

**FAYETTE COUNTY  
GROUNDWATER CONSERVATION  
DISTRICT**

**MANAGEMENT  
PLAN**

**Adopted: October 20, 2003**

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# INTRODUCTION

## **District Mission**

The purpose of the Fayette County Groundwater Conservation District (the District), as required in the Texas Water Code, Chapter 36, is to provide for conserving, preserving, protecting, and recharging the underground water and prevention of waste of the District's groundwater.

The District will develop, promote, and implement management strategies to provide for the conservation, preservation, protection, recharging, and prevention of waste of the groundwater resources, over which it has jurisdictional authority, for the benefit of the people that the District serves.

## **Guiding Principals**

The District was formed, and has been operated from its inception, with the guiding belief that the ownership and pumpage of groundwater is a private property right. It is understood that, through the confirmation election of the District, the landowners relinquished some of their control over that right for the collective benefit of the community which the District serves.

The District has adopted the principle of "education first" and regulation as a last resort in their effort to encourage conservation of the resource. As a result, the rules of the District are designed to give all landowners a fair and equal opportunity to use the groundwater resource underlying their property for beneficial purposes. If, at the request of the constituents of the District, more stringent management strategies are needed to better manage the resource, these strategies will be put in place after an extensive educational process and with the perceived majority approval of the constituents. The District will continue to monitor groundwater quality and quantity in order to better understand the dynamics of the aquifer systems over which it has jurisdiction.

This management document is intended to be used as a tool to provide continuity in the management of the District. It will be used by the District staff as a guide to insure that all aspects of the goals of the District are carried out. It will be referred to by the Board for future planning, as well as a document to measure the performance of the staff on an annual basis.

Conditions can change over time which may cause the Board to modify this document. The dynamic nature of this plan shall be maintained such that the District will continue to best serve the needs of the constituents. At the very least, the Board will review and readopt this plan every five years.

The goals, management objectives, and performance standards put forth in this planning document have been set at a reasonable level considering existing and future fiscal and technical resources. Conditions may change which could cause change in the management objectives defined to reach the stated goals. Whatever the future holds, the following guidelines will be used to insure that the management objectives are set at a sufficient level to be realistic and effective:

- The District's constituency will determine if the District's goals are set at a level that is both meaningful and attainable; through their voting right, the public will appraise the District's overall performance in the process of electing or re-electing Board members.
- The duly elected Board will guide and direct the District staff and will gauge the achievement of the

goals set forth in this document.

- The interests and needs of the District's constituency shall control the direction of the management of the District.
- The Board will endeavor to maintain local control of the privately owned resource over which the District has jurisdictional authority.
- The Board will evaluate District activities on a fiscal year basis. That is, the District budgets operations on a January 1 – December 31 fiscal year. When considering stated goals, management objectives, and performance standards, any reference to the terms annual, annually, or yearly will refer to the fiscal year of the District.

## **History**

The Fayette County Groundwater Conservation District, formerly called the Colorado Valley Groundwater Conservation District, was created effective September 1, 2001 by the 77<sup>th</sup> Legislature in House Bill No. 1081 and was later confirmed by the voters of Fayette County in November of 2001, in accordance with the Underground Water Conservation Districts Act passed by the Texas Legislature in 1949 (currently codified as Chapters 35 and 36 of the Water Code, Vernon's Texas Codes Annotated).

## **Board of Directors**

The Board of Directors is elected by the people within their Directors precincts, under the general Election laws of Texas.

**Table 1: Board of Directors of the Fayette County Groundwater Conservation District**

<b>Office</b>	<b>Name</b>	<b>Precinct</b>	<b>Term Ends</b>
President	William P. Kohlleppel, Jr.	4	December 2006
Vice-President	Rodney H. Willis	2	December 2006
Secretary/Treasurer	Martin Manuel, Jr.	1	December 2004
Director	R. Clay Rightmer	3	December 2004
Director	Carl L. Wendler	At Large	December 2006

## **Location and Extent**

The boundaries of the District are the same as, congruent with and coextensive with the boundaries of Fayette County, Texas, as stated in Section 3 of House Bill 1081, enacted by the Legislature of the State of Texas, meeting in Regular Session in 2001 as the 77<sup>th</sup> Legislature, and passed by the Texas House of Representatives on March 29, 2001 and by the Texas Senate on May 10, 2001, and signed by the Governor of the State of Texas on May 23, 2001.

Fayette County, 936 square miles in area, is in the Gulf Coastal Plain in east-central Texas. Bordering counties are: Bastrop on the northwest; Lee, Washington, and Austin on the north and northeast; Colorado on the

east-southeast; and Lavaca and Gonzales on the south and southwest. La Grange, the county seat, is near the center of the county on U.S. Highway 77 and State Highway 71, about 60 miles southeast of Austin and 100 miles west of Houston.

## **Planning Period**

This plan becomes effective upon certification by the Texas Water Development Board and remains in effect until a revised plan is certified or ten (10) years from the date of certification as administratively complete, whichever is later. The plan may be revised at anytime, or after five years when the plan will be reviewed to insure that it is consistent with the applicable Regional Water Plans and the State Water Plan.

As outlined in Chapter 36.1071, Texas Water Code, the Management Plan is required, as applicable, to address the following management goals:

- Providing the most efficient use of groundwater
- Controlling and preventing waste of groundwater
- Controlling and preventing subsidence
- Addressing conjunctive surface water management issues
- Addressing natural resource issues
- Addressing drought conditions, and
- Addressing conservation.

The following goals referenced in Chapter 36, Texas Water Code, have been determined not applicable to the District;

- § 36.1071(a)(3) Controlling and preventing subsidence
- § 36.1071(a)(4) Addressing conjunctive surface water management issues
- § 36.1071(a)(5) Addressing natural resource issues

# GENERAL GEOLOGY AND HYDROLOGY

## Topography

Topography in Fayette County consists of rolling to hilly uplands, and flat flood plains along the major streams. Flood-plain terraces, river flats, and marshes typify the valley bottoms. Elevation ranges from about 200 feet above sea level where the Colorado River crosses the Fayette-Colorado County line to over 550 feet in the southwest and northeast parts of the county. Most of the county is drained by the Colorado River and its tributaries. Major tributaries of the Colorado River draining Fayette County include Rabbs, Buckners, and Cummins Creeks. The southern part of the county is drained by the east and west branches of the Navidad River and their tributaries, and the westernmost corner of the county is drained by Peach Creek, a tributary of the Guadalupe River.

## Groundwater Resources

Aquifers of Fayette County have been divided by the Texas Water Development Board (TWDB) into two types, namely, major and minor aquifers. The TWDB has classified two major aquifers in Fayette County: the Carrizo-Wilcox and Gulf Coast. Queen City and Sparta Sands are classified as minor aquifers. In addition to these aquifers, the alluvium of the Colorado River, as well as other geologic formations, are being tapped by wells within the County for domestic uses.

Most of the formations in Fayette County will yield some water, but only the sands of the Sparta Sand, Yegua Formation, Jackson Group, Catahoula Tuff, and Oakville Sandstone yield fresh to slightly saline water (having less than 3,000 parts per million dissolved solids) in significant quantities. The Carrizo Sand, sands of the Wilcox Group, the Queen City Sand, and the Quaternary alluvium are also capable of yielding water in the county; however, these contain usable quality water over limited areas of the county or occur at relatively great depths in comparison to other fresh water-bearing formations and consequently are not developed in Fayette County. Neither the Queen City Sand nor the Wilcox Group is known to yield water to wells in Fayette County. The Weches Greensand and Cook Mountain Formation generally do not yield usable quality water in sufficient quantities to constitute a supply.

### ***Major Aquifers***

#### **Carrizo-Wilcox**

The Wilcox Group and the overlying Carrizo Formation of the Claiborne Group form a hydrologically connected system known as the Carrizo-Wilcox Aquifer. The Carrizo-Wilcox crops out in a north-westerly line roughly

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parallel through Lee, Bastrop and Caldwell Counties and about six to eight miles in width. This aquifer downdips in Fayette County and is the deepest aquifer in the County which yields fresh to slightly saline water. The top of the Carrizo Sand's altitude ranges from 500 feet below mean sea level in the southwestern part of the County to 5,000 feet below mean sea level in the northeastern part of the County. The Wilcox Group consists of various sediment material such as clay, silt, fine- to medium-grained sand and sandstone, shale, and some seams of lignite.

Total groundwater pumpage from the Carrizo-Wilcox in 1994 was 488,802 acre-feet. Municipal pumpage accounted for 31% of the total and irrigation accounted for 51%.

There is one well in Fayette County known to be tapping this aquifer. This well, located about two miles east of the town of Muldoon, is an abandoned oil and gas test well. It is reported to have a total dissolved solids (TDS) concentration of 1,091 mg/l which exceeds the 1,000 mg/l recommendation for municipal and domestic use. The fresh to slightly saline water of this aquifer extends under the uppermost one-third of Fayette County. This aquifer is undeveloped in Fayette County because of the high costs of producing water from the formation.

## **Gulf Coast**

The Gulf Coast aquifer consists of several geologic formations within Fayette County, including the Oakville Sandstone, Lagarto Clay, and Catahoula. The Gulf Coast aquifer extends inland approximately 100 to 150 miles from the Gulf of Mexico in line approximately parallel to the Texas Gulf Coast. Total pumpage was approximately 1.1 million acre-feet in 1994. Municipal pumpage accounted for 51% of the total, irrigation accounted for 36%, and industrial accounted for 12%.

The aquifer consists of complex interbedded clays, silts, sands, and gravels, which are hydrologically connected to form a large, leaky artesian aquifer system. This system is comprised of two major components in Fayette County, consisting of the following generally recognized water producing formations. The deepest is the Catahoula, which contains groundwater near the outcrop in relatively restricted sand layers. Above the Catahoula is the Jasper Aquifer, primarily contained within the Oakville Sandstone.

Water quality is generally good in the shallower portion of the aquifer. In several areas at or near the coast, including Galveston Island and the central and southern parts of Orange County, heavy municipal or industrial pumpage has caused an updip migration, or saltwater intrusion, of poor quality water into the aquifer. Recent reductions in pumpage in those areas have resulted in a stabilization and, in some cases, even improvement of groundwater quality.

Years of heavy pumpage for municipal and manufacturing use in portions of the aquifer have resulted in areas of significant water-level decline. Some of these declines have resulted in compaction of dewatered clays and significant land-surface subsidence.

## ***Minor Aquifers and Formations***

### **Oakville Sandstone and Lagarto Clay Formations**

These formations are part of the Gulf Coast aquifer and are composed of two separate units within Fayette County. The Oakville Sandstone overlays the Lagarto Clay and is considered as one unit in Fayette County due

to the difficulty in distinguishing each unit uniquely. The outcrop of the two units are east of a northeasterly line from Flatonia to Carmine. The outcrop area for the two units is approximately 13 miles in width in Fayette County. The combined unit consists of sand, gravel, clay and shale. The rate of dip within the County is not known at the present time. This aquifer is currently providing water supply for the cities of Ellinger, Fayetteville, and Flatonia. Some rural domestic users are also tapping this formation.

Water quality from these two formations is generally acceptable although hardness is somewhat of a problem. Six wells were sampled from this unit and had an average TDS concentration of 800 mg/l although 14 percent of all samples had TDS concentrations in excess of this average. Chloride concentrations averaged 118 mg/l with 14 percent of the samples having concentrations greater than the average. Sulfate concentrations averaged 49 mg/l for all samples although 29 percent of the samples had sulfate concentrations greater than the average. Iron was not detected in any water quality sample. Calcium carbonate (CaCO<sub>3</sub>) averaged 445 mg/l for all samples but 14 percent had concentrations in excess of this average.

## **Catahoula Tuff Formation**

The Catahoula Tuff Formation is part of the Gulf Coast aquifer and crops out in Fayette and Lee Counties varying in width from one to six miles in Fayette County. The formation follows a northeasterly line from Flatonia to La Grange. The formation consists of clay, sand, silt, and tuffaceous sand. The rate of dip which the aquifer has within the County is unknown as is the downdip limit of fresh to slightly saline water. The Catahoula Tuff formation is supplying water to the cities of Carmine, La Grange, Flatonia, and Schulenburg and the rural population between these cities.

Water quality of the water in this formation is generally acceptable for municipal and domestic purposes although hardness is somewhat of a problem. Water quality samples obtained from 50 wells reported an average TDS concentration of 680 mg/l with 28 percent of the samples having concentrations in excess of the average. Chloride was detected in all samples and averaged 145 mg/l although 28 percent of these samples had a concentration greater than this average. Sulfate concentrations averaged 44 mg/l for all samples with 29 percent of all samples having sulfate concentrations in excess of the average. Iron was detected in 12 samples with an average concentration of .12 mg/l. Approximately one third of all samples containing iron had concentrations which exceeded .12 mg/l. Hardness was observed to average approximately 298 mg/l for all samples although 38 percent of all samples had levels which exceeded this average.

## **Queen City Sand**

The Queen City Sand crops out in Bastrop and Lee Counties in a narrow band approximately three to five miles in width and roughly parallel to the Bastrop-Fayette County line. In Fayette County, this formation downdips at a rate of approximately 150 feet per mile from east to west. The formation's altitude ranges from 10 feet above mean sea level near the intersection of Buckner's Creek and State Highway 95 to approximately 4,000 feet below mean sea level near Fayetteville.

Water quality from this formation is adequate for municipal and domestic purposes though TDS values approach the recommended secondary limit. Fresh to slightly saline water is available west of a line from Flatonia to Ledbetter. Presently only one well near the town of West Point taps this aquifer. The reported TDS, chloride, sulfate and iron levels for this well are 952 mg/l, 186 mg/l, 255 mg/l, and 0.16 mg/l respectively. Water hardness for this well was reported at 6 mg/l.

## **Sparta Sand**

The Sparta Sand Formation crops out in Bastrop and Lee counties in a very narrow band approximately one to two miles wide and along a line approximately parallel to the Bastrop-Fayette County line. The formation downdips approximately 175 feet per mile from the southwestern part of the County to the northeastern part of the County. The Sparta Sand's altitude ranges from 272 feet above mean sea level near the Bastrop County State Highway 95 intersection to 3,500 below mean sea level near Fayetteville.

