Chapter 134, Natural Resources Code.
- 3.8 All permits are granted subject to these rules, orders of the Board, and the laws of the State of Texas. In addition to any special provisions or other requirements incorporated into the permit, each permit issued must contain the following standard permit provisions:

- (a) This permit is granted in accordance with the provisions of the Rules of the District, and acceptance of this permit constitutes an acknowledgment and agreement that the permittee will comply with the Rules of the District.
  - (b) This permit confers only the right to operate and its terms may be modified or amended. To protect the permit holder from the illegal use by a new landowner, within 10 days after the date of sale, the operating permit holder must notify the District in writing the name of the new owner of a permitted well. Any person who becomes the owner of a currently permitted well must, within 20 calendar days from the date of the change in ownership, file an application for a permit amendment to affect a transfer of the permit.
  - (c) The operation of the well for the authorized withdrawal must be conducted in a non-wasteful manner.
  - (d) Withdrawals from all non-exempt wells, except wells used for Domestic or agricultural capable of providing more than 25,000 gallons per day but less than 100,000 gallons per day must be accurately metered and their pumpage reported to the District quarterly.
  - (e) The well site must be accessible to District representatives for inspection, and the permittee agrees to cooperate fully in any reasonable inspection of the well and well site by the District representatives.
  - (f) The application pursuant to which this permit has been issued is incorporated in the permit, and the permit is granted on the basis of, and contingent upon, the accuracy of the information supplied in that application. A finding that false information has been supplied is grounds for immediate revocation of the permit.
  - (g) Violation of a permit's terms, conditions, requirements, or special provisions is punishable by civil penalties as provided by the District Rules and by law.
  - (h) The permit may also contain provisions relating to the means and methods of transportation of water produced within the District.
- 3.9 Except as provided below, a permit is not required for a Monitor Well or a Remediation Well. A copy of the Driller's Report must be filed with the District within (30) thirty days. If the use of Monitor Well or Remediation Well is changed to produce non-contaminated water, it then becomes subject to the permitting or registration requirements of these Rules depending upon use and volume.

## **RULE 4 – FEES AND REPORTS**

In accordance with HB 2572 and Section 36.205 of the Texas Water Code, the Board adopts a production fee of \$0.01 per 1000 gallons for all nonexempt wells except wells used for Domestic use or providing water to livestock or poultry which are not capable of producing more than 100,000 gallons per day. The fee is payable on water produced on or after April 1, 2002. Operators of nonexempt wells shall provide payment to the District each quarter. Payment shall be due within thirty (30) days of the last day of March, June, September, and December with their quarterly reports. Operators shall provide monthly production records to document payment amount. The payment shall be accompanied by the report form specified by the Board.

- 4.1 In accordance with Section 36.122 of the Texas Water Code the District adopts a transfer fee of 50% of and in addition to the production fee for water transported out of the District.
- 4.2 Each application for a permit to drill a well shall be accompanied by the fee or fees as established herein or by resolution of the Board.
- 4.3 Each day that a payment remains unpaid after it is due shall constitute a separate violation of these Rules. A late payment charge equal to one percent per month following the due date shall be assessed on past due production fees.
- 4.4 An entity holding a permit issued by the Railroad Commission of Texas under Chapter 134, Natural Resources Code, that authorized the drilling of a water well shall report monthly to the District:
  - (1) the total amount of water withdrawn during the month;
  - (2) the quantity of water necessary for mining activities; and
  - (3) the quantity of water withdrawn for other purposes.

## **RULE 5 – ISSUANCE OF PERMITS**

- 5.1 Every person who drills a water well after the effective date of these Rules, other than an Exempt Well, must file an Application for Permit on a form approved by the Board. Each permit application must be accompanied by the fee.
- 5.2 **Drilling Permit Requirement:** The well owner, well operator, or any other person acting on behalf of the well owner must obtain a drilling permit from the District prior to drilling a new water well other than an exempt well, developing a well field or perforating an existing well.
- 5.3 **Operating Permit Requirement:** Within 14 days after the completion of a new water well, reworking, or re-equipping of an existing water well as provided in Rule 5.10 below, the well owner or well operator must file a completed operating permit application.

5.4 Permit Applications: Each original application for a water well drilling permit, operating permit, transport permit, and permit amendment requires a separate application and payment of the associated fee. Application forms will be provided by the District and furnished to the applicant upon request.

The application for a permit shall be in writing and sworn to, and shall include the following:

- a) the name and mailing address of the applicant and the owner of the land on which the well will be located;
- b) if the applicant is other than the owner of the property, documentation establishing the applicable authority to construct and operate a well for the proposed use;
- c) a location map of all existing wells within a quarter (1/4) mile radius of the proposed well or the existing well to be modified;
- d) a map from the county appraisal District indicating the location of the proposed well or the existing well to be modified, the subject property, and adjacent owners' physical addresses and mailing addresses;
- e) notice of any application to the Texas Natural Resource Conservation Commission to obtain or modify a Certificate of Convenience and Necessity to provide water or wastewater service with water obtained pursuant to the requested permit;
- f) a statement of the nature and purpose of the proposed use and the amount of water to be used for each purpose.
- g) a declaration that the applicant will comply with the District's Rules and all groundwater use permits and plans promulgated pursuant to the District's Rules.
- h) a water conservation plan or a declaration that the applicant will comply with the Management Plan.
- i) the location of each well and the estimated rate at which water will be withdrawn;
- j) a water well closure plan or a declaration that the applicant will comply with all District well plugging and capping guidelines and report closure to the Commission.
- k) a hydrogeological report addressing the area of influence, draw down, recovery time, and other pertinent information required by the District shall be required for the following:
  - (1) Requests to drill a well with a daily maximum capacity of more than 2 million gallons;
  - (2) Requests to modify to increase production or production capacity of a Public Water Supply, Municipal, Commercial, Industrial, Agricultural or Irrigation well with an outside casing diameter greater than 6 5/8 inches.

The well must be equipped (or tested at a rate equal to or greater than the rate necessary) for its ultimate planned use and the



hydrogeologic report must address the impacts of that use. The report must include hydrogeologic information addressing and specifically related to the proposed water pumpage levels at the proposed pumpage site intended for the proposed well or for the proposed transporting of water outside the District. Applicants may not rely solely on reports previously filed with or prepared by the District.

- 5.5 Transfer Permit Requirement: The well owner, well operator, or any other person acting on behalf of the well owner must obtain a transfer permit to transfer groundwater produced from within the District outside the District's boundaries.