Water quality from this formation is acceptable for municipal and domestic purposes although hardness and TDS concentrations approach Texas Department of Health's (TDH) recommended limits in some locations. Fresh to slightly saline water is available west of a line from slightly west of Carmine to Flatonia. A total of 21 wells which tap this aquifer were sampled resulting in an average TDS concentration of 923 mg/l. Approximately 30 percent of the samples had TDS concentrations which exceeded the average TDS concentration. Sampled chloride concentrations from these 21 wells averaged 259 mg/l with approximately 30 percent of the samples exceeding the average chloride concentration. Sulfate concentrations averaged 235 mg/l with approximately 30 percent of the samples having concentrations which exceeded the average. Iron was present in only two of the samples and averaged 5 mg/l in concentration. Hardness for the Sparta Sand averaged 358 mg/l although 26 percent of all samples had concentrations greater than average.

## **Yegua Formation**

The Yegua Formation crops out in Fayette and Lee County in a band approximately four to eight miles wide and along the Bastrop-Fayette County line. The Yegua Formation is composed of alternating layers of clay and silt with some thin seams of lignite. The formation downdips at a rate of 150 feet per mile. The formation reaches its deepest depth of 2,800 feet below mean sea level along the Fayette-Lavaca County line. Presently, the Yegua Formation is being utilized by rural landowners for domestic and livestock water supply.

The water quality of water from this formation is acceptable for municipal and domestic purposes although TDS and sulfate constituents exceeded the recommended maximum limits, and chloride and hardness constituents approached the maximum limits. A sampling of 46 wells which tap this aquifer produced an average TDS concentration of 1,197 mg/l which exceeds the TDH's recommended TDS limit of 1,000 mg/l. Of these 46 samples, approximately 25 percent had TDS concentration which exceeded the average. Chloride concentration for these sampled wells averaged 283 mg/l with approximately 20 percent of the samples exceeding the average. Sulfate concentration averaged 334 mg/l with approximately 35 percent of all samples having concentrations greater than the average. Iron was detected in only two of the water quality samples and averaged 2 mg/l in concentration. Hardness averaged 414 mg/l but approximately 24 percent had greater concentrations than average.

## **Jackson Group**

The Jackson Group Formation crops out in Fayette and Lee Counties in a band approximately three to eight miles in width and along a northeasterly line from Flatonia to La Grange. The formation is composed of clay and silt with some minor deposits of sandstone. The formation dips within the County at a rate of approximately 150 feet per mile. The formation reaches an estimated 2,200 feet below mean sea level near Fayetteville. Current use of the Jackson Group is by the cities of Ledbetter, Flatonia, and Schulenburg as well as rural property owners.

Water quality from this formation is marginal for municipal and domestic purposes due to constituent levels exceeding recommended maximum limits for TDS, chloride, sulfate, and calcium carbonate in many locations throughout the County. Samples from 31 wells which tap this aquifer had an average TDS concentration of 1,557 mg/l with approximately 40 percent of all samples having TDS concentrations greater than the average. These samples contained chloride concentrations which averaged 404 mg/l with approximately 40 percent of all samples having chloride concentrations in excess of the average. Sulfate concentrations averaged 450 mg/l for all samples but approximately 40 percent of all samples had sulfate concentrations that exceeded the average. The presence of iron was not detected in any water quality sample. Hardness was detected in all samples and averaged 587 mg/l although 40 percent had concentration levels in excess of the average.

## **Yegua-Jackson Aquifer**

According to the 2002 State Water Plan, *Water for Texas*, on the basis of recent hydrogeologic studies and reviews of groundwater production data, the Texas Water Development Board is designating the Yegua Formation and the Jackson Group as a minor aquifer, *the Yegua-Jackson aquifer*. The primary rationale for this designation is that water use from the Yegua-Jackson aquifer ranks in the upper half of annual water use for the minor aquifers, with more than 11,000 acre-feet of water produced in 1997. In addition, a review of the TWDB Groundwater Well Database indicates that there are currently more than 1,450 wells producing from the 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.

## **Jasper Aquifer**

The Jasper Aquifer is a hydrologic groundwater formation consisting of parts of the Oakville Sandstone and, in some localized areas, parts of the Catahoula Tuff. Therefore, it is not indicated on most maps as a separate geologic formation. Hydrologically, it is part of the Gulf Coast aquifer. The aquifer crops out in the southern part of Fayette County near the Lavaca County line. The formation overlays the Catahoula Tuff and underlies the Burkville Unit in Fayette County. The aquifer contains local pockets of sand, shale, and clay. The aquifer's rate of dip in Fayette County is not known at the present time. Currently, rural domestic users are tapping this formation for water supply.

Water quality of the Jasper Aquifer is adequate for municipal and domestic uses although hardness is somewhat elevated. A total of 79 wells were sampled which tap this aquifer and had an average TDS concentration of 601 mg/l. Approximately 43 percent of the samples had a TDS concentration in excess of the average. Chloride concentrations for all samples averaged 109 mg/l although 38 percent of the samples had concentrations greater than the average.

Sulfate concentration averaged 34 mg/l for all samples but approximately 40 percent of the samples contained concentrations greater than the average. Iron was present in only one sample from this aquifer and had a concentration of 0.6 mg/l. Hardness averaged 245 mg/l for all samples although 52 percent had

concentrations greater than average.

## **Alluvium**

The alluvium (clay, silt, gravel, etc. deposited by running water) generally follows the flood plain of the Colorado River. The band's width varies from approximately one to eight miles. The alluvium's thickness is not known although some observations have estimated it does not exceed 60 feet. Wells in the alluvium are generally shallow and provide water in small quantities for rural domestic and livestock purposes within Fayette County.

Water quality from alluvial deposits is generally adequate for most uses in Fayette County although quantity is limited. These shallow wells use the alluvial deposits as a sand filter to provide some measure of water treatment. A total of 22 shallow alluvial wells were sampled with a resulting average TDS concentration of 605 mg/l. Approximately 42 percent of all samples contained TDS concentrations which exceeded the average concentration. Chloride concentrations averaged 93 mg/l although one third of all samples had concentrations greater than the average. Sulfate concentration averaged 58 mg/l although one third of all samples had sulfate concentrations greater than the average. Iron was not detected in any sample. Hardness averaged 345 mg/l for all samples with 37.5 percent of all samples having concentrations greater than this average.

## ***Physical Characteristics & Water-Bearing Properties of Geologic Units***

### **Midway Group**

Rocks of the Midway Group crop out in a northeast-trending belt, 2 to 3 miles wide, along the Bastrop-Travis County line and dip southeast toward the Gulf Coast. They underlie Fayette County at depths ranging from about 3,800 feet (well 67-14-901) to over 9,100 feet (well 66-18-402).

The Midway consists principally of shale, clay, and a few thin sand lenses. The thickness of the Midway Group in Fayette County is about 900 to 950 feet.

No water wells and only a few oil tests penetrate the Midway in Fayette County. The Midway generally does not yield usable quality water in significant quantities, even in its outcrop area, and is well below the base of fresh to slightly saline water in Fayette County.

### **Wilcox Group**

Rocks of the Wilcox Group crop out in a northeast-trending belt, 9 to 15 miles wide, across northwestern Bastrop and adjoining counties (Figure 4 in Appendix A). The Wilcox unconformably overlies the rocks of the Midway Group and unconformably underlies the Carrizo Sand of the Claiborne Group. The Wilcox is stratigraphically below all other aquifers in Fayette County and is the deepest rock unit containing fresh to slightly saline water.

The Wilcox consists of horizontally discontinuous beds of clay, silt, fine- to medium-grained sand and sandstone, sandy shale, and thin beds of lignite. The thickness of the Wilcox Group in Fayette County ranges from 2,400 to 3,800 feet. The depth to the top of the Wilcox Group in Fayette County ranges from 1,400 to about 6,000 feet.

Although the Wilcox Group occurs in the subsurface at varying depths throughout Fayette County, only that portion underlying the western and north western part of the county is believed to contain water of usable quality. The sands of the Wilcox Group contain fresh to slightly saline water at depths ranging from about 2,400 to over 3,800 feet in the county. The deepest fresh to slightly saline water in the Wilcox is east of Winchester and near the Lee County line. No water wells are known to penetrate the Wilcox Group in Fayette County, and the portion of the aquifer believed to contain fresh to slightly saline water is defined by interpretation of electric logs of oil tests penetrating the Wilcox.

## **Claiborne Group**

### **Carrizo Sand**

The Carrizo Sand crops out in a northeast band parallel to the Bastrop-Fayette County line about 4 to 5 miles wide through Bastrop and Lee Counties (Figure 4 in Appendix A).

The Carrizo Sand lies unconformably on the Wilcox Group and underlies the Reklaw Formation. In the outcrop, the Carrizo is a white to gray, fine- to coarse-grained, massive sand containing abundant cross-beds and very thin laminae of carbonaceous material. Its thickness ranges from 200 to 300 feet. The top of the formation is about 500 feet below sea level in the northwest part of the county and about 5,500 feet below sea level in the southeast part of the county; the dip of the beds is variable, ranging from about 160 to over 250 feet per mile to the southeast.

Although the Carrizo is capable of yielding moderate to large quantities of water to wells, and is extensively developed in many areas of the State, only one well (67-16-404), yielding slightly saline water, is known to produce from the Carrizo in Fayette County.

### **Reklaw Formation**

The Reklaw Formation conformably overlies the Carrizo Sand and crops out in a narrow belt, 1 to 1 1/2 miles wide, across Bastrop, Lee, Gonzales, and adjoining counties (Figure 4 in Appendix A). The formation dips southeast and occurs in the subsurface throughout Fayette County.

The Reklaw consists of glauconitic sandstone interbedded with shale in the lower part of the formation and mainly clay and shale in the upper part. The thickness of the Reklaw ranges from about 225 to 400 feet in Fayette County.

In places in Fayette County the lower sands are very well developed and apparently are in hydrologic connection with the underlying Carrizo Sand. Although no wells are known to obtain water from the Reklaw in Fayette County, the lower sands probably contain fresh to slightly saline water in the northwestern part of the county.

## **Queen City Sand**

The Queen City Sand conformably overlies the Reklaw Formation and is overlain conformably by the Weches Greensand. The Queen City crops out in Bastrop and Lee Counties and dips southeast toward the Gulf Coast at about 150 feet per mile.

The Queen City ranges from about 480 to 750 feet in thickness in Fayette County. Electric logs of oil tests penetrating the formation in Fayette County indicate that the formation consists of two or three 60-foot thick sands, usually near the top of the formation, separated by relatively thick sequences of thin sands interbedded with clay and sandy clay.

No water wells are known to be completed in the Queen City in Fayette County. However, the formation yields small to moderate quantities of water to wells in adjoining counties and provides a supply for the cities of Smithville and Giddings in adjoining Bastrop and Lee Counties, respectively. Small to moderate supplies of water could probably be developed in the northwestern part of Fayette County, but the water is very likely to be more mineralized than that from shallower formations such as the Sparta Sand and Yegua Formation.

## **Weches Greensand**

The Weches Greensand conformably overlies the Queen City Sand and crops out in a northeast-trending belt about 1 mile wide in southeastern Bastrop County.

The Weches consists of about 75 to 150 feet of glauconitic shale with a few interbedded glauconitic sand and marl stringers. The Weches is relatively impermeable and is not known to yield water to wells in Fayette County.

## **Sparta Sand**

The Sparta Sand is exposed in a band 1 to 2 miles wide from the west corner of Fayette County to near Smithville in Bastrop County generally paralleling the Fayette-Bastrop County line (Figure 4 in Appendix A).

The Sparta Sand lies conformably on the Weches Greensand and grades upward into the sandy shale base of the Cook Mountain Formation.

The Sparta consists of fine- to medium-grained sand interbedded with a few lignitic shale beds. The thickness of the Sparta ranges from 0 to 275 feet and averages about 150 feet in Fayette County. The Sparta dips southeast at about 175 feet per mile.

The Sparta yields small to moderate quantities of fresh to moderately saline water to wells near the outcrop in western and northwestern Fayette County.

## **Cook Mountain Formation**

The Cook Mountain Formation overlies the Sparta Sand and crops out in the extreme western and northwestern part of Fayette County. The Cook Mountain consists of clay, shale, and a few thin lenses of

sandstone, limestone, glauconite, and gypsum.

The Cook Mountain ranges in thickness from 0 to 500 feet in Fayette County. The Cook Mountain is not known to yield water to wells in the county.

## **Yegua Formation**

The Yegua Formation crops out in a 3½ to 5 mile wide band across western Fayette County. The trend of the outcrop is northeast, the median line of which extends generally from Winchester to about 2½ miles south of Elm Grove in the southwest portion of the county.

The Yegua Formation conformably and semi-gradationally overlies the Cook Mountain Formation and conformably underlies the Jackson Group. Local disconformities between the Yegua and Jackson have been observed but are not of regional extent.

The Yegua Formation consists of alternating beds of fine- to medium grained clay, silt, thin beds of lignite, and small quantities of gypsum. Thickness of the individual sand beds ranges up to 2 or 3 feet where observed but generally is much thinner. Some bentonite occurs in the upper beds.

Total thickness along the outcrop ranges from about 500 to 700 feet. Downdip in Fayette County, the thickness increases, ranging from 600 to over 1,000 feet. Over most of the area in which fresh water occurs, the total sand thickness ranges from 300 to 430 feet and is about 40 to 50 percent of the total formation thickness. The formation dips to the southeast approximately 150 feet per mile, attaining a depth of 2,800 feet below sea level at the southeast edge of the county.

The Yegua yields small to large quantities of water to wells in Fayette County for industrial, irrigation, livestock, and rural domestic purposes. All wells presently pumping from the Yegua in the county are in the outcrop or less than 4 miles downdip.

## **Jackson Group**

The Jackson Group conformably overlies the Yegua Formation of the Claiborne Group and crops out in a band 4 to 6 miles wide trending northeast across central Fayette County. The Jackson consists mainly of clay, silt, and volcanic ash, interbedded with a few relatively thin lenticular beds of tuffaceous sandstone. The thickness of the Jackson in Fayette County ranges from 0 at the updip extent of the formation to a total thickness of from 600 to 1,100 feet. The strata comprising the Jackson Group dip toward the Gulf Coast at about 150 feet per mile, coincident with the general regional structure.

The Jackson Group yields moderate quantities of water to wells, principally for livestock and rural domestic purposes in the outcrop areas. The most productive strata consist of about 50 to 185 feet of tuffaceous sands in the uppermost part of the group. These upper Jackson sands apparently yield water of usable quality some distance downdip from the outcrop and are generally developed in conjunction with the overlying Catahoula Tuff.



## **Frio Clay**

The Frio Clay does not crop out in Fayette County, but overlies the Jackson Group unconformably in the subsurface and is in turn overlain and overlapped by the Catahoula Tuff. The Frio Clay consists principally of clay and shale interbedded with a few thin sand beds. The Frio ranges in thickness from 0 at its updip pinchout to over 520 feet in southeast Fayette County. The Frio Clay is not known to yield water to wells in Fayette County.

## **Catahoula Tuff**

The Catahoula Tuff overlies the upper part of the Jackson Group near its outcrop, but downdip in the southeastern part of Fayette County, the Catahoula overlies the Frio Clay which occupies a position stratigraphically between the Catahoula Tuff and the Jackson Group.

The Catahoula crops out in a belt approximately 1/2 to 4 miles wide across central Fayette County trending northeast through Flatonia, La Grange, and Carmine.

In Fayette County, the Catahoula consists of tuffaceous sand and sandstone interbedded with clay, silt, and tuff. The thickness ranges from 0 to over 500 feet. The Catahoula yields small to large quantities of water to wells in central and southeastern Fayette County for municipal, industrial, and irrigation as well as livestock and rural domestic purposes.

## **Oakville Sandstone and Lagarto Clay**

The Oakville Sandstone overlies the Catahoula Tuff and is in turn overlain by the Lagarto Clay. The approximate outcrop areas of these units are shown on the regional geology map (Figure 4 in Appendix A). Because the contact between the Oakville and Lagarto is difficult to distinguish in Fayette County, these formations are considered as a single unit in this report and are not differentiated on the county geologic map.

In general, the Oakville Sandstone consists of laterally discontinuous sand and gravel lenses interbedded with shaly sand, sandy shale, shale, and clay. Massive cross-bedded sandstone beds at the base grade upward into more thinly bedded sandy shale and clay near the top. The Lagarto Clay, in turn, consists mainly of massive clay interbedded with calcareous sand and shale.

The combined thickness of the Oakville and Lagarto ranges from 0 to over 950 feet.

The Oakville and Lagarto yield small to moderate quantities of water to wells for municipal, industrial, irrigation, livestock, and rural domestic purposes.

## **Alluvium**

Alluvial deposits of Quaternary age in Fayette County occur as a broad band 1/2 to 6 miles wide coinciding generally with the flood plain of the Colorado River and along some of its major tributaries. Terrace gravel deposits, also of Quaternary age, occupy the tops of some of the hills adjoining the Colorado River flood plain,

but these have not been mapped and probably are not important as a source of ground water in Fayette County.

The alluvial deposits consist of sand, gravel, black clay, sandy clay, and shale. Maximum thickness of the alluvial deposits is not known but where observed in stream cuts does not exceed 60 feet. Shallow wells completed in the alluvium yield small quantities of water for livestock and rural domestic purposes.

## **Surface Water Resources**

Surface water sources of Fayette County include the Colorado River, the Cedar Creek Reservoir, flood control reservoirs, and numerous small stock ponds. Among these, the Colorado River and the Cedar Creek Reservoir can be considered for any municipal use. At present, only utilization of surface water for municipal use is at the Fayette Power Plant where potable water is supplied by treating water from the Cedar Creek Reservoir. In addition to this, Colorado River provides water for small domestic uses.

### **Colorado River**

Water quality of the Colorado River varies seasonally and along the length of the river. Since January 1984, water samples were collected and analyzed by the Lower Colorado River Authority (LCRA) Water Quality Monitoring Program for two locations on the Colorado River within Fayette County. These sampling sites are located at upstream and downstream of La Grange. The upstream sampling station is located on the Colorado River at the Highway 71 bridge and the downstream site is at the Highway 77 bridge.

### **Cedar Creek Reservoir**

The LCRA water quality monitoring program collects and analyzes water samples from several locations of the Cedar Creek Reservoir since July 1986. One of these sampling sites is located near FM 159. This sampling site was selected for study to represent water quality of the reservoir because of the suitability of its location for an intake structure of a regional surface water system.

## **Natural or Artificial Recharge**

Recharge is the addition of water to an aquifer. The principal source of ground-water recharge in Fayette County is precipitation that falls on the outcrop of the various aquifers. In addition, seepage from streams and lakes located on the outcrop and possibly interformation leakage are sources of ground-water recharge. Recharge is a limiting factor in the amount of water that can be developed from an aquifer, as it must balance discharge over a long period of time or the water in storage in the aquifer will eventually be depleted. Among the factors that influence the amount of recharge received by an aquifer are: the amount and frequency of precipitation; the areal extent of the outcrop of intake area; topography, type and amount of vegetation, and the condition of soil cover in the outcrop area; and the ability of the aquifer to accept recharge and transmit it to areas of discharge. On aquifer outcrops where vegetation is dense, the removal of underbrush and non-beneficial plants will reduce evaporation and transpiration losses, making more water available for ground-water recharge.

Discharge is the loss of water from an aquifer. The discharge may be either artificial or natural. Artificial discharge takes place from flowing and pumped water wells, drainage ditches, gravel pits, and other excavations that intersect the water table. Natural discharge occurs as effluent seepage, springs, evaporation, transpiration, and interformational leakage.

Ground water moves from the areas of recharge to areas of discharge or from points of higher hydraulic head to points of lower hydraulic head. Movement is in the direction of the hydraulic gradient just as in the case of surface-water flow. Under normal artesian conditions, as in Fayette County, movement of ground water usually is in the direction of the aquifer's regional dip. Under water-table conditions, the slope of the water table and consequently the direction of ground-water movement usually is closely related to the slope of the land surface. However, for both artesian and water-table conditions, local anomalies are developed in areas of pumping and some water moves toward the point of artificial discharge. The rate of ground-water movement in an aquifer is usually very slow, being in the magnitude of a few feet to a few hundred feet per year.

The estimated effective annual recharge in acre-feet shown in the table below is taken from *Texas Water Development Board Report 238, Ground-Water Availability in Texas, Estimates and Projections Through 2030*.

**Table 2: Effective Annual Recharge of Fayette County Aquifers**

Aquifer	Effective Annual Recharge (Acre-Feet)	
	Total Aquifer	Fayette County
<b>Major Aquifers:</b>		
Carrizo-Wilcox	644,900	16,873 or 8,741 <sup>1</sup>
Gulf Coast	1,229,800	15,220
<b>Minor Aquifers:</b>		
Queen City Sand	682,100	1,236
Sparta Sand	163,800	4,500

### ***How Annual Amount of Recharge May Be Increased***

According to the publication *Groundwater Recharge in Texas*, the main source of recharge for the Carrizo-Wilcox Aquifer is precipitation. Losing streams and flood water provide an additional source of recharge in the southern section of the Carrizo-Wilcox aquifer (L.B.G. Guyton & Associates and HDR Engineering, Inc., 1998). The Gulf Coast is also recharged primarily by precipitation. Losing streams and irrigation canals provide additional sources of recharge in the southwest portion of the aquifer along the Rio Grande.

<sup>1</sup> Note that in a Groundwater Availability Model (GAM) run of the Central Carrizo-Wilcox provided for the District on August 19, 2003 by the TWDB, the report states that the "Carrizo-Wilcox model does not have any direct infiltration in Fayette County. However, TWDB rules concerning groundwater management plan certification define recharge as 'The addition of water from precipitation or runoff by seepage or infiltration to an aquifer from the land surface, streams, or lakes directly into a formation or indirectly by way of leakage from another formation.'" In the TWDB GAM run, leakage into the Central Carrizo-Wilcox is estimated to be 8741 acre feet per year in Fayette County, roughly only half of the estimated recharge provided by the TWDB Report 238. According to the Region K's *Adopted Regional Water Supply Plan* of December 2000, "the Carrizo-Wilcox aquifer has been studied by the Bureau of Economic Geology (BEG). The BEG study indicates that the average annual recharge for the aquifer in the Lower Colorado Region is 21,900 ac-ft/yr [state-wide]."

In Report 332, Ground-Water Resources of the Carrizo-Wilcox Aquifer in the Central Texas Region, it is stated:

Replenishment of water to the Carrizo-Wilcox aquifer, or recharge, is mainly by natural means. The major source and controlling factor for recharge is the frequency and the amount of precipitation.

Recharge to the Carrizo-Wilcox aquifer enters the aquifer primarily through infiltration in the outcrop from rainfall and from streams which cross its outcrop. Since the aquifer is nearly full, a substantial amount of recharge is rejected in the outcrop and only a small amount moves downdip. Additionally, a considerable amount of interformational leakage from overlying younger beds is occurring. With increased pumpage, both annual effective recharge to the outcrop and interformational leakage can be increased. Model-derived data on the north one-half of the study area suggest that slightly less than 3 percent of the mean annual rainfall over the outcrop goes to effective recharge. With increased pumpage under controlled conditions, effective recharge can be increased to about 5 percent.

Therefore, precipitation and recharge may be increased through weather modification over the recharge zones. No plans are currently contemplated by the District to attempt to increase the rainfall over the recharge zones, as there does not appear to be any direct recharge of this aquifer in Fayette County.

## ***Groundwater Availability***

According to *Texas Water Development Board Report 56, Availability and Quality of Ground Water In Fayette County, Texas*, computations of the amount of water that may be available from the Carrizo in Fayette County are based upon coefficients of transmissibility and storage of 40,000 gpd per foot and 0.00016, respectively. It is estimated that a maximum of 20,000 acre-feet of water per year could be induced to move through the aquifer from its recharge area to wells in Fayette County.

In the TWDB report *Water for Texas – 2002*, it is stated in the summary for Region K – the Lower Colorado River Planning Group, of which Fayette County is a part, that "Groundwater availability throughout the region is defined on the basis of local aquifer characteristics. In general, availability is defined on a sustainable basis (estimated aquifer recharge) instead of on the basis of the total volume of water in aquifer storage."

Table 3 shows estimated amounts of available groundwater as estimated by the Lower Colorado Regional Water Planning Group (LCRWPG) Regional Water Plan adopted December 2000. In the report, it is stated that "The LCRWPG has established a policy for determining the availability of groundwater within the LCRWPA. The policy indicates that the long-term mining of groundwater within the region is not consistent with the LCRWPG's sustainability goals. Therefore, in determining the availability of water from aquifers within the region, the average recharge rate for the aquifer is typically used."

However, in the case of the Gulf Coast aquifer, "the nature of the Gulf Coast aquifer makes it very difficult to determine the average recharge rate. As a result, the water availability from the Gulf Coast aquifer is established based on an estimate of maximum usage in the year 2050 by water user groups (WUGs) that are currently using the aquifer as a source plus the average water use for future conjunctive water use at the Lakeside, Gulf Coast, and Pierce Ranch Irrigation Districts."

Available groundwater in Fayette County, as shown in this table, is sufficient to meet all current municipal water needs, but due to large depths of water tables and locations of availability, development of some of the available water may not be economically feasible.

→ Note that the wide disparity in estimated amounts of groundwater availability and recharge rates between the State Water Plan, the Region K Water Plan, and the Groundwater Availability Model (GAM) model run provided by the TWDB serves to emphasize the importance of the District's establishment of a water monitoring network and the need for accurate, reliable and pertinent data.

**Table 3: Groundwater Availability in Fayette County Aquifers**

In Acre Feet/Year

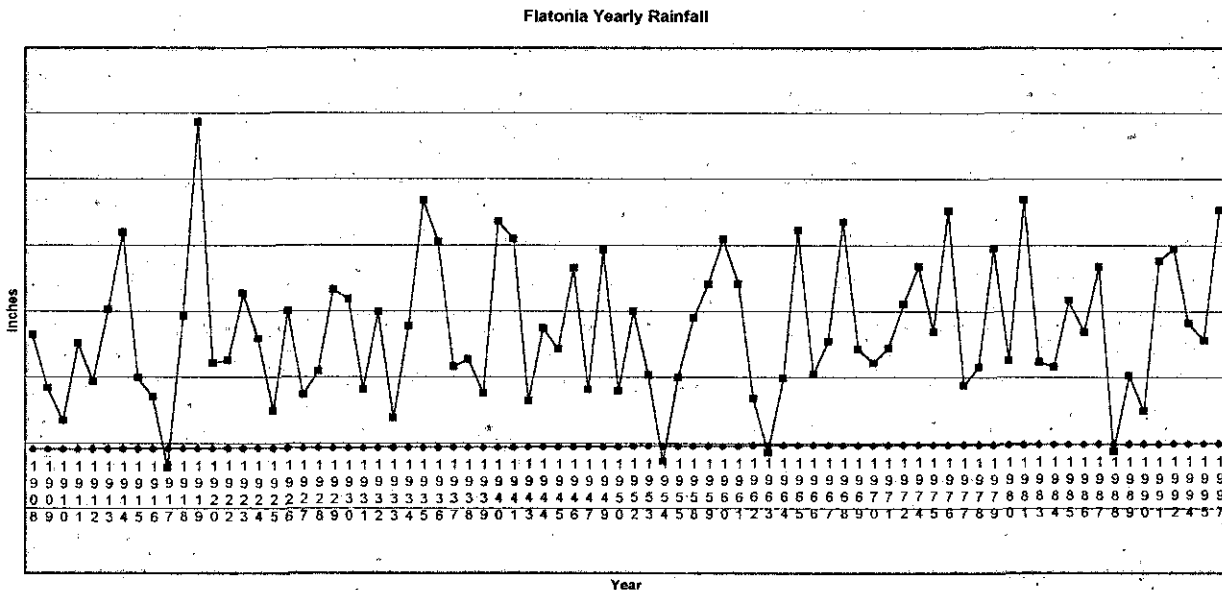
Aquifer	2000	2010	2020	2030	2040	2050
Gulf Coast	8,697	8,697	8,697	8,697	8,697	8,697
Carrizo-Wilcox	400	400	400	400	400	400
Queen City	1,235	1,235	1,235	1,235	1,235	1,235
Sparta	4,500	4,500	4,500	4,500	4,500	4,500
<b>TOTAL</b>	<b>14,832</b>	<b>14,832</b>	<b>14,832</b>	<b>14,832</b>	<b>14,832</b>	<b>14,832</b>

## Projected Groundwater Supply and Demand

### *Historical Rainfall*

The table in Appendix B shows the historical rainfall by month through 1997, for each of the three major cities in Fayette County. The graphs below show the yearly rainfall trends for each of those cities.

**Figure 1: Flatonia Yearly Rainfall**



**Figure 2: La Grange Yearly Rainfall**



ground and surface water used, the source of the water, and other pertinent data from the users. The information obtained is then utilized by the Water Development Board for projects such as water use projections and resource allocation. This is the source of the information contained in the historical water usage tables for Fayette County shown below.