A groundwater transfer permit is not required for transferring groundwater that is part of a product manufactured in the District, or if the groundwater is to be used on property that straddles the District boundary line. Water that is bottled is not considered to be a product manufactured for this exclusion.

- 5.6 Notice of Permit Hearing: Once the District has received a completed original application for a water well drilling permit, operating permit, a transport permit, or a permit amendment and associated fees the General Manager will issue written notice indicating a date and time for a hearing on the application in accordance with these Rules. The District may schedule as many applications at one hearing as deemed necessary.
- 5.7 Drilling Permits: Unless specified otherwise by the Board or these Rules, drilling permits are effective for a term ending 120 calendar days after the date the permit application was received.
- 5.8 Transfer Permits: Unless specified otherwise by the Board or these Rules, transport permits are effective for five (5) years. Notwithstanding the period specified above, the District may periodically review the amount of water that may be transferred under the permit and may limit the amount.
- 5.9 Effect of Acceptance of Permit: Acceptance of the permit by the person to whom it is issued constitutes acknowledgment of and agreement to comply with all of the terms, provisions, conditions, limitations, and restrictions.
- 5.10 Reworking and Replacing a Well:
- a) An existing well may be reworked or re-equipped in a manner that will not change the permitted well status. A change in the permitted well status will require an operating permit amendment.
  - b) A permit must be applied for if a party wishes to replace an existing well with a replacement well.
  - c) A replacement well, in order to be considered such, must be drilled within fifteen feet of the existing well.
  - d) The location of the old well (the well being replaced) shall be protected in accordance with the spacing Rules of the District until the replacement well is

drilled and tested. The landowner or his/her agent must within 120 days of the issuance of the permit declare in writing to the District which one of these two wells he desires to produce. If the landowner does not notify the District of his/her choice within this 120 days, then it will be conclusively presumed that the new well is the well he/her desires to retain. Immediately after determining which well is retained for production, the other well shall be:

- (1) Properly equipped in such a manner that it cannot produce more than 25,000 gallons of water a day; or
- (2) Closed in accordance with applicable state law and regulation Section 756.002, Texas Health and Safety Code
- (3) Violation of such Article is made punishable by a fine as provided by law.

A permit to rework, re-equip, re-drill or replace an existing well may be granted by the Board without notice or hearing so long as the production capacity of the new well does not exceed the capacity of the existing well.

#### 5.11 Emergency Authorization:

Any person, who has a Permit or Certificate of Registration from the District to Operate a well, may apply to the District for emergency authorization to drill and operate a replacement well as set forth below. The emergency must meet all of the following conditions:

- (a) The "emergency" must present an imminent threat to the public health and safety or to an agricultural activity, must be explained to the satisfaction of the District and include any documentation requested by the District.
- (b) Neither the emergency authorization nor an applicant for a permit to drill the well has been denied.
- (c) A completed application as required by these Rules must be sent by telecopy or hand delivery within three (3) business days after notifications of the emergency conditions is given.
- (d) All application fees must be paid within 7 days of the emergency notifications.
- (e) Such other information as requested has been received by the District.
- (f) The well must comply with all the other provisions for a replacement well as specified in Rule 5.10

## **RULE 6 – REQUIREMENT OF DRILLERS LOG, CASING AND PUMP DATA**

- (a) Complete records shall be kept and reports thereof made to the District concerning the drilling, maximum production potential, equipping and completion of all wells drilled. Such records shall include an accurate driller's log, any electric log which shall have been made, and such additional data concerning the description of the well, its potential, hereinafter referred to as "maximum rate of production" and its actual equipment and rate of discharge permitted by said equipment as may be required by the Board. Such records shall be filed with the District Board within 60 days after completion of the well.
- (b) The well driller shall deliver either in person, by fax, email, or send by first-class mail, a photocopy of the State Well Report to the District within 60 days from the completion or cessation of drilling, deepening, or otherwise altering a well.
- (c) No person shall produce water from any well hereafter drilled and equipped within the District, except that necessary to the drilling and testing of such well and equipment, unless or until the District has been furnished an accurate driller's log, any electric log which shall have been made, and a registration of the well correctly furnishing all available information required on the forms furnished by the District.

## **RULE 7 – MINIMUM SPACING OF WELLS**

### (a) Distance Requirements:

- (1) No non exempt well to be drilled subsequent to the date of enactment of this rule shall be drilled such that said well shall be located nearer than one hundred fifty (150') feet from the nearest property line; provided that the Board, may grant exceptions to permit drilling within shorter distances.
- (2) In the interest of protecting life and for the purpose of preventing waste, preventing overlapping cones of depression resulting from production rates, and preventing confiscation of property, the Board reserves the right to limit the number of wells on a tract of land or require a minimum distance between wells.
- (3) Subdivision of property:

(i) In applying this rule and applying every special rule with relation to spacing in all of the subterranean water zones and/or reservoirs underlying the confines of this District, no subdivision of property made subsequent to the adoption of the original spacing rule will be considered in determining whether or not any property is being

confiscated within the terms of such spacing rule, and no subdivision of property will be regarded in applying such spacing rule or in determining the matter of confiscation if such subdivision took place subsequent to the promulgation and adoption of the original spacing rule.

(ii) Any subdivision of property creating a tract of such size and shape that it is necessary to obtain an exception to the spacing rule before a well can be drilled thereon is a voluntary subdivision and not entitled to a permit to prevent confiscation of property if it were either, (a) segregated from a larger tract in contemplation of water resource development, or (b) segregated by fee title conveyance from a larger tract after the spacing rule became effective and the voluntary subdivision rule attached.

(b) Change in Use of Well:

Any well existing at the date of enactment of this Rule must comply with the provisions of this rule if after the date of enactment of this rule the ultimate use of the water produced from the well is changed in whole or in part such that the water produced from the well annually is increased. Ultimate use of the water shall be defined as domestic, municipal, industrial, agricultural, or irrigation use.

## **RULE 8 – EXCEPTION TO SPACING RULE**

- (a) In order to protect vested property rights, to prevent waste, to prevent confiscation of property, or to protect correlative rights, the Board may grant exception to the above spacing regulations. This rule shall not be construed so as to limit the power of the Board, and the powers stated are cumulative only of all other powers possessed by the Board.
- (b) If an exception to such spacing regulations is desired, application therefore shall be submitted by the applicant in writing to the Board at its District office on forms furnished by the District. The application shall be accompanied by a plat or sketch, drawn to scale of one (1) inch equaling one thousand (1000) feet. The plat or sketch shall show thereon the property lines in the immediate area and shall show accurately to scale all wells within a quarter mile of the proposed well site. The application shall also contain the names of all property owners adjoining the tract on which the well is to be located and the ownership of the wells within a quarter mile of the proposed location. Such application and plat shall be certified by some person actually acquainted with the facts who shall state that all the facts therein are true and correct.
- (c) Such exception may be granted ten (10) days after written notice has been given to the applicant and all adjoining owners and all well owners within a quarter mile of the proposed location, and after a public hearing at which all

interested parties may appear and be heard, and after the Board has decided that an exception should be granted. Provided, however, that if all such owners execute a waiver in writing stating that they do not object to the granting of such exception, the Board may thereupon proceed to decide upon the granting or refusing of such application without notice of hearing except to the applicant. The applicant may also waive notice or hearing or both.