**Table 4: Historical Water Usage**

In Acre-Feet

YEAR	FLATONIA	LA GRANGE	SCHULENBURG
1971	405	520	393
1972	425	523	431
1973	393	440	435
1974	435	460	429
1975	407	400	420
1976	392	493	415
1977	461	531	454
1978	410	534	486
1979	405	614	463
1980	475	781	414
1981	374	737	372
1982	237	868	394
1983	198	719	356
1984	206	818	392
1985	206	869	469
1986	263	775	578
1987	247	816	534
1988	269	929	553
1989	286	829	577
1990	302	875	609
1991	230	731	378
1992	250	727	518
1993	268	812	545
1994	248	739	536
1995	317	753	531
1996	337	822	577
1997	309	780	549
1998	347	811	151
1999	94	832	627
2000	308	805	562

**Table 5: Historical Groundwater Use by Industry**

In Acre-Feet

Year	Municipal	Manufacturing	Steam/Electric	Mining	Irrigation	Livestock
1980	3190	28	0	9	498	337
1984	3049	53	0	6	117	203
1985	3309	58	0	6	185	192
1986	3016	44	0	6	166	194

1987	3141	13	0	6	240	195
1988	3264	10	0	5	254	200
1989	3271	8	0	7	329	196
1990	3319	7	0	7	80	204
1991	2888	9	0	39	80	208
1992	3166	3	0	47	60	263
1993	3266	4	0	47	235	256
1994	3151	3	0	47	342	249
1995	3230	3	0	46	282	230
1996	3476	3	0	46	274	189
1997	3328	4	0	46	270	208
1998	3139	44	0	46	280	221
1999	3357	48	0	46	275	231
2000	3400	41	0	46	559	239

**Table 6: Historical Surface Water Use by Industry**

In Acre-Feet

Year	Municipal	Manufacturing	Steam/Electric	Irrigation	Mining	Livestock
1974	0	0	0	149	0	1821
1977	1	0	0	600	9	1705
1980	0	0	12905	554	90	1598
1984	0	0	14176	341	9	1836
1985	0	0	14100	530	9	1736
1986	0	0	12105	666	9	1758
1987	0	0	7976	960	0	1762
1988	0	0	15016	1014	0	1808
1989	0	0	12453	290	0	1781
1990	0	0	11701	320	0	1834
1991	0	0	13210	320	0	1866
1992	0	0	8292	240	0	2359
1993	0	0	9949	285	0	2309
1994	0	16	13193	290	0	2238
1995	0	16	15574	345	0	2053
1996	0	0	24334	334	0	1706
1997	0	0	10538	330	0	1876
1998	0	0	13246	344	0	1994
1999	0	0	12875	331	0	2090
2000	0	0	35234	230	0	2156

## ***Population Projections***

Fayette County has grown very modestly. The geographic distribution and population has remained relatively unchanged. The decline in the oil and gas exploration since the early 1980's and its distance from major population and employment centers have kept Fayette County's population relatively stable.

The following population projections for total county and three major cities within Fayette County were taken from the Texas Water Development Board 2002 State Water Plan. The three major cities in Fayette County are

Fayette County Groundwater Conservation District



La Grange, Flatonia, and Schulenburg. Three other smaller cities of Fayette County are Carmine, Fayetteville, and Round Top.

Fayette County has a diversified economy including livestock, poultry, crop production, power production, manufacturing industries, oil, gas and other mineral exploration, and recreation. Cattle raising and beef production is a major industry of the County. Agricultural products include grains, cotton, fruits, and vegetables.

The table below shows the expected population growth for Fayette County total and for each of the three major cities for each decade through 2050.

**Table 7: Population Projections by City for 2000-2050**

City Name	1990 Census	2000	2010	2020	2030	2040	2050
Flatonia	1,295	1,475	1,628	1,787	1,985	2,199	2,436
La Grange	3,951	4,606	5,278	6,158	6,970	7,799	8,727
Schulenburg	2,455	2,955	3,240	3,445	3,805	4,201	4,638
County-Other	12,394	13,928	15,454	17,737	19,887	22,153	25,193
<b>TOTAL COUNTY</b>	<b>20,095</b>	<b>22,964</b>	<b>25,600</b>	<b>29,127</b>	<b>32,647</b>	<b>36,352</b>	<b>40,994</b>

### ***Water Supply and Demand Projections***

The water use categories shown in the projections below are defined by the Texas Water Development Board in *Water for Texas* and include: municipal, irrigation, livestock, steam electric, manufacturing, and mining.

The municipal water use category includes water used by persons in their private dwellings for drinking, cooking, dishwashing, laundry, bathing, toilet flushing, lawn watering, car washing, swimming pools, and other purposes. It also includes water for sanitation, landscape maintenance, fire protection, and other general municipal purposes.

The other user categories generally represent farm and industry. The agricultural water use categories (irrigation and livestock) include water used for on-farm irrigation of crops and livestock water consumption. Manufacturing water use primarily focuses on the five largest water-using industries in the state: chemicals, petroleum, paper and pulp, metals, and food processing. Mining use represents water used in the extraction of fuel and non-fuel minerals. Steam electric represents water used by the steam generating power plants – in this case, the Fayette Power Project.

The tables below show the expected water demands in acre-feet for Fayette County total and for each of the three major cities, as well as for each major industry, for each decade through 2050.

**Table 8: Municipal Demand Projections by City for 2000-2050**

City Name	1990 Census	2000	2010	2020	2030	2040	2050
Flatonia	302	365	387	406	442	483	532
La Grange	876	975	1,058	1,173	1,304	1,433	1,593
Schulenburg	610	705	740	756	818	889	977
County-Other	1,609	1,812	1,871	2,008	2,164	2,360	2,654
<b>TOTAL COUNTY</b>	<b>3,397</b>	<b>3,857</b>	<b>4,056</b>	<b>4,343</b>	<b>4,728</b>	<b>5,165</b>	<b>5,756</b>

**Table 9: Non-Municipal Water Demand Projections in Acre Feet For Fayette County**

Usage	1990 Census	2000	2010	2020	2030	2040	2050
Manufacturing	32	37	44	50	55	63	71
Steam/Electric	11,701	15,000	20,000	25,000	40,000	40,000	45,000
Mining	7	92	64	46	17	7	3
Livestock	2,037	2,621	2,621	2,621	2,621	2,621	2,621
Irrigation	400	375	351	329	308	288	270

## Water Demand/Supply Summary Table

The following summary projections were taken from the Lower Colorado Regional Water Planning Group (Region K) *Adopted Regional Water Supply Plan* published in December, 2000 and from *Water for Texas – 2002*, the State of Texas' water plan adopted by the Texas Water Development Board on December 12, 2001.

**Table 10: Water Supply/Demand Projection Summary By City**

City	Category	2000	2010	2020	2030	2040	2050
Flatonia	Population	1,475	1,628	1,787	1,985	2,199	2,436
	Demand	365	387	406	442	483	532
	Groundwater Supply	540	540	540	540	540	540
	Gulf Coast Aquifer	40	40	40	40	40	40
	Other Aquifer	500	500	500	500	500	500
	<b>Surplus</b>	<b>175</b>	<b>153</b>	<b>134</b>	<b>98</b>	<b>57</b>	<b>8</b>
La Grange	Population	4,606	5,278	6,158	6,970	7,799	8,727
	Demand	975	1,058	1,173	1,304	1,433	1,593
	Groundwater Supply	2,794	2,794	2,794	2,794	2,794	2,794

	Queen City Aquifer	944	944	944	944	944	944
	Sparta Aquifer	1,850	1,850	1,850	1,850	1,850	1,850
	<b>Surplus</b>	<b>1,819</b>	<b>1,736</b>	<b>1,621</b>	<b>1,490</b>	<b>1,361</b>	<b>1,201</b>
Schulenburg	Population	2,955	3,240	3,445	3,805	4,201	4,638
	Demand	705	740	756	818	889	977
	Groundwater Supply	2,119	2,119	2,119	2,119	2,119	2,119
	Gulf Coast Aquifer	2,119	2,119	2,119	2,119	2,119	2,119
	<b>Surplus</b>	<b>1,414</b>	<b>1,379</b>	<b>1,363</b>	<b>1,301</b>	<b>1,230</b>	<b>1,142</b>
Fayette County - Other	Population	13,928	15,454	17,737	19,887	22,153	25,193
	Demand	1,812	1,871	2,008	2,164	2,360	2,654
	Groundwater Supply	2,691	2,691	2,691	2,691	2,691	2,691
	Gulf Coast Aquifer	1,639	1,639	1,639	1,639	1,639	1,639
	Queen City Aquifer	90	90	90	90	90	90
	Sparta Aquifer	220	220	220	220	220	220
	Other Aquifer	742	742	742	742	742	742
	<b>Surplus</b>	<b>879</b>	<b>820</b>	<b>683</b>	<b>527</b>	<b>331</b>	<b>37</b>

**Table 11: Water Supply/Demand Projection Summary for Fayette County**

Industry	Category	2000	2010	2020	2030	2040	2050
Manufacturing	Demand	37	44	50	55	63	71
	Groundwater Supply	202	202	202	202	202	202
	Gulf Coast Aquifer	152	152	152	152	152	152
	Other Aquifer	4	4	4	4	4	4
	Sparta Aquifer	9	9	9	9	9	9
	<b>Surplus</b>	<b>165</b>	<b>158</b>	<b>152</b>	<b>147</b>	<b>139</b>	<b>131</b>
Steam/Electric	Demand	15,000	20,000	25,000	40,000	40,000	45,000
	Surface Supply	45,613	45,613	45,613	45,613	45,613	45,613
	Colorado River	2,612	2,612	2,612	2,612	2,612	2,612
	Fayette Lake / Reservoir	1,400	1,400	1,400	1,400	1,400	1,400
	Highland Lakes System	41,601	41,601	41,601	41,601	41,601	41,601
	<b>Surplus</b>	<b>30,613</b>	<b>25,613</b>	<b>20,613</b>	<b>5,613</b>	<b>5,613</b>	<b>613</b>
Mining	Demand	92	64	46	17	7	3
	Groundwater Supply	1,625	1,604	1,587	1,569	1,563	1,562
	Carrizo-	0	0	0	0	0	0

	Wilcox Aquifer						
	Gulf Coast Aquifer	176	155	138	120	114	113
	Other Aquifer	1,000	1,000	1,000	1,000	1,000	1,000
	Sparta Aquifer	449	449	449	449	449	449
	<b>Surplus</b>	<b>1,533</b>	<b>1,540</b>	<b>1,541</b>	<b>1,552</b>	<b>1,556</b>	<b>1,559</b>
Irrigation	Demand	375	351	329	308	288	270
	Surface Supply	631	546	534	534	534	534
	Highland Lakes System	97	97	97	97	97	97
	Irrigation Local Supply	534	534	534	534	534	534
	Groundwater Supply	855	855	855	855	855	855
	Carrizo-Wilcox Aquifer	29	29	29	29	29	29
	Gulf Coast Aquifer	164	164	164	164	164	164
	Other Aquifer	175	175	175	175	175	175
	Sparta Aquifer	487	487	487	487	487	487
	<b>Surplus</b>	<b>1,111</b>	<b>1,050</b>	<b>1,060</b>	<b>1,081</b>	<b>1,101</b>	<b>1,119</b>
Livestock	Demand	2,621	2,621	2,621	2,621	2,621	2,621
	Surface Supply	2,362	2,362	2,362	2,362	2,362	2,362
	Livestock Local Supply	2,362	2,362	2,362	2,362	2,362	2,362
	Groundwater Supply	1,351	1,351	1,351	1,351	1,351	1,351
	Gulf Coast Aquifer	318	318	318	318	318	318
	Other Aquifer	51	51	51	51	51	51
	Sparta Aquifer	982	982	982	982	982	982
	<b>Surplus</b>	<b>1,092</b>	<b>1,092</b>	<b>1,092</b>	<b>1,092</b>	<b>1,092</b>	<b>1,092</b>

## ***Threats to Water Quality***

The primary water quality issue for all of the surface water stream segments and the major groundwater aquifers in Fayette County is the increasing potential for water contamination due to nonpoint source pollution. Nonpoint source pollution is precipitation runoff that, as it flows over the land, picks up various pollutants that adhere to plants, soils, and man-made objects and, which eventually infiltrates into the groundwater table or flows into a surface water stream. As more and more land in the Colorado River watershed and aquifer recharge zones is developed, the runoff from precipitation events will pick up increasing amounts of pollution.

Another nonpoint source of pollution is the accidental spill of toxic chemicals near streams or over recharge

zones that will send a concentrated pulse of contaminated water through stream segments and/or aquifers. Public water supply groundwater wells that currently only use chlorination water treatment and domestic groundwater wells that may not treat the water before consumption, are especially vulnerable to nonpoint source pollution, as are the habitats of threatened and endangered species that live in and near springs and certain stream segments. Nonpoint sources of pollution are difficult to control and there has been increased awareness and research of this issue as well as interest in the initiation of abatement programs.

## ***Threats to Water Quantity***

The primary threat to agriculture in the Fayette County area is from external sources, such as the water shortages for irrigation that are anticipated to occur in Matagorda, Wharton, and Colorado counties during a repeat of the drought of record.

The primary water quantity issue in the Gulf Coast aquifer is subsidence, which is the dewatering of the interlayers of clay within the aquifer as a result of over-pumping. This compaction of the clay causes a loss of water storage capacity in the aquifer, which in turn causes the land surface to sink, or subside. Once the ability of the clay to store water is gone it can never be restored. The implementation of water conservation practices and conversion to surface water sources are currently the only remedies for this situation. Saltwater intrusion from the Gulf of Mexico into the Gulf Coast aquifer is also a potential concern due to groundwater pumping rates that are greater than the recharge rates of the aquifer.

The Carrizo-Wilcox aquifer's primary water quantity concern is the water-level declines anticipated through the year 2050 due to increased pumping. Groundwater withdrawals have increased an estimated 270 percent between 1988 and 1996, from 10,100 acre-feet/year to 37,200 acre-feet/year, from the mostly porous and permeable sandstone aquifer. The area in and around the Carrizo-Wilcox aquifer is expected to see continued population growth and increases in water demand. The TWDB co-sponsored a study of the Central Texas portion of the Carrizo-Wilcox aquifer using a computer model to assess the availability of groundwater in the area. Six water demand scenarios were simulated in the model, which ranged from considering only the current 1999 demand, to analyzing all projected future water demands through the year 2050. On the basis of the calibrated model, all withdrawal scenario water demands appear to be met by groundwater from the Carrizo-Wilcox aquifer through the year 2050. The simulations indicate that the aquifer units remain fully saturated over most of the study area. The simulated water-level declines in the Carrizo-Wilcox aquifer mainly reflect a pressure reduction within the aquifer's artesian zone. Some dewatering takes place in the center of certain pumping areas. In addition, simulations indicate that drawdown within the confined portion of the aquifer will significantly increase the movement of groundwater out of the shallow, unconfined portions to the deeper artesian portions of the aquifer. The relationships that currently exist between surface and groundwater may also change. Simulations indicate that the Colorado River, which currently gains water from the Carrizo-Wilcox aquifer, may begin to lose water to the aquifer by the year 2050.

## ***Water Level Changes***

One indication of groundwater availability involves changes in water table elevations that occur over time at specific locations. The Texas Commission on Environmental Quality (TCEQ) monitors over 20 wells in Fayette County and has collected water level information on these wells for many years.

By comparing the yearly water level measurements of wells for many years, a general trend of rising or falling of an aquifer's water level can be determined. The wells monitored by TCEQ show the following trends.

The Catahoula Tuff's water level is either declining from or maintaining its historical levels. The Alluvium of the Colorado River has a water level which appears to be decreasing over time. The Jackson formation's water level is declining in the southern part of the County and increasing in the northern part of the County. The Sparta Sands' water level is declining in the western part of Fayette County. The Oakville Sandstone and Lagarto Clay water levels are declining in the southeastern and southwestern part of the County but are increasing in the northeastern and eastern part of Fayette County. In the southwestern part of the County, the Yegua water level is decreasing for two wells and increasing for two other wells. There are two monitored Yegua wells in the northwest part of the County which appear to have increasing water levels.

# GOALS AND MANAGEMENT OBJECTIVES

## Management of Groundwater Supplies

The District will manage the supply of groundwater within the District in order to conserve the resource while seeking to maintain the economic viability of all resource user groups, public and private. In consideration of the economic and cultural activities occurring within the District, the District will identify and engage in such activities and practices that, if implemented, would result in a reduction of groundwater use. An observation network shall be established and maintained in order to monitor changing storage conditions of groundwater supplies within the District. The District will make a regular assessment of water supply and groundwater storage conditions and will report those conditions to the Board and to the public. The District will undertake, as necessary, and cooperate with investigations of the groundwater resources within the District and will make the results of investigations available to the public upon adoption by the Board.

The District will adopt rules to regulate groundwater withdrawals by means of spacing and production limits. The District may deny a well construction permit or limit groundwater withdrawals in accordance with the guidelines stated in the rules of the District. In making a determination to deny a permit or limit groundwater withdrawals, the District will consider the public benefit against individual hardship after considering all appropriate testimony.

The relevant factors to be considered in making a determination to deny a permit or limit groundwater withdrawals will include:

1. The purpose of the rules of the District
2. The equitable distribution of the resource
3. The economic hardship resulting from grant or denial of a permit or the terms prescribed by the permit

In pursuit of the District's mission of protecting and managing the resource, the District may require reduction of groundwater withdrawals to amounts which will not cause harm to the aquifer. To achieve this purpose, the District may, at the Board's discretion, amend or revoke any permits after notice and hearing. The determination to seek the amendment or revocation of a permit by the District will be based on aquifer conditions observed by the District. The District will enforce the terms and conditions of permits and the rules of the District by enjoining the permit holder in a court of competent jurisdiction as provided for in Section 36.102, Texas Water Code.

A contingency plan to cope with the effects of water supply deficits due to climatic or other conditions will be developed by the District and will be adopted by the Board after notice and hearing. In developing the contingency plan, the District will consider the economic effect of conservation measures upon all water resource user groups, the local implications of the degree and effect of changes in water storage conditions, the unique hydrogeologic conditions of the aquifers within the District and the appropriate conditions under which to implement the contingency plan.

The District will employ all technical resources at its disposal to evaluate the resources available within the District and to determine the effectiveness of regulatory or conservation measures. A public or private user may appeal to the Board for discretion in enforcement of the provisions of the water supply deficit contingency plan on grounds of adverse economic hardship or unique local conditions. The exercise of said discretion by the Board shall not be construed as limiting the power of the Board.

## **Actions, Procedures, Performance and Avoidance for Plan Implementation**

The District will implement the provisions of this plan and will utilize the provisions of this plan as a guidepost for determining the direction or priority for all District activities. All operations of the District, all agreements entered into by the District and any additional planning efforts in which the District may participate will be consistent with the provisions of this plan.

The District will adopt rules relating to the permitting of wells and the production of groundwater. The rules adopted by the District shall be pursuant to Chapter 36, Texas Water Code and the provisions of this plan. All rules will be adhered to and enforced. The promulgation and enforcement of the rules will be based on the best technical evidence available.

The District shall treat all citizens with equality. Citizens may apply to the District for discretion in enforcement of the rules on grounds of adverse economic effect or unique local conditions. In granting of discretion to any rule, the Board shall consider the potential for adverse effect on adjacent landowners. The exercise of said discretion by the Board shall not be construed as limiting the power of the Board.

The District will seek the cooperation in the implementation of this plan and the management of groundwater supplies within the District. All activities of the District will be undertaken in cooperation and coordinated with the appropriate state, regional, and local water management entities.

## **Methodology for Tracking District Progress in Achieving Management Goals**

The District will prepare and present an annual report to the Board of Directors on District performance with regard to achieving management goals and objectives. The presentation of the report will occur within 60 days of the end of each fiscal year. The first annual report will be prepared upon completion of the year after which the management plan is certified by the Texas Water Development Board. The report will be prepared in a format that will be reflective of the performance standards listed following each management objective. The report will include the number of instances in which each of the activities specified in the District's management objectives was engaged in during the fiscal year. Each activity will be referenced to the estimated expenditure of staff time and budget in accomplishment of the activity. The notations of activity frequency, staff time and budget will be referenced to the appropriate performance standard for each management objective describing the activity, so that the effectiveness and efficiency of the District's operations may be evaluated. The Board will maintain the report on file for public inspection at the District's offices upon adoption. This methodology will apply to all management goals contained within this plan.

### **Goal 1 – Management Strategies to Protect and Enhance the Quantity of Useable Groundwater by Encouraging the Most Efficient Use**

The District will manage the supply of groundwater within the District based on the District's assessment of water supply and groundwater storage conditions. The District will monitor groundwater conditions closely



through water level and water quality monitoring programs and will continue to maintain and update the District's database, which was begun in 2002. Computer modeling projects may be utilized in the future which could also aid in the decision making process by this District in the management of groundwater.

The District will adopt rules to regulate groundwater withdrawals by means of spacing and production limits. In addition the District may choose to identify areas within the District which, based on its monitoring programs are potential groundwater depletion or drought sensitive areas. These areas when identified may require specific District rules to ensure that groundwater supply is maintained and protected.

### ***Management Objective 1.1: Establish a Water Level Monitoring Program***

Establish a water level monitoring network by first, identifying the wells to be monitored, and secondly, by annually measuring the depth to water in those wells; record all measurements and/or observations; enter all measurements into District's computer data base; file specific locations of wells in the District's filing system. Establish a baseline by using existing wells, preferably those for which the District already has some historical data, in all major and minor aquifers where wells are available.

#### **Performance Standards**

- 1.1.a. Annually report to the Board of Directors on:
- ◆ the percent of water level monitoring wells for which measurements were recorded each year.
  - ◆ the number of data records entered into District's data base each year.
  - ◆ the number of wells in the water level measurement network each year.
  - ◆ the number of wells added to the network, if required, each year.

### ***Management Objective 1.2: Set and Enforce Maximum Allowable Production Limits***

Annually, the District will investigate all reports filed by District constituents, on forms provided by the District, regarding pumpage of groundwater in excess of the maximum production allowable under the District's rules. Investigation of each occurrence shall occur within 30 days of receiving the report. Each case will be remedied in accordance with District rules.

#### **Performance Standards**

- 1.2.a. Annually report to the Board of Directors on:
- ◆ the number of reports investigated each year.
  - ◆ the average amount of time taken to investigate reports each year.
  - ◆ the number of incidences where violations occurred and violators were required to change operations to be in compliance with District rules each year.

### ***Management Objective 1.3: Implement Well Permitting Process***

Issue water well drilling permits for the drilling and completion of non-exempt water wells in the District within 30 days of application, or as soon thereafter as possible. Randomly inspect new well drilling sites to be

assured that the District's completion and spacing standards are met. Send written notification to the well owner if the well fails to meet standards within 30 days of inspection. The Board will vote on final approval of the permit at the next scheduled meeting and insure that well completion standards have been met.

**Performance Standards**

- 1.3.a. Annually report to the Board of Directors on:
  - ◆ the number of permits issued each year in Fayette County.
  - ◆ The number of on-site inspections performed of all wells for which District staff have reason to question compliance with District rules.
  - ◆ the number of permits field checked each year.
  - ◆ the number of letters mailed to permit applicants requesting applicant to provide additional information or make changes to comply with District rules.
  - ◆ the number of these letters which result in changes to comply with District rules and the number of cases still open at year-end.

**Goal 2 - Management Strategies to Protect and Enhance the Quantity and Quality of Useable Groundwater by Controlling and Preventing Contamination and Waste**

***Management Objective 2.1: Establish a Water Quality Monitoring Program***

The District staff will obtain water quality samples for analysis from wells to be determined in order to track water quality changes in the District, and will resample a representative group of the wells sampled the previous year. The results of the tests will be published and entered in to the District's computer data base, and will be made available to the public.

**Performance Standards**

- 2.1.a. Annually report to the Board of Directors on:
  - ◆ the number of samples collected and analyzed each year
  - ◆ the percent of previously sampled wells that were sampled in the current testing year.
  - ◆ the number of analyses entered into District's computer data base each year.

***Management Objective 2.2: Assure Proper Closing, Destruction, or Re-Equipping of Wells***

The District staff will inspect all sites reported as being open or improperly covered in a timely manner and follow through to assure proper closing or repair.

**Performance Standards**

- 2.2.a. Annually report to the Board of Directors on:
  - ◆ the number of open, improperly covered, or deteriorated wells reported and inspected each year.

- ◆ the number of letters of notification of an open hole or deteriorated well mailed to well owners and/or operators each year.
- ◆ the number of wells the District required to be closed each year.

### ***Management Objective 2.3: Encourage Plugging of Abandoned Wells***

Field inspect each reported well abandoned or replaced, and assure proper closing under Water Well Drillers' Rules or that the well is re-equipped in accordance with District rules.

#### **Performance Standards**

- 2.3.a. Annually report to the Board of Directors on:
- ◆ the number of reported wells abandoned or replaced each year.
  - ◆ the number of reported wells destroyed and noted on the topographic map each year.
  - ◆ the number of reported wells re-equipped in accordance with the District's rules each year.

### ***Management Objective 2.4: Control and Prevention of Water Waste***

The District will investigate all identified wasteful practices within a reasonable number of working days of identification or complaint received, depending upon the magnitude of the wasteful practice.

#### **Performance Standards**

- 2.4.a. Annually report to the Board of Directors on:
- ◆ the number of wasteful practices identified and the average number of days District personnel took to respond or investigate after identification or complaint received.
  - ◆ the actions taken to resolve the identification or complaint received.

## **Goal 3 – Management Strategies Under Drought Conditions**

### ***Management Objective 3.1: Curtailment of Groundwater Withdrawal***

The annual amount of groundwater permitted by the District for withdrawal from the portion of the aquifers located within the District may be curtailed during periods of extreme drought in the recharge zones of the aquifers or because of other conditions that cause significant declines in groundwater surface elevations. Such curtailment may be triggered by the District's Board based on the groundwater elevation measured in the District's monitoring well(s).

#### **Performance Standards**

The District shall pass rules specifying under what conditions the annual amount of groundwater permitted by the District for withdrawal from the aquifers located within the District may be curtailed.

- 3.1.a. Annually report to the Board of Directors on any situations where the measurements obtained from the water level monitoring network were utilized to identify and anticipate, if possible,

any situations that may require curtailment of groundwater withdrawal.

## **Goal 4 – Promote Water Conservation**

### ***Management Objective 4.1: Emphasize Water Conservation Program***

The District will develop and sponsor a water conservation education curriculum, available upon request for all schools within the District. The District will utilize the methodologies listed under Goal 5 in order to raise public awareness of the necessity and importance of a water conservation program.

#### **Performance Standards**

- 4.1.a. Annually report to the Board of Directors on:
  - ◆ the number of schools where water conservation education curriculums are presented each year.
  - ◆ the number of water conservation articles presented to the public via the various methodologies outlined in Goal 5.
- 4.1.b. Promote and/or implement groundwater banking, recharge projects, rainwater harvesting and aquifer storage and recovery projects, where appropriate and cost-effective, to address areas with declining groundwater levels. Promotion of these projects may be accomplished through articles published in at least one of the District's quarterly newsletters.

## **Goal 5 – Implementation of Public Relations and Educational Programs to Assist in Accomplishing Goals 1 through 4**

### ***Management Objective 5.1: Produce and Disseminate Quarterly Newsletter***

Each year, 4 quarterly newsletters are produced for distribution to District constituents who request a free subscription, and other interested parties. Articles will strive to discuss methods to enhance and protect the quantity of usable quality ground water within the District.

#### **Performance Standards**

- 5.1.a. Annually document number of newsletters published.
- 5.1.b. Annually document the circulation of the newsletter during that year.

### ***Management Objective 5.2: Provide News Releases to District Media***

Each year, news releases discussing methods to enhance, conserve and protect the quantity of usable quality ground water are written and distributed to all print and electronic media within the District. This may also include radio public service announcements discussing methods to enhance, conserve and protect the

groundwater.

**Performance Standards**

- 5.2.a. Annually document number of news releases prepared and distributed to local and regional media detailing methods to enhance and protect the quantity and quality of usable ground water within the District.

***Management Objective 5.3: Provide Public Information Boards at District Office***

Each year, the District makes well information, technical reports, brochures, and other printed information available to the public in the District office.

**Performance Standards**

- 5.3.a. Annually document the number of publications made available to the public via the information boards.
- 5.3.b. Annually document the number of the items printed and/or photocopied for public distribution.

***Management Objective 5.4: Provide Public Information Displays at Fairs/Meetings***

Each year, the District will place informative displays at regional fairs, farm shows, and professional meetings to address the protection and enhancement of usable quality groundwater in the District.

**Performance Standards**

- 5.4.a. Annually document the number of the displays placed at regional fairs, farm shows, and professional meetings within the District's service area.

***Management Objective 5.5: Offer Public Information Access via Internet***

The District will make information about water and water conservation available to the public via its home page on the Internet. This information will be continuously updated.