## **RULE 9 – PLACE OF DRILLING WELL**

After an application for a well permit has been granted, the well, if drilled, must be drilled within fifty feet of the location specified in the permit so long as that location does not violate any spacing requirements in these rules. If the well should be commenced or drilled at a different location, the drilling or operation of such well may be enjoined by the Board pursuant to Chapter 36, Texas Water Code, as amended. The District shall have the right to confirm reported distances and inspect the wells or well locations.

## **RULE 10 – RIGHT TO INSPECT AND TEST WELLS**

Any authorized officer, employee, agent, or representative of the District shall have the right at all reasonable times to enter upon lands upon which a well or wells may be located within the boundaries of the District, to inspect such well or wells and to read, or interpret any meter, weir box or other instrument for the purpose of measuring production of water from said well or wells; and any authorized officer, employee, agent, or representative of the District shall have the right at all reasonable times to enter upon any lands upon which a well or wells may be located within the boundaries of the District for the purposes of testing the pump and the power unit of the well or wells and of making any other reasonable and necessary inspections and tests that may be required or necessary for the information or the enforcement of the Rules and regulations of the District. The operation of any well may be enjoined by the Board immediately upon the refusal to permit the gathering of information as above provided from such well.

The District shall have the right to install or to require the installation of necessary metering equipment in order to determine well production capacity and monthly production rates.

## **RULE 11 – OPEN WELLS TO BE CAPPED**

Every owner or operator of any land within the District upon which is located any open or uncovered well is, and shall be, required to close or cap the same permanently with a covering capable of sustaining weight of not less than four hundred (400) pounds, except when said well is in actual use by the owner or operator thereof; and no such owner or operator shall permit or allow any open or uncovered well to exist in violation of this requirement. Officers, agents and employees of the District are authorized to serve or cause to be served written notice upon any owner or operator of a well in violation of this rule, thereby

requesting such owner and/or operator to close or cap such well permanently with a covering in compliance herewith. In the event any owner or operator fails to comply with this rule, all expenditures thereby incurred shall constitute a lien upon the land where such well is located, provided, however, no such lien shall exceed the actual cost for any single closing. Any officer, agent, or employee of the District, is authorized to perfect said lien by the filing of the affidavit authorized by Section 36.118 of the Texas Water Code. All of the powers and authority granted in such section are hereby adopted by the District, and its officers, agents, and employees are hereby bestowed with all of such powers and authority.

## **RULE 12 – GENERAL RULES OF PROCEDURE FOR HEARING**

All hearings whether conducted by the Board or before a Hearings Examiner shall be conducted in accordance with the Hearing Rules and Procedures as adopted by the Board and as they may be amended from time to time.

## **RULE 13 – WELL VALIDATION**

In order to provide for the “grandfathering” of existing non exempt water wells, a certification of validation for a well can be issued only after the location of the well and the wellhead equipment of the well has been determined by field survey by District personnel, and/or designated agents acting for the District. A well owner or agent may apply to the District for validation. The costs to the well owner or the well owner’s agent shall be set by the Board. The Board on its own initiative may cause to be issued a validation certificate for wells drilled and equipped within the District for which the landowner or his agent has not applied for a Permit or for wells not otherwise properly permitted, provided that such wells were not drilled, equipped and operated (pumped) in such a manner as to violate any other Rules and regulations of the District. To the extent available, the well owner shall provide all of the information required in Rules 6 and 5.4 and as may otherwise be requested by the District.

## **RULE 14 – TRANSFER OF GROUNDWATER OUT OF THE DISTRICT**

- (a) Purpose. In recognition of the fact that the transfer of groundwater resources from the District for use outside of the District impacts residents and property owners of the District differently than use within the District, and in order to manage and conserve groundwater resources within the District, and provide reasonable protection of the public health and welfare of residents and property owners of the District, a ground water transfer permit is required to produce groundwater from within the District’s boundaries and to transfer such groundwater for use outside the District.
- (b) Scope. A groundwater transfer permit is required for production of any water from a well within the District, all or part of which is regularly transported for use outside the District. A groundwater transfer permit shall be obtained prior to commencing construction of wells or other facilities utilized to transfer

groundwater from the District. Water wells to be used for the transfer of water outside of the District shall be subject to all other requirements of the District.

(c) Exceptions. A groundwater transfer permit is not required for transfers of groundwater from the District in the following cases:

(1) Transfers of groundwater from the District that were occurring on or before March 14, 2002 to the extent the production or transportation capacity of facilities used to produce or transfer groundwater from the District are not increased over the capacity of such facilities that were existing or permitted by the District on or before March 14, 2002.

(2) Transfers of groundwater from the District which are incidental to beneficial use within the District.

(d) Application. An application for groundwater transfer permit shall be filed in the District office by the owner of the groundwater rights or owner or operator of the production facilities. The following information shall be provided:

(1) The name and mailing address of the applicant and the owner of the land on which the well is or will be located;

(2) If the applicant is other than the owner of the property, documentation establishing the applicable authority to construct and operate a well for the proposed use;

(3) A statement of the nature and purpose of the proposed use and the amount of water to be used for each purpose;

(4) A water conservation plan;

(5) A declaration that the applicant will comply with the District's management plan;

(6) The location of each well and the estimated rate at which water will be withdrawn;

(7) A water well closure plan or a declaration that the applicant will comply with well plugging guidelines and report closure to the Board.

(8) A drought contingency plan;

(9) Data showing the availability of water in the District and in the proposed receiving area during the period for which water supply is requested;

(10) Alternate sources of supply that might be utilized by the applicant, and the feasibility and the practicability of utilizing such supplies;

- (11) The amount and purposes of use in the proposed receiving area for which water is intended;
  - (12) The projected effect of the proposed transfer on aquifer conditions, depletion, subsidence, or existing permit holders or other groundwater users within the District;
  - (13) The indirect costs and economic and social impacts associated with the proposed transfer of water from the District.
  - (14) Proposed plan of the applicant to mitigate adverse hydrogeologic, social or economic impacts of the proposed transfer of water from the District;
  - (15) How the proposed transfer is addressed in the approved regional water plan and certified District management plan;
  - (16) The names and addresses of the property owners within one-half (1/2) mile of the location of the well(s) from which water to be transported is to be produced, and the location of any wells on those properties.
  - (17) The time schedule for construction and/or operation of the well.
  - (18) Construction and operation plans for the proposed facility, including, but not limited to:
    - I. A technical description of the proposed well(s) and production facility, including depth of the well, the casing diameter, type and setting, the perforated interval, and the size of pump.
    - II. A technical description of the facilities to be used for transportation of water.
  - (19) If the water is to be used by someone other than the applicant, a signed contract between the applicant and the user or users.
  - (20) Additional information that may be required by the District.
- (e) Application Processing Fee. An application processing fee, sufficient to cover all reasonable and necessary costs to the District of processing the application, will be charged. The application must be accompanied by the Fee. If the fee is determined by the General Manager or the Board to



be insufficient to cover anticipated costs of processing the application, the

applicant may be required to post a deposit in an amount determined by the General Manager or the Board's representative to be sufficient to cover anticipated processing cost. As costs are incurred by the District in processing the application, those costs may be reimbursed from funds deposited by the applicant. The applicant shall be provided a monthly accounting of billings against the application processing deposit. Any funds remaining on deposit after the conclusion of application processing shall be returned to the applicant. If initially deposited funds are determined by the General Manager to be insufficient to cover costs incurred by the District in processing the application, an additional deposit

may be required. If the applicant fails to deposit funds as required by the District, the application may be dismissed.

- (f) Notice. Within 30 days following a determination by the District that the application is complete, notice of the application shall be mailed by the applicant to all property owners within one-half mile of the property upon which the well(s) is to be located and published in a newspaper of general circulation within the District. The District will provide the notice to the applicant for mailing and publication. Notice shall include at least the following information:

- (1) the name and address of the applicant;
- (2) the date the application was filed;
- (3) the time and place of the hearing;
- (4) the location of the proposed well(s) from which water to be transported is to be produced;
- (5) A description of the production facility; and
- (6) A brief summary of the information in the application.

- (g) Hearing. If requested by the applicant, any affected person opposed to the application having a justifiable interest, or the General Manager, a contested case public hearing shall be conducted in accordance with provisions of the Texas Administrative Procedure Act, Gov't Code- 2000.01, et seq. If not requested by any party, the public hearing on the application may be conducted by the Board at a regular or special meeting.

- (h) Permit

- (1) The permit to transfer groundwater out of the District may be issued as a

consolidated permit authorizing drilling, production, and transfer of water from the District. Whether issued as a consolidated permit or separately, the requirements for a permit to transfer groundwater out of the District are cumulative with all other permits or other requirements of the District.

(2) In determining whether to issue a permit to transfer groundwater out of the District, Board shall consider, in addition to all other factors applicable to issuance of a permit from the District:

- I. The availability of water in the District and in the proposed receiving area during the period for which the water supply is requested;
- II. The availability of feasible and practicable alternative supplies to the applicant;
- III. The amount and purposes of use for which water is needed in the proposed receiving area;
- IV. The projected effect of the proposed transfer on aquifer conditions, depletion, subsidence, or effects on existing permit holders or other groundwater users within the District;
- V. The indirect cost and economic and social impacts associated with the proposed receiving area;
- VI. The approved regional water plan and certified District management plan; and,
- VII. Other facts and considerations necessary by the Board for protection of the public health and welfare and conservation and management of natural resources in the District.

(3) If it determines to issue a permit to transfer groundwater out of the District, the Board may limit the permit as warranted by consideration of those factors identified above. In addition to conditions identified by Texas Water Code – 36.1131, the permit to transfer water out of the District shall specify:

- I. The amount of water that may be transferred out of the District;
- II. The period for which the water may be transferred
- III. Any monitoring or reporting requirements determined to be appropriate; and,
- IV. Such other terms and provisions with reference to the drilling, equipping, completion, or alterations of wells or pumps that may be necessary to conserve the groundwater, prevent waste,

minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, lessen interference between wells, or control and prevent subsidence.

- V. That it may be cancelled if the required production and transfer fees are not paid when due.

## **RULE 15 – ENFORCEMENT**

In accordance with the Texas Water Code, 36.102, the District may enforce Chapter 36 of the Texas Water Code and its Rules by injunction, mandatory injunction or other appropriate remedy in a court of competent jurisdiction. The Board adopts civil penalties for breach of Chapter 36 of the Texas Water Code and any rule of the District. Civil penalties shall not exceed \$10,000 per day per violation, and each day of a continuing violation shall constitute a separate violation of the Rules.

End of District Rules

## **APPENDIX C**

### **Selected References**

Water for Texas, Texas Water Development Board, January 2002

Evaluation of Ground-Water Resources in the Angelina Water Supply Corporation Area, Angelina County, Texas, LBG-Guyton Associates, November 1996

Ground Water Protection and Management Strategies for East Texas, Mark A. Weegar, Texas Water Commission, March 1990

Angelina County Regional Water Study, Goodwin-Lasiter, Inc., July 1998

Ground-Water Conditions for the Carrizo Sand in North Angelina and Central and South Nacogdoches Counties Area, Texas, LBG-Guyton Associates, November 1999

East Texas Regional Water Plan

Groundwater Availability Model for the Northern Carrizo-Wilcox Aquifer: Final Report, D. Fryar, R. Senger, N. Deeds, J. Pickens, T. Jones, A.J. Whallon, and K.E. Dean.