**Performance Standards**

- 5.5.a. Annually document the number of "hits" the District web site receives.

***Management Objective 5.6: Provide Classroom Presentations***

Upon request by instructors, District staff or Board members will assist area classrooms in presenting information about ground water quality, quantity, and water conservation subjects to public school students. The District will make films and videos on a wide-range of water-related subjects available through the District

office. Eventually, the District will develop a conservation education program and its accompanying curriculum in public and/or private schools within its service area.

#### **Performance Standards**

- 5.6.a. Annually document the number of classroom presentations made or classroom and audio-visual materials provided.
- 5.6.b. Annually document the names of participating schools and any feedback from students/teachers.

## **Management Goals Not Applicable to the District**

### ***The Control and Prevention of Subsidence***

The geologic framework, the population level, and the current groundwater demands of the District preclude any significant subsidence from occurring. This management goal is not applicable at this time to the operations of the District.

### ***Addressing Conjunctive Surface Water Management Issues***

Except as provided in Chapter 36 of the Texas Water Code, the District has no jurisdiction over surface water. The District shall consider the effects of surface water resources as required by Section 36.113 and other state law.

Since the District's boundaries fall within the bounds of the Lower Colorado River Authority (LCRA), the District will establish communications and share information with LCRA, as well as with the Cummins Creek Water Control and Improvement Project. These two entities are now receiving the District's quarterly newsletter. Additionally, the District will regularly invite these two entities to the District Board meetings, and a District representative will attend at least one of their meetings per year.

### ***Addressing Natural Resource Issues Which Impact the Use and Availability of Groundwater and Which Are Impacted by the Use of Groundwater***

This management goal is not applicable to the operations of the District, as there are at this time no known natural resource issues which impact groundwater in Fayette County. However, there is a concern about the possibility of oil and gas contamination. The District will investigate any reported contamination and work with the Railroad Commission to insure that any contamination is minimized or eliminated.

## **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 of the items included in this list 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. The items listed below are not in any particular order of preference or need.

- ◆ Enhance and/or develop mapping and Geographic Information System (GIS) capabilities,
- ◆ Develop groundwater modeling capabilities,
- ◆ Develop display of water quality and quantity information,
- ◆ Expand or enhance water level and water quality observation well program as needed,
- ◆ Develop additional public education programs,
- ◆ Develop additional public school education programs,
- ◆ Develop more extensive library of groundwater data,
- ◆ Develop additional exchange of information between the District and water well drillers and pump installers,
- ◆ Develop or acquire new or revised pamphlets, publications or brochures for distribution.

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# **RESOLUTION ADOPTING AND APPROVING THE FAYETTE COUNTY GROUNDWATER CONSERVATION DISTRICT MANAGEMENT PLAN**

**WHEREAS**, Texas Water Code, Chapter 36, §36.1071 requires the District to develop a comprehensive management plan which addresses 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 concerning Groundwater Management Plan Certification, found at 31 Texas Administrative Code, Chapter 356, Subchapter A; and

**WHEREAS**, The Fayette County Groundwater Conservation District (the "District") was created by an Act of the 77<sup>th</sup> Legislature effective September 1, 2001 and by subsequent approval by the voters of the District, and has operated under the rights, powers, privileges, authority, functions, duties, and requirements of Chapter 36 of the Texas Water Code, other provisions of the Texas Water Code, provisions of the general law of Texas and the Texas Constitution and under sections of the Texas Administrative Code since its creation; and

**WHEREAS**, The Fayette County Groundwater Conservation District intends to continue to carry out the purpose for which the Texas Legislature and the people created the District; and

**WHEREAS**, The Texas Water Code, §36.1071(e) 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 Fayette County Groundwater Conservation District believes that the Management Plan of the District reflects the best management of the groundwater for the District and meets the requirements of §36.1071; and

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

**WHEREAS**, The Management Plan includes estimates of the existing total usable amount of groundwater, the amount of groundwater being used in the District on an annual basis, projected groundwater supply and demand within the District and includes estimates of the annual amount of recharge to the groundwater resources within the District and how natural and artificial recharge may be increased; and

**WHEREAS**, The District is preparing and reviewing proposed rules, resolutions, orders, and

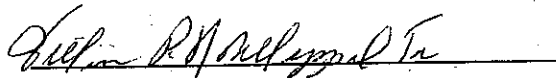
directives to implement this plan; and


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

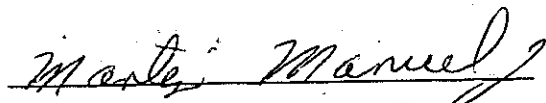
**WHEREAS,** The District is fully prepared to amend this Plan as determined by the Board of Directors as necessary and in accordance with applicable laws of this state.

**NOW THEREFORE BE IT RESOLVED THAT** The Board of Directors of the FAYETTE COUNTY GROUNDWATER CONSERVATION DISTRICT does hereby adopt and approve the Fayette County Groundwater Conservation District Management Plan and directs the submission of such Management Plan to the Texas Water Development Board for certification.

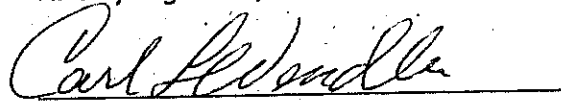
**CONSIDERED, PASSED, APPROVED, ADOPTED, RESOLVED, SIGNED AND DONE IN OPEN MEETING** on this the 20<sup>th</sup> day of October, 2003.

  
Wm. Paul Kohlleppel, Jr., President

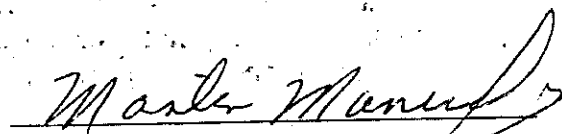
  
Rodney H. Willis, Vice President

  
Martin Manuel, Jr., Secretary-Treasurer

  
R. Clay Rightmer, Director

  
Carl L. Wendler, Director

**ATTEST:**

  
Martin Manuel, Jr., Board Secretary

## REFERENCES

Much information for this document was taken directly from the following sources:

*Adopted Regional Water Supply Plan* for the Lower Colorado Regional Water Planning Group (Region K), published December 2000

*Fayette County Conjunctive Surface and Ground-Water Supply Study*, by Jobaid Kabir, Water Resources Development Office of Conservation and Natural Resources, LCRA, published June, 1989

Groundwater Availability Model run of the Central Carrizo-Wilcox aquifer by Shirley Wade, Hydrologist for the Texas Water Development Board, concluded on August 19, 2003.

*Groundwater Recharge in Texas*, by Bridget R. Scanlon, Alan Dutton, Bureau of Economic Geology, The University of Texas at Austin, and Marios Sophocleous, Kansas Geological Survey, Lawrence, KS, published May, 2002

*Texas Water Development Board Report 56, Availability and Quality of Ground Water In Fayette County, Texas*, by Lowell Thompson Rogers, Texas Water Development Board, published August 1967.

*Texas Water Development Board Report 238, Ground-Water Availability in Texas, Estimates and Projections Through 2030*, by Daniel A. Muller and Robert D. Price, published September 1979.

*Texas Water Development Board Report 332, Ground-Water Resources of the Carrizo-Wilcox Aquifer in the Central Texas Region*, by David Thorkildsen, Geologist, and Robert D. Price, Geologist, published September, 1991

*Water for Texas—2002*, the Final 2002 State Water Plan, by the Texas Water Development Board, published May, 2002

*Water Supply Demand and Assessment of Fayette County*, by Steve Glenn, Project Manager, Water Resources Development Section, LCRA, published July 10, 1989

## **APPENDIX A – Regional Geologic Map**

**Figure 4: Regional Geologic Map of Fayette County and Vicinity**

(see next page – Figure 5 from Report 56)



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## APPENDIX B – Historical Rainfall

This information was obtained from the National Climatic Data Center. The monthly and annual precipitation amounts are in inches and hundredths (e.g., 1122 = 11.22 inches, 522 = 5.22 inches, 55 = .55 inches). A value of '9999' indicates missing or incomplete data for that month, with '99999' indicating missing for the yearly total. The monthly total is only presented when all data were available and validated for that month. Likewise, the annual total is only presented when every monthly total for the year was available.

**Table 12: Historical Rainfall By Year and Month**

Location	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
Flatonia	1908	135	396	182	410	426	416	374	273	230	114	483	205	3644
	1909	0	72	88	202	395	317	614	226	62	287	264	315	2842
	1910	154	197	170	206	344	105	186	96	179	203	142	361	2343
	1911	38	438	545	519	328	121	167	157	119	424	239	417	3512
	1912	41	453	370	189	128	362	108	92	4	421	348	432	2948
	1913	108	425	262	145	139	201	25	335	561	800	556	481	4038
	1914	44	384	480	350	1466	38	41	696	110	673	443	474	5199
	1915	260	163	211	1085	216	0	9	595	154	110	16	177	2996
	1916	663	5	0	141	539	97	354	423	178	130	132	46	2708
	1917	143	190	70	254	369	42	233	53	203	11	63	0	1631
	1918	63	344	378	460	330	143	75	385	144	567	570	470	3929
	1919	415	289	243	320	1369	1425	741	555	352	739	155	271	6874
	1920	905	130	66	28	291	252	45	724	104	326	250	99	3220
	1921	266	113	356	427	124	1156	252	0	9999	9999	9999	283	99999
	1922	328	213	465	531	397	404	13	84	274	244	288	19	3260
	1923	145	437	328	291	190	94	215	672	406	271	458	766	4273
	1924	284	593	158	592	905	215	167	51	370	5	46	201	3587
	1925	121	10	36	100	140	133	89	41	273	1096	292	158	2489
	1926	442	36	746	451	247	119	355	193	73	432	281	633	4008
	1927	135	64	174	650	205	403	109	0	255	290	0	453	2738
	1928	16	437	116	298	211	398	126	134	412	56	479	414	3097
	1929	172	72	529	270	1267	189	510	20	47	529	580	148	4333

Location	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
Flatonia	1930	448	282	200	78	625	138	274	92	339	793	408	517	4194
	1931	384	478	303	183	105	198	217	341	0	45	94	467	2815
	1932	803	359	94	219	475	205	62	783	504	52	139	303	3998
	1933	187	314	159	106	385	110	289	231	274	69	78	188	2390
	1934	553	177	475	511	64	55	210	191	449	25	685	383	3778
	1935	82	263	128	1098	1531	236	289	68	1043	140	148	652	5678
	1936	107	103	61	273	1316	260	1637	154	490	327	227	97	5052
	1937	281	29	689	71	77	331	162	181	270	537	159	371	3158
	1938	250	139	183	656	374	320	231	192	210	96	372	257	3280
	1939	282	258	189	97	317	163	407	149	586	64	111	138	2761
	1940	83	372	109	208	262	1984	301	96	116	497	732	603	5363
	1941	155	357	392	792	895	455	429	526	384	469	106	140	5100
	1942	41	95	9999	658	113	138	649	275	294	298	163	176	99999
	1943	196	81	376	48	569	150	365	23	223	71	312	227	2641
	1944	610	166	416	115	599	67	180	517	277	7	522	272	3748
	1945	304	373	449	300	94	500	354	272	148	353	37	245	3429
	1946	446	290	453	518	519	396	148	470	464	248	561	140	4653
	1947	325	47	322	351	176	319	142	305	65	28	346	390	2816
	1948	97	310	86	146	607	9999	9999	9999	9999	9999	9999	9999	99999
	1948	9999	9999	9999	9999	9999	158	39	128	229	11	198	16	99999
	1949	410	746	148	888	160	186	647	167	289	880	5	401	4927
	1950	146	287	46	469	315	684	104	46	549	15	81	60	2802
	1951	29	127	183	180	220	950	11	9999	9999	9999	9999	9999	99999
	1951	9999	9999	9999	9999	9999	9999	9999	68	461	69	368	54	99999
	1952	87	293	168	478	448	391	407	0	550	0	607	578	4007
	1953	73	295	51	740	320	145	57	526	164	340	23	304	3038
	1954	149	20	25	490	317	12	168	42	120	255	45	83	1726
	1955	205	505	65	63	825	373	105	436	65	91	75	190	2998
	1956	9999	9999	9999	9999	9999	9999	9999	9999	9999	221	42	517	99999
	1956	132	306	125	60	246	90	248	65	158	9999	9999	9999	99999



Location	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
Flatonia	1957	85	222	9999	796	620	382	89	0	1841	699	571	171	99999
	1958	407	586	115	287	286	267	328	86	689	376	279	190	3896
	1959	33	435	19	823	360	493	34	552	470	615	188	390	4412
	1960	134	318	105	522	172	895	215	242	72	1507	430	476	5088
	1961	181	319	129	139	144	1098	463	200	1038	175	482	52	4420
	1962	192	156	0	501	168	404	15	0	602	85	64	501	2688
	1963	47	293	26	85	0	105	143	205	248	26	455	227	1860
	1964	243	281	306	217	85	508	52	227	624	63	134	250	2990
	1965	317	650	91	215	999	525	76	232	322	448	794	559	5228
	1966	190	408	78	438	613	469	157	311	129	46	12	192	3043
	1967	70	117	121	337	516	0	213	203	1217	417	224	109	3544
	1968	711	149	165	391	640	992	268	74	1025	152	450	335	5352
	1969	65	525	401	592	405	165	26	98	442	317	158	236	3430
	1970	242	416	330	218	645	92	142	226	435	363	0	111	3220
	1971	6	116	118	152	409	193	0	622	945	280	199	400	3440
	1972	231	111	131	126	1264	476	273	598	281	304	238	80	4113
	1973	441	273	405	680	259	885	9999	60	344	770	192	70	99999
	1974	689	160	114	80	547	298	149	922	736	255	532	203	4685
	1975	112	230	120	538	915	338	247	431	256	144	138	224	3693
	1976	137	57	199	1126	575	195	570	102	499	1139	274	652	5525
	1977	260	315	202	847	153	270	80	38	131	98	416	73	2883
	1978	279	200	135	137	114	546	12	200	758	66	534	185	3166
	1979	646	238	356	588	743	696	405	296	476	57	75	368	4944
	1980	457	152	165	150	804	186	244	107	462	111	351	72	3261
	1981	203	169	183	207	514	1087	127	1319	627	814	319	117	5686
	1982	120	9999	104	127	973	54	39	194	279	500	307	182	99999
	1983	133	383	600	9	471	234	485	21	290	389	185	41	3241
	1984	286	131	244	29	84	94	70	104	397	1304	171	248	3162
	1985	341	350	244	290	141	392	130	66	905	383	803	122	4167
	1986	139	199	195	58	694	466	0	95	455	435	214	741	3691