GAM run 03-06 June 18, 2003, Texas Water Development Board

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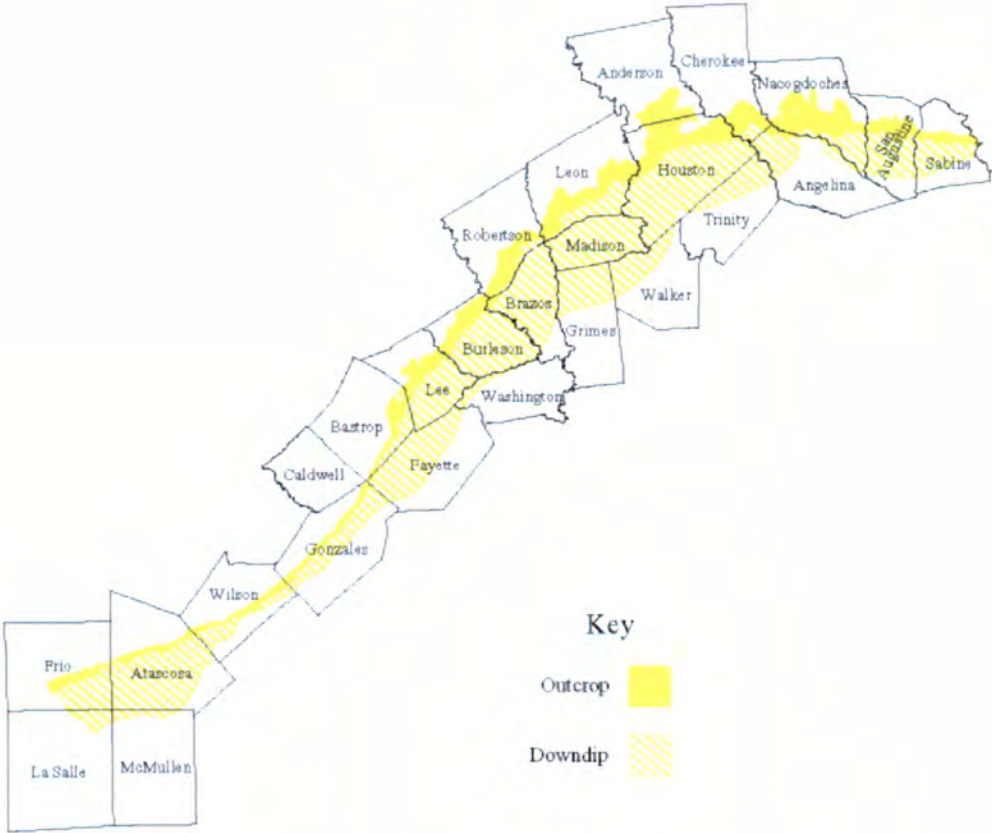
# Queen City