Location	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
Flatonia	1987	130	479	153	27	594	1304	231	344	584	26	534	273	14679
	1988	19	66	294	260	220	199	377	46	110	68	50	168	1877
	1989	561	54	267	183	646	621	44	79	52	209	230	84	3030
	1990	135	262	245	227	131	120	449	58	402	216	169	73	2487
	1991	717	212	108	545	366	360	428	229	194	185	196	1226	4766
	1992	530	762	508	446	948	501	136	80	259	158	378	242	4948
	1993	9999	356	615	257	841	515	76	18	29	458	107	158	99999
	1994	96	108	262	314	782	112	6	297	382	974	75	417	3825
	1995	102	277	259	506	688	407	95	321	195	315	125	275	3565
	1996	4	21	123	127	0	527	171	712	637	66	387	9999	99999
	1997	353	301	386	417	894	1023	89	32	243	1141	455	197	5531
La Grange	1931	531	561	448	223	179	53	459	286	58	97	112	517	3524
	1932	1167	415	154	140	86	251	54	488	825	69	66	244	3959
	1933	254	284	318	176	222	149	467	292	148	58	76	178	2622
	1934	619	209	773	447	52	111	120	138	439	9	678	480	4075
	1935	154	292	167	558	1263	365	243	109	697	578	284	480	5190
	1936	84	140	92	260	1690	148	1159	29	370	338	245	107	4662
	1937	372	33	490	78	168	267	127	180	276	706	263	374	3334
	1938	288	128	248	626	473	463	163	73	170	222	255	323	3432
	1939	253	369	118	78	311	249	470	260	195	117	197	129	2746
	1940	9999	383	81	281	243	1513	284	200	214	1016	936	697	99999
	1941	119	410	627	862	594	446	269	304	257	471	88	158	4605
	1942	53	190	39	1006	79	312	1282	430	285	182	361	237	4456
	1943	345	189	224	101	603	187	325	54	259	243	267	321	3118
	1944	698	263	407	24	551	81	148	466	737	46	862	467	4750
	1945	387	486	476	486	178	695	214	504	128	405	135	360	4454
	1946	560	293	588	357	359	564	64	389	789	232	529	341	5065
	1947	318	60	260	264	324	45	55	744	95	15	349	225	2754
	1948	180	291	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999	99999
	1948	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999	9999	54	99999

Location	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
La Grange	1949	9999	619	183	833	178	173	295	204	479	608	60	9999	99999
	1950	101	450	84	519	216	583	208	136	9999	9999	9999	28	99999
	1951	143	171	264	84	471	572	9999	9999	9999	9999	9999	9999	99999
	1951	9999	9999	9999	9999	9999	9999	12	46	468	312	263	119	99999
	1952	32	204	249	384	740	294	214	4	307	3	910	378	3719
	1953	119	406	48	259	390	566	44	294	162	491	93	364	3236
	1954	138	36	27	344	530	32	77	56	170	190	120	168	1888
	1955	175	394	21	243	674	296	51	335	349	41	94	212	2885
	1956	9999	9999	9999	9999	9999	9999	9999	9999	9999	186	76	259	99999
	1956	172	337	42	216	194	23	38	72	14	9999	9999	9999	99999
	1957	105	325	567	879	350	494	23	26	1274	1005	538	191	5777
	1958	391	515	139	189	439	139	241	131	1083	483	257	153	4160
	1959	35	444	64	983	210	331	203	253	387	381	457	219	3967
	1960	240	218	81	958	121	680	105	479	44	9999	9999	9999	99999
	1961	184	378	101	236	131	660	493	149	1023	140	563	9999	99999
	1962	353	64	68	478	134	335	47	27	492	526	118	466	3108
	1963	86	242	41	111	134	134	46	121	92	3	401	233	1644
	1964	304	235	423	97	418	266	102	295	778	112	191	271	3492
	1965	197	603	66	178	872	151	73	422	138	309	681	550	4240
	1966	226	408	171	375	528	117	175	243	64	298	16	154	2775
	1967	65	87	91	378	584	10	295	312	927	398	106	214	3467
	1968	654	118	175	508	666	1097	180	79	941	93	514	322	5347
	1969	122	578	410	582	722	208	85	179	247	522	376	325	4356
	1970	190	341	432	240	952	118	64	180	937	717	21	97	4289
	1971	9	118	35	278	319	199	61	535	557	538	220	445	3314
	1972	314	97	60	227	909	219	140	345	238	478	270	112	3409
	1973	474	379	472	612	116	1202	320	343	519	717	223	131	5508
	1974	707	107	159	99	423	298	199	785	943	176	723	188	4807
	1975	126	271	101	297	1208	550	350	396	117	278	129	161	3984
	1976	88	99	207	1025	370	366	257	73	275	931	228	656	4575

Location	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
La Grange	1977	215	416	157	894	160	120	30	209	454	89	523	76	3343
	1978	466	264	119	76	192	453	348	304	706	68	9999	262	99999
	1979	617	377	401	402	620	755	462	225	639	108	119	444	5169
	1980	195	154	195	163	677	275	127	105	223	170	330	29	2643
	1981	227	158	199	421	611	761	512	584	471	1177	712	99	5932
	1982	174	260	173	9999	673	84	83	2	104	312	206	303	99999
	1983	240	377	606	0	458	358	301	378	587	364	179	102	3950
	1984	335	227	9999	42	531	174	90	151	178	888	156	512	99999
	1985	380	482	267	303	103	518	302	0	574	491	453	223	4096
	1986	232	173	143	78	773	359	55	189	727	546	492	822	4589
	1987	140	751	130	14	454	981	316	569	100	20	432	336	4243
	1988	30	190	766	83	342	234	371	12	117	135	30	232	2542
	1989	768	66	247	171	375	679	227	145	134	213	228	78	3331
	1990	149	628	216	360	136	137	583	299	657	315	160	200	3840
	1991	748	349	176	650	383	303	513	113	420	215	181	870	4921
	1992	557	782	497	294	1078	329	129	330	247	292	440	313	5288
	1993	427	9999	9999	352	835	1021	0	28	177	581	9999	175	99999
	1994	221	196	206	464	9999	339	0	773	323	1457	52	484	99999
	1995	143	178	280	332	669	275	166	280	131	88	240	413	3195
	1996	7	28	144	185	0	480	93	651	401	93	357	288	2727
	1997	362	382	420	587	325	603	150	105	166	824	553	316	4793
Schulenburg	1940	9999	9999	9999	9999	9999	9999	9999	9999	39	734	2182	787	99999
	1941	164	471	452	1152	511	374	377	416	282	569	87	129	4984
	1942	24	109	30	1008	94	354	780	354	444	170	278	177	3822
	1943	191	77	399	9999	454	163	278	0	182	207	267	245	99999
	1944	457	117	440	30	546	19	89	788	177	37	857	388	3945
	1945	341	249	549	354	60	380	424	365	64	625	65	367	3843
	1946	390	347	552	418	369	778	103	470	757	342	469	150	5145
	1947	342	96	254	242	375	76	93	518	103	99	375	491	3064
	1948	9999	9999	9999	9999	9999	297	330	153	390	15	184	59	99999

Location	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
Schulenburg	1948	195	299	105	248	454	9999	9999	9999	9999	9999	9999	9999	99999
	1949	415	637	194	709	203	162	259	292	454	530	14	437	4306
	1950	143	429	68	478	340	453	133	140	664	8	62	75	2993
	1951	59	127	243	183	284	645	163	9999	9999	9999	9999	9999	99999
	1951	9999	9999	9999	9999	9999	9999	9999	138	808	81	343	145	99999
	1952	152	234	214	400	512	169	332	25	456	5	655	450	3604
	1953	136	293	75	429	548	280	76	502	246	356	60	386	3387
	1954	152	28	31	481	451	41	183	127	171	158	66	100	1989
	1955	202	500	56	167	646	356	46	898	112	155	79	200	3417
	1956	9999	9999	9999	9999	9999	9999	9999	9999	9999	76	80	406	99999
	1956	135	231	83	277	112	190	246	163	32	9999	9999	9999	99999
	1957	144	267	617	732	572	471	35	69	982	1175	674	134	5872
	1958	417	450	117	236	262	265	304	111	733	475	258	197	3825
	1959	36	392	45	988	409	301	368	363	491	603	452	329	4777
	1960	267	425	82	714	138	724	328	594	102	971	269	383	4997
	1961	277	347	82	204	104	1026	639	164	905	213	534	124	4619
	1962	275	137	60	622	124	303	3	21	692	93	61	461	2852
	1963	101	251	46	79	36	384	323	148	133	71	507	197	2276
	1964	241	234	323	347	401	275	158	226	841	93	201	228	3568
	1965	261	593	74	170	1041	442	43	200	245	619	764	449	4901
	1966	207	390	190	365	508	381	169	478	76	263	13	236	3276
	1967	109	77	113	305	499	0	282	287	1587	425	116	170	3970
	1968	629	174	197	427	559	946	199	140	604	69	306	341	4591
	1969	140	740	539	704	401	155	13	470	115	231	232	286	4026
	1970	268	309	449	146	892	32	104	183	569	322	50	88	3412
	1971	55	139	12	105	423	227	37	991	628	373	206	376	3572
	1972	186	106	396	108	1184	489	528	361	149	274	227	97	4105
	1973	326	221	419	786	198	1252	416	39	360	870	217	138	5242
	1974	507	78	100	132	526	299	38	1135	1290	9999	312	88	99999
	1975	69	177	147	744	1006	420	153	244	62	209	83	148	3462

Location	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
Schulenburg	1976	102	65	255	820	504	310	295	218	430	9999	212	712	99999
	1977	193	295	170	945	137	220	143	95	153	169	475	59	3054
	1978	319	202	56	122	127	644	83	105	1130	9999	9999	330	99999
	1979	561	274	285	703	920	246	381	578	652	38	219	323	5180
	1980	410	136	188	178	907	156	108	246	330	144	314	35	3152
	1981	235	195	181	364	462	653	423	867	406	775	398	94	5053
	1982	140	279	101	136	709	81	76	50	283	484	529	180	3048
	1983	215	399	549	28	586	282	365	119	9999	96	622	48	99999
	1984	296	183	156	44	255	416	149	211	80	717	210	391	3108
	1985	318	359	334	247	174	144	63	6	465	438	775	167	3490
	1986	146	162	89	63	786	426	0	275	425	443	359	781	3955
	1987	240	467	135	30	445	923	80	145	9999	9999	611	428	99999
	1988	20	50	320	310	265	185	435	0	210	109	130	340	2374
	1989	805	45	235	215	547	530	289	60	112	445	255	105	3643
	1990	242	312	275	285	172	30	382	0	310	9999	9999	137	99999
	1991	677	231	78	786	214	271	441	110	356	124	174	946	4408
	1992	565	668	477	574	1257	512	56	213	179	150	417	290	5358
	1993	641	370	443	422	723	945	14	26	77	404	9999	159	99999
	1994	153	160	158	519	1042	542	0	266	254	1328	67	442	4931
	1995	72	251	230	254	636	167	71	212	52	126	73	132	2276
	1996	0	97	109	178	0	619	66	396	806	274	291	9999	99999
	1997	445	404	411	520	489	866	47	13	376	1265	459	352	5647

## APPENDIX C – Monitored Wells

This table contains a list of the wells in Fayette County that are currently or were recently being monitored by the Texas Water Development Board.

**Table 13: Wells Monitored by TWDB**

Well No	Owner	Aquifer	First Reading	Latest Reading
5950902	Sturner Ranch & Store	Jackson Group	1942	2002
5950906	Ledbetter W.S.C. #1	Yegua Formation	1970	1986
5950907	Ledbetter WSC Well #2	Yegua Formation	1991	2002
5951802	Ruth Schneider	Catahoula Formation	1965	2002
5951806	Kenneth Ullrich	Catahoula Formation	1977	2002
5957503	J.D. Pyburn	Yegua Formation	1961	1965
5957701	Otto Kraatz	Yegua Formation	1965	2002
5957804	Clear Lake Pines	Jackson Group	1974	1997
5957905	C.F. Royce	Yegua Formation	1965	1985
5957906	Bobby Kanz	Yegua Formation	1965	2002
5958301	Chris Hickey	Jackson Group	1965	2002
5958907	Fayette W.S.C. Well #5 / Walhalla	Catahoula Formation	1985	2001
5959305	W.A. Ullrich	Oakville Sandstone	1979	1997
6601403	Henry Burtsch	Yegua Formation	1961	1965
6601407	J.E. Morgan	Yegua Formation	1977	1995
6601411	Edwin Raschke	Alluvium	1981	1990
6601907	City of La Grange Well B-2	Catahoula Formation	1946	1965
6601911	Fayette Co. WCID-#2 Monument Hill	Catahoula Formation	1965	1991
6601919	City of La Grange Well G-1	Catahoula Formation	1971	1986
6601921	City of La Grange Well #B-4	Catahoula Formation	1968	2002
6601924	City of La Grange Well #H-1	Catahoula Formation	1983	1986
6602401	Herber Janssen	Jackson Group	1961	2002
6602402	A.W. Schneider Purina Mills	Catahoula Formation	1965	2002
6602702	City of LaGrange Well A-1	Catahoula Formation	1936	1961
6603303	J.W. Bonner	Catahoula Formation	1966	1983