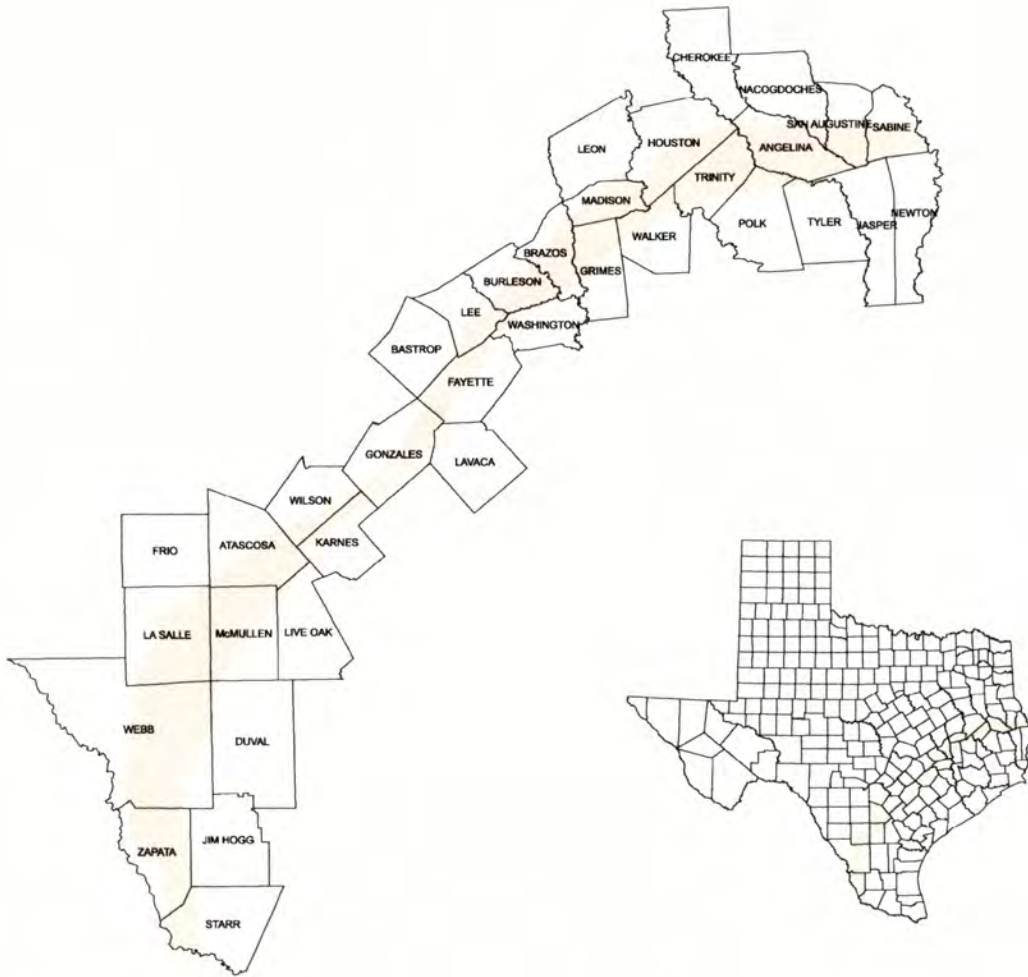


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
# Sparta



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**Explanation**

-  County boundary
-  Yegua - Jackson



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FIGURE 1

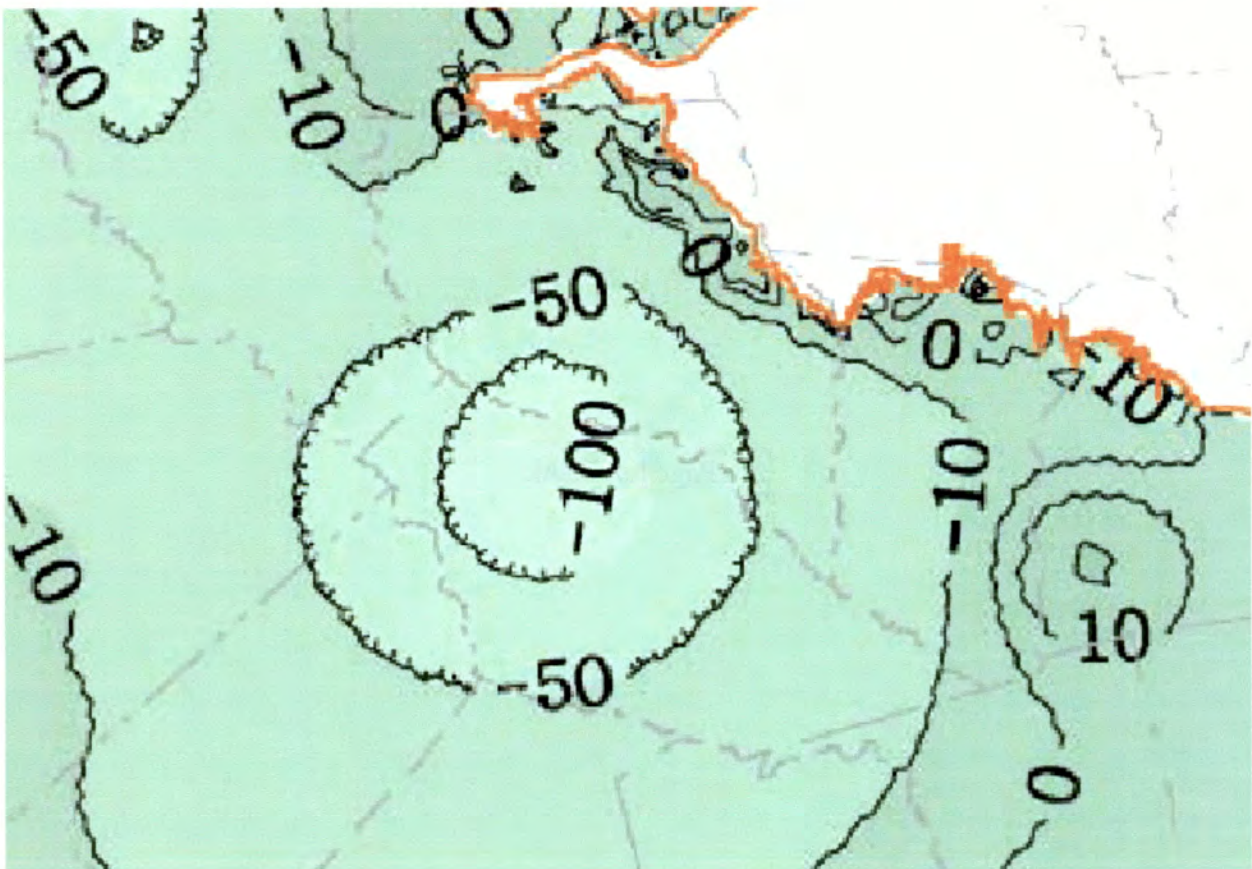


Figure 1. Model calculated water-level changes in the Carrizo aquifer between 2000 and 2050. Positive numbers refer to decline in feet, negative numbers refer to increase in feet. (Fryar and others, 2003; Figure 10.2.4)

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**FIGURE 2**

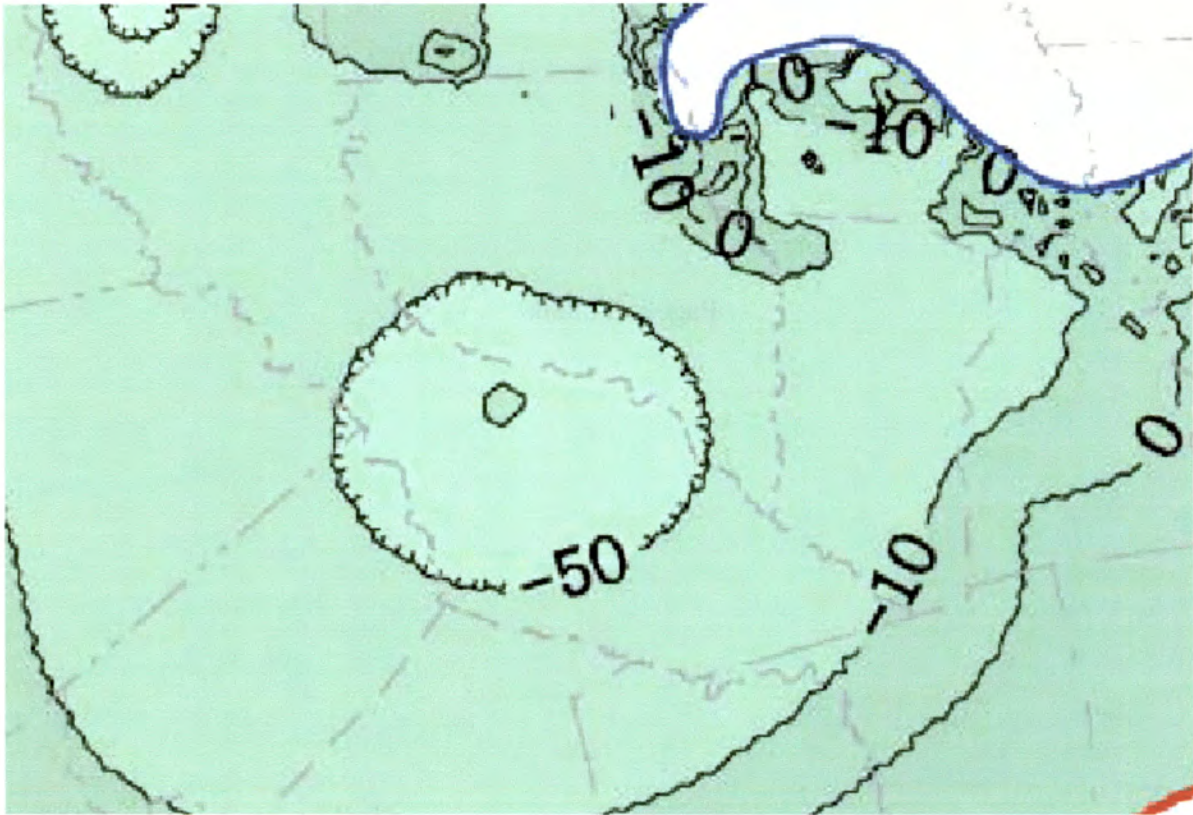


Figure 2. Model calculated water-level changes in the Upper-Wilcox aquifer between 2000 and 2050. Positive numbers refer to decline in feet, negative numbers refer to increase in feet. (Fryar and others, 2003; Figure 10.2.6)



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Table 1. Nacogdoches and Angelina counties flow budgets for the Northern Carrizo-Wilcox aquifer model in 1999, in acre-feet per year.

Nacogdoches and Angelina counties flow budget for the Northern Carrizo-Wilcox aquifer model, in acre-feet per year.																	
County	Lyr	Storage	X-flow		upper Z flow		lower Z flow		Wells	Recharge	ET	GHB	Stream	Reserv. Leakage	Total		% cliff
			in	out	Z flow in	Z flow out	Z flow in	Z flow out							In	Out	
<b>2003</b>																	
Nacogdoches	1	-5,088	640	-256	0	0	39	-7,955	-32	24,732	-16,805	6,012	-374	-914	31,424	-31,424	0
	2	-17,057	505	-769	7,955	-39	437	-9,678	-106	29,259	-7,407	0	-3,102	0	38,155	-38,157	0
	3	414	1,954	-5,297	9,678	-437	365	-5,530	-5,657	18,040	-10,981	0	-2,539	0	30,440	-30,440	0
	4	-10,343	7,808	-5,639	5,530	-355	1,062	-1,142	-4,254	13,137	-4,135	0	-1,670	0	27,537	-27,538	0
	5	-4,770	5,509	-2,033	1,142	-1,062	477	-137	-368	1,112	0	0	130	0	8,370	-8,370	0
	6	-339	1,062	-388	137	-477	0	0	-1	0	0	0	0	0	1,200	-1,200	0
	All	-37,183	17,479	-14,377	24,442	-2,370	2,370	-24,442	-10,418	86,279	-39,327	6,012	-7,555	-914	137,126	-137,129	0
Angelina	1	-14	563	-519	0	0	7	-1,773	0	0	0	1,736	0	0	2,305	-2,305	0
	2	-959	672	-72	1,773	-7	0	-1,407	0	0	0	0	0	0	2,445	-2,445	0
	3	-1,299	6,483	-542	1,407	0	524	-108	-6,475	0	0	0	0	0	8,414	-8,414	0
	4	-3,625	8,511	-1,300	108	-524	1,720	0	-4,889	0	0	0	0	0	10,339	-10,339	0
	5	-2,641	3,924	-407	0	-1,720	844	0	0	0	0	0	0	0	4,768	-4,768	0
	6	138	771	-65	0	-844	0	0	0	0	0	0	0	0	909	-909	0
	All	-8,390	20,923	-2,905	3,288	-3,094	3,094	-3,288	-11,364	0	0	1,736	0	0	29,179	-29,179	0
<b>2002</b>																	
Nacogdoches	1	-5,029	641	-256	0	0	38	-8,135	-32	24,646	-16,738	6,182	-404	-913	31,507	-31,507	0
	2	-17,038	519	-770	8,135	-38	413	-9,818	-105	29,230	-7,379	0	-3,128	0	38,296	-38,298	0
	3	331	2,011	-5,433	9,818	-413	434	-5,457	-5,716	18,155	-11,165	0	-2,567	0	30,750	-30,751	0
	4	-10,330	7,874	-5,649	5,457	-434	1,088	-1,145	-4,247	13,137	-4,072	0	-1,678	0	27,555	-27,556	0
	5	-4,809	5,544	-2,032	1,145	-1,088	498	-132	-368	1,112	0	0	130	0	8,429	-8,429	0
	6	-319	1,062	-377	132	-498	0	0	-1	0	0	0	0	0	1,195	-1,195	0
	All	-37,214	17,651	-14,517	24,688	-2,471	2,471	-24,688	-10,469	86,279	-39,355	6,182	-7,647	-913	137,732	-137,735	0
Angelina	1	-14	563	-520	0	0	6	-1,814	0	0	0	1,779	0	0	2,348	-2,348	0
	2	-932	678	-83	1,814	-6	0	-1,470	0	0	0	0	0	0	2,492	-2,492	0
	3	-1,757	6,748	-560	1,470	0	737	-83	-6,554	0	0	0	0	0	8,955	-8,955	0
	4	-3,343	8,578	-1,338	83	-737	1,738	0	-4,982	0	0	0	0	0	10,400	-10,400	0
	5	-2,692	3,980	-418	0	-1,738	868	0	0	0	0	0	0	0	4,848	-4,848	0
	6	170	764	-66	0	-868	0	0	0	0	0	0	0	0	934	-934	0
	All	-8,568	21,311	-2,985	3,367	-3,349	3,349	-3,367	-11,537	0	0	1,779	0	0	29,976	-29,976	0

Nacogdoches and Angelina counties flow budget for the Northern Carrizo-Wilcox aquifer model, in acre-feet per year.

County	Lyr	Storage		X-flow		upper Z flow		lower Z flow		Wells	Recharge	ET	GHB	Stream	Reserv. Leakage	Total		% diff
		in	out	in	out	in	out	in	out							In	Out	
<b>1999</b>																		
Nacogdoches	1	28,971	649	-255	0	41	-8,697	-38	4,639	-29,230	6,696	-530	-2,246	40,996	-40,996	0		
	2	15,349	566	-762	-41	370	-12,003	-124	4,041	-11,279	0	-4,817	0	29,023	-29,023	0		
	3	25,060	2,417	-7,985	-370	1,873	-5,300	-9,134	3,658	-19,436	0	-2,788	0	45,011	-45,011	0		
	4	2,298	8,397	-5,555	-1,873	1,139	-1,166	-4,079	3,261	-5,601	0	-2,122	0	20,395	-20,395	0		
	5	-4,251	5,700	-2,034	-1,139	569	-116	-350	351	0	0	104	0	7,890	-7,890	0		
	6	-245	1,059	-359	-569	0	0	-1	0	0	0	0	0	1,174	-1,174	0		
All	All	67,182	18,787	-16,950	-3,992	3,992	-27,281	-13,725	15,950	-65,547	6,696	-10,153	-2,246	144,490	-144,495	0		
Angelina	1	-8	562	-523	0	6	-1,919	0	0	0	1,882	0	0	2,450	-2,450	0		
	2	-519	666	-120	-6	0	-1,938	-1	0	0	0	0	0	2,584	-2,584	0		
	3	293	10,251	-1,007	1,938	0	2,469	-45	-13,898	0	0	0	0	14,950	-14,950	0		
	4	-3,071	8,610	-1,785	-45	-2,469	1,761	-3,092	0	0	0	0	0	10,416	-10,416	0		
	5	-2,898	4,166	-456	-1,761	948	0	0	0	0	0	0	0	5,115	-5,115	0		
	6	279	739	-69	-948	0	0	0	0	0	0	0	0	1,017	-1,017	0		
All	All	-5,924	24,993	-3,961	-3,902	-5,184	5,184	-3,902	-16,990	0	1,882	0	0	36,532	-36,532	0		
<b>1989</b>																		
Nacogdoches	1	5,399	653	-260	0	44	-9,194	-27	10,831	-13,339	7,260	-532	-837	24,187	-24,188	0		
	2	5,553	621	-878	-44	352	-12,543	-99	11,407	-6,935	0	-6,630	0	27,127	-27,129	0		
	3	12,128	2,909	-8,528	-352	2,006	-5,325	-11,547	11,489	-12,417	0	-2,908	0	41,076	-41,078	0		
	4	-3,561	9,617	-6,403	-2,006	1,269	-1,191	-6,758	8,639	-2,607	0	-2,325	0	24,850	-24,851	0		
	5	-5,395	6,242	-2,111	-1,191	-1,269	960	-52	-368	718	0	84	0	9,195	-9,195	0		
	6	225	980	-297	-960	0	0	0	0	0	0	0	0	1,257	-1,257	0		
All	All	14,350	21,021	-18,476	-4,632	4,632	-28,305	-18,799	43,055	-35,298	7,260	-12,311	-837	127,692	-127,697	0		
Angelina	1	-11	565	-528	0	3	-2,203	0	0	0	2,173	0	0	2,741	-2,741	0		
	2	-722	749	-148	-3	0	-2,078	-1	0	0	0	0	0	2,952	-2,952	0		
	3	1,397	10,858	-1,216	2,078	0	2,442	-21	-15,539	0	0	0	0	16,776	-16,776	0		
	4	-1,289	9,896	-2,865	21	-2,442	1,900	-5,221	0	0	0	0	0	11,817	-11,817	0		
	5	-3,756	4,978	-635	-1,900	1,313	0	0	0	0	0	0	0	6,291	-6,291	0		
	6	801	584	-72	-1,313	0	0	0	0	0	0	0	0	1,385	-1,385	0		
All	All	-3,579	27,631	-5,464	-4,302	-5,659	5,659	-4,302	-20,761	0	2,173	0	0	41,962	-41,962	0		
<b>Steady-State</b>																		
Nacogdoches	1	0	494	-1,083	0	0	1,352	-2,059	0	12,528	-7,831	-1,860	-1,541	14,374	-14,375	0		
	2	0	318	-454	2,059	-1,352	1,490	-2,552	0	2,975	-714	0	-1,768	6,842	-6,840	0		

Nacogdoches and Angelina counties flow budget for the Northern Carrizo-Wilcox aquifer model, in acre-feet per year.																	
County	Lyr	Storage	X-flow in	X-flow out	upper		lower		Wells	Recharge	ET	GHB	Stream	Reserv. Leakage	Total		% diff
					Z flow in	Z flow out	Z flow in	Z flow out							In	Out	
	3		1,058	-1,781	2,552	-1,490	479	-2,247	0	6,424	-3,043	0	-1,949	0	10,514	-10,512	0
	4		3,224	-2,342	2,247	-479	208	-737	0	3,091	-1,279	0	-3,934	0	8,770	-8,772	0
	5		1,228	-2,054	737	-208	25	-61	0	491	0	0	-151	0	2,482	-2,484	0
	6		455	-491	61	-25	0	0	0	0	0	0	0	0	516	-516	0
	All		6,777	-8,215	7,657	-3,555	3,555	-7,657	0	25,509	-12,867	-1,860	-9,344	0	43,498	-43,498	0
Angelina	1		555	-500	0	0	878	1	0	0	0	-932	0	0	1,433	-1,432	0
	2		228	-58	1	-878	707	0	0	0	0	0	0	0	935	-935	0
	3		642	-358	0	-707	432	0	0	0	0	0	0	0	1,074	-1,075	0
	4		881	-585	0	-432	135	0	0	0	0	0	0	0	1,016	-1,017	0
	5		980	-907	0	-135	61	0	0	0	0	0	0	0	1,042	-1,041	0
	6		425	-363	0	-61	0	0	0	0	0	0	0	0	425	-425	0
	All		3,712	-2,781	1	-2,212	2,212	1	0	0	0	-932	0	0	5,925	-5,925	0

Notes:

1. Layer 1: Queen City aquifer
2. Layer 2: Reklaw unit
3. Layer 3: Carrizo aquifer
4. Layer 4: Upper Wilcox aquifer (Calvert Bluff)
5. Layer 5: Middle Wilcox aquifer (Simsboro)
6. Layer 6: Lower Wilcox aquifer (Hooper)
7. All: sum of layers 1, 2, 3, 4, 5, and 6
8. **GHB** refers to flow into or out of the top of the Queen City.
9. **ET** refers to groundwater extraction due to evapotranspiration.
10. **Reserv. Leakage** Refers to leakage from reservoirs (or lakes) into groundwater or from groundwater into reservoirs
11. **X-flow in** refers to lateral flow into the county.
12. **X-flow out** refers to lateral flow out of the county.
13. **upper - Z-flow in** refers to flow into the layer from the layer above.
14. **upper - Z-flow out** refers to flow out of the layer into the layer above.
15. **lower - Z-flow in** refers to flow into the layer from the layer below.
16. **lower - Z-flow out** refers to flow out of the layer into the layer below.
17. **Wells** is for pumping input.
18. A negative sign refers to flow out of the layer in the county.
19. A positive sign refers to flow into the layer in the county.
20. The numbers are rounded to the nearest 1 acre-ft.



# Pineywoods Groundwater Conservation District

Serving Angelina and Nacogdoches Counties

[www.pgcd.org](http://www.pgcd.org)

December 19, 2003  
**CERTIFIED MAIL**

13  
(a)

Region I, RWPG  
c/o Gary Graham  
8865 College Street  
Beaumont, Texas 77707

Dear Mr. Graham,

Enclosed is a copy of the proposed Pineywoods Groundwater Conservation District Management Plan as required by Chapter 36, Texas Water Code.


Included in the requirements of §36.1071 (a) (4), we are required to develop this plan in coordination with surface water management entities on a regional basis. I have addressed the issue of conjunctive use of surface water and groundwater within the Management Plan.

I ask that you review the plan and if you want to, provide copies to your Board or Commissioners. After your review, let me know if you have any comments in regard to the Plan. Texas Water Code chapter 36 does not require any formal documentation from the surface water entities; however, I would appreciate a written response from you and/or Board or Commissioners if possible.

On December 18, 2003 the District Board adopted a Management Plan. This Plan contains changes and additions to the previous plan sent out in September.

Please feel free to contact me if you have any questions or comments in regard to the Management Plan.

Sincerely,

  
David Alford  
General Manager

Enclosure: Adopted PGCD Management Plan

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Gary Graham, Region I  
8865 College St.  
Beaumont, Tx

77707

2. Article Number

(Transfer from service label)

7002 2410 0006 8297 5089

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X *Stacy Hilborn*  Agent  Addressee

B. Received by (Printed Name)

C. Date of Delivery

*12-23-03*

D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

3. Service Type

- Certified Mail  Express Mail
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- Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)

Yes

13  
(a)