Well No	Owner	Aquifer	First Reading	Latest Reading
6603401	Roger Reed	Oakville Sandstone	1965	1970
6603804	City of Fayetteville Well #1	Oakville Sandstone And Catahoula Tuff	1959	1974
6603806	Paul Petrofsky	Lagarto Clay And Oakville Sandstone	1964	2002
6603807	City of Fayetteville Well #2	Oakville Sandstone And Catahoula Tuff	1968	2001
6609102	Champ Miller	Jackson Group	1965	1970
6609205	Ted Hoffman	Catahoula Formation	1977	1996
6609208	Ted Hoffman	Catahoula Formation	1996	2002
6609403	Ivan Fajkus	Oakville Sandstone	1977	1990
6609502	F.S. Dullnig	Oakville Sandstone	1965	1980
6609505	Fayette W.S.C Well #4 / Swiss Alp	Oakville Sandstone	1986	2001
6609604	Adolph Matocha	Oakville Sandstone	1942	1965
6609705	Clarence Guentert	Oakville Sandstone	1977	2000
6609707	Clarence Guentert	Oakville Sandstone	2000	2002
6609709	Joe Schilhab Est.	Oakville Sandstone	1911	1942
6610504	David Hajovsky	Lagarto Clay And Oakville Sandstone	1965	1997
6610506	Gussie Huebner Est.	Alluvium	1936	1942
6611102	Alman Gau	Oakville Sandstone	1961	1965
6611401	Barnhart Ranch	Alluvium	1977	1994
6617301	Walter Heinrich	Oakville Sandstone	1959	1965
6617401	E.J. Bryant	Oakville Sandstone	1942	1965
6617601	City of Schulenburg Well #4	Jasper Aquifer	1956	1964
6617602	City of Schulenburg Well #3	Jasper Aquifer	1961	1986
6617604	City of Schulenburg Well #1	Jasper Aquifer	1929	1946
6617614	City of Schulenburg Well #8	Jasper Aquifer	1980	2002
6617619	Schulenberg Oil Co.	Oakville Sandstone	1895	1930
6617802	St. Johns Church and Parish	Lagarto Clay And Oakville Sandstone	1965	1985
6617807	St. Johns Church and Parish	Lagarto Clay And Oakville Sandstone	1984	2002
6618101	J. Bargas	Lagarto Clay And Oakville Sandstone	1959	1965
6708102	Umer	Sparta Sand	1966	2002
6708402	Alfred Young	Sparta Sand	1961	2002



Well No	Owner	Aquifer	First Reading	Latest Reading
6708604	Fayette WSC - West West Point #3	Queen City Sand Of Claiborne Group	1979	2002
6715201	O. Busher	Sparta Sand	1942	1965
6715402	City of Cistern	Sparta Sand	1965	1983
6715403	Joyce Davis	Sparta Sand	1977	2002
6715409	Cistern Water Company City of Cistern Well	Sparta Sand	1983	2002
6715502	Ronald Beeman	Sparta Sand	1961	2002
6716202	Jerry Alexander	Yegua Formation	1965	1990
6716401	Wallace Cherry	Yegua Formation	1942	1961
6716404	Bill Cherry	Carrizo Sand	1966	2002
6716501	T&NO Railroad	Yegua Formation	1977	1987
6716603	Frank Olla	Catahoula Formation	1942	1961
6716704	National Charcoal Plant	Jackson Group	1977	2002
6723102	F A Collins	Sparta Sand	1942	1965
6723603	Balcones Mineral Corp.	Jackson Group	1965	1997
6724101	Mid-Tex Minerals	Catahoula Formation	1977	1997
6724401	City of Flatonia #3	Jackson Group	1965	2002
6724407	City of Flatonia #7	Catahoula Formation	1964	1965
6724412	City of Flatonia #8	Jackson Group	1967	1986
6724413	City of Flatonia Well #9	Jackson Group	1978	1998
6724509	City of Flatonia #10	Oakville Sandstone	1985	2002
6724612	Joe Caronna	Catahoula Formation	1977	1983

# **RESOLUTION ADOPTING AND APPROVING THE FAYETTE COUNTY GROUNDWATER CONSERVATION DISTRICT MANAGEMENT PLAN**

**WHEREAS**, Texas Water Code, Chapter 36, §36.1071 requires the District to develop a comprehensive management plan which addresses 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 concerning Groundwater Management Plan Certification, found at 31 Texas Administrative Code, Chapter 356, Subchapter A; and

**WHEREAS**, The Fayette County Groundwater Conservation District (the "District") was created by an Act of the 77<sup>th</sup> Legislature effective September 1, 2001 and by subsequent approval by the voters of the District, and has operated under the rights, powers, privileges, authority, functions, duties, and requirements of Chapter 36 of the Texas Water Code, other provisions of the Texas Water Code, provisions of the general law of Texas and the Texas Constitution and under sections of the Texas Administrative Code since its creation; and

**WHEREAS**, The Fayette County Groundwater Conservation District intends to continue to carry out the purpose for which the Texas Legislature and the people created the District; and

**WHEREAS**, The Texas Water Code, §36.1071(e) 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 Fayette County Groundwater Conservation District believes that the Management Plan of the District reflects the best management of the groundwater for the District and meets the requirements of §36.1071; and

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

**WHEREAS**, The Management Plan includes estimates of the existing total usable amount of groundwater, the amount of groundwater being used in the District on an annual basis, projected groundwater supply and demand within the District and includes estimates of the annual amount of recharge to the groundwater resources within the District and how natural and artificial recharge may be increased; and

**WHEREAS**, The District is preparing and reviewing proposed rules, resolutions, orders, and

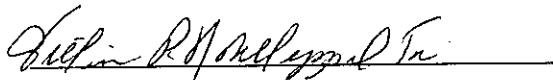
directives to implement this plan; and

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

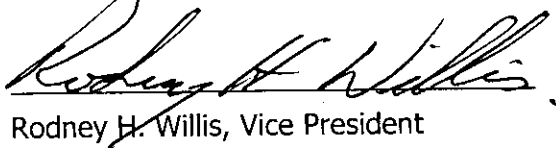
**WHEREAS,** The District is fully prepared to amend this Plan as determined by the Board of Directors as necessary and in accordance with applicable laws of this state.

**NOW THEREFORE BE IT RESOLVED THAT** The Board of Directors of the FAYETTE COUNTY GROUNDWATER CONSERVATION DISTRICT does hereby adopt and approve the Fayette County Groundwater Conservation District Management Plan and directs the submission of such Management Plan to the Texas Water Development Board for certification.

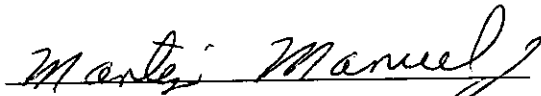
**CONSIDERED, PASSED, APPROVED, ADOPTED, RESOLVED, SIGNED AND DONE IN OPEN MEETING** on this the 20th day of October, 2003.



Wm. Paul Kohlleppel, Jr., President



Rodney H. Willis, Vice President



Martin Manuel, Jr., Secretary-Treasurer

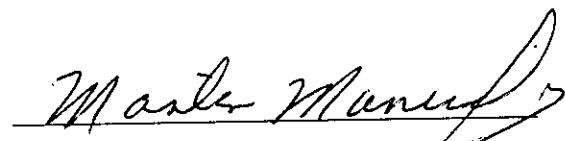


R. Clay Rightmer, Director



Carl L. Wendler, Director

**ATTEST:**



Martin Manuel, Jr., Board Secretary

## LEGAL NOTICES CONTINUED

### --- LEGALS ---

#### Continued from Page 14 ESTRAY NOTICE OF IMPOUNDMENT OF ESTRAY

On the 22 day of September, 2003, I impounded the following estray:

Kind of Animal - Cattle  
Breed - Charolais  
Color - White  
Sex - Male  
Age - 10 months - 1 yr.  
Size - 650 lbs.  
Brand, Marks, Identifying Characteristics - None

and on the 23 day of September, 2003, I filed a Notice of Estray in the Estray Book of Fayette County, Texas.

I have made a diligent search of the register of recorded brands in Fayette County, Texas, for the owner of said estray, but the search did not reveal the owner.

Notice is hereby given that, if the ownership of said estray is not determined by the 13th day of October, 2003, said estray will be sold at public auction/Sheriff's sale at Flatonia Livestock Commission.

WITNESS my hand this 23 day of September, 2003.

s/s Kenny Schmidt  
Chief Deputy of  
Fayette County, Texas  
(94, 97-1c)

#### NOTICE OF PUBLIC HEARING ON PROPOSED MANAGEMENT PLAN OF THE FAYETTE COUNTY GROUNDWATER CONSERVATION DISTRICT

The Board of Directors of Fayette County Groundwater Conservation District (the District) requests comments from the public on the District's proposed Management Plan. The District will conduct a Public Hearing on, and consider adoption and approval of, the proposed Management Plan at the District's public Board meeting that is scheduled for Monday, October 20, 2003 at 8:30 a.m. at the Courtroom of the District Court of Fayette County, Texas, located at the Auxiliary Courthouse, Riverside Shopping Center, 1495 West State Highway 71, La Grange, Texas. At such time the Board of Directors will discuss and may take action that it may determine would be appropriate on each item on the follow-

ing agenda:

- PUBLIC HEARING AGENDA**
1. Call to order.
  2. Public comment on the District's proposed Management Plan.
  3. Consider and take appropriate action on the District's proposed Management Plan.
  4. Adjournment.

Copies of the District's proposed Management Plan are available for public viewing at the District's Office located at 254 N. Jefferson St., Room 600, La Grange, Texas 78945 during the office hours of 9:00 a.m. to 12:00 noon Monday, Wednesday and Friday, and at the Fayette County and District Attorney's Office located at the Auxiliary Courthouse, Riverside Shopping Center, 1495 West State Highway 71, La Grange, Texas, during the regular office hours of 8:00 a.m. to noon and 1:00 p.m. to 5:00 p.m., Monday through Friday.

Any person wishing to comment on the District's proposed Management Plan should place such comments in writing to be received at the District Office by close of business at noon on Friday, October 17, 2003. Verbal comments regarding the proposed Management Plan will be accepted by the Board during the Public Hearing on Monday, October 20, 2003 at 8:30 a.m. (97-1c)

#### NOTICE TO CREDITORS

Notice is hereby given that original Letters Testamentary for the Estate of JOAN B. TURNER, deceased, were issued on October 1, 2003 in Docket No. 10799, pending in the County Court of Fayette County, Texas, to David Arthur Turner.

Claims against this estate may be presented and addressed to:

David Arthur Turner  
610 West Main Street  
Houston, TX 77006

All persons having claims against this Estate which is currently being administered are required to present them, within the time and in the manner prescribed by law.

Dated the 1st day of October, 2003.

s/s David Arthur Turner  
David Arthur Turner  
Independent Executor of the  
Will and Estate of Joan B. Turner,  
Deceased  
(97-1c)

NOTICE

STATE OF TEXAS §  
COUNTY OF FAYETTE §

NOTICE IS HEREBY GIVEN IN ACCORDANCE WITH THE TERMS AND PROVISIONS OF THE TEXAS ALCOHOLIC BEVERAGE CODE THAT MARYANN HEIMSATH HAS FILED FOR A WINE AND BEER RETAILER'S PERMIT, LICENSE OR PERMIT, SAID BUSINESS TO BE CONDUCTED UNDER THE TRADE NAME OF COUNTRY PLACE HOTEL

LOCATION OF SAID BUSINESS TO BE 201 NORTH FAYETTE STREET, FAYETTEVILLE, TEXAS 78940, FAYETTE COUNTY, TEXAS.

NAME OF OWNER OR OWNERS MARYANN HOLMES HEIMSATH AND CLOVIS BENTON HEIMSATH

NAME AND TITLE OF ALL OFFICERS OF CORPORATION

WITNESS MY HAND THIS THE 1ST DAY OF OCTOBER, 2003.  
CAROLYN KUBOS ROBERTS  
COUNTY CLERK  
FAYETTE COUNTY, TEXAS

BY: KATHY SVOBODA  
DEPUTY, KATHY SVOBODA  
(97-2p)

The Fayetteville ISD will hold a public hearing to discuss the school district's 2003 School FIRST (Financial Integrity Rating System of Taxes) rating. This meeting will be held prior to the regularly scheduled meeting of the Board of Trustees on October 13th. The meeting will be at 6:30 PM in the school cafeteria. This rating system was developed in consultation with the Comptroller of Public Accounts. The School FIRST rating is based upon an analysis of staff and student data reported for the 2001-2002 school year, and budgetary and actual financial data for the 2002 fiscal year. 21 indicators are used to determine a district's School FIRST rating. (95-2wc)

### Alzheimer's Clued In By Drawings

If a picture is worth a thousand words, researchers from Baylor College of Medicine in Houston could fill volumes about the emo-

## It's Nea

With flu season right corner, a physician College of Medicine reminds patients th defense is an annual fl "Although it's not you won't get the flu. tion will greatly lower of catching it," said Glezen, professor c virology and micr Baylor.

He added that the get the shot is from t October to the middle because most people

## FROM T RECIPE I

### Creamy Pesto Chicken & Bc

from Campbell's K

Prep/Cook Time: 20 mi

3 cups uncooked bow t  
2 tbsp. butter OR marg  
1 lb. boneless chick  
cubed  
1 can (10 3/4 oz.) C  
Cream of Chicken O  
Free Cream of Chicken  
1/2 cup pesto sauce (rec  
1/2 cup milk

Directions:  
COOK pasta accord  
directions. Drain.  
MEANWHILE, he  
skillet. Add chicken an  
browned, stirring often.  
ADD soup, pesto  
milk. Bring to a boil.  
low heat 5 min. or until  
in drained pasta and he  
Serves 4.

To make homemade  
cups fresh basil leaves,  
lic cloves, 1/4 cup olive  
grated Parmesan cheese,  
salt and 1/2 teaspoon bl  
in food processor. Pre  
smooth. Makes about 3/

Your

PUBLISHER'S AFFIDAVIT

STATE OF TEXAS, }  
COUNTY OF FAYETTE }

**LEGAL NOTICES CONTINUED**

ing agenda:

**NOTICE**

**PUBLIC HEARING AGENDA**

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2. Public comment on the District's proposed Management Plan.
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4. Adjournment.

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(97-1c)

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NAME AND TITLE OF ALL OFFICERS OF CORPORATION

WITNESS MY HAND THIS THE 1ST DAY OF OCTOBER, 2003.

CAROLYN KUBOS ROBERTS  
COUNTY CLERK  
FAYETTE COUNTY, TEXAS

BY: KATHY SVOBODA  
DEPUTY, KATHY SVOBODA

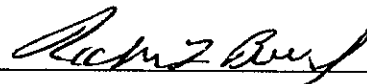
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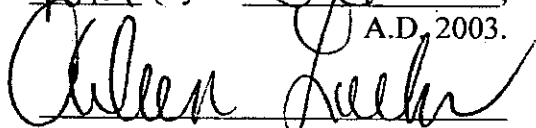
Before me, the undersigned authority, on this day personally appeared Richard L. Barton, Jr. of The Fayette County Record, a semi-weekly newspaper of general circulation, which has been continuously and regularly published for a period of not less than one year in said State and County, who after being duly sworn by me, upon his oath deposes and says that he is publisher of said newspaper, and that the attached Notice or Citation was published in said newspaper The Fayette County Record and that said publication was made on the following date:

10-7 2003

printed copy of said Notice or Citation is hereto attached.

  
publisher of  
The Fayette County Record.

Sworn to and subscribed before me, this the 10th day of Oct, A.D., 2003.



Notary Public in and for  
Fayette County, Texas

(SEAL)

# Fayette County Groundwater Conservation District

P.O. Box 625 254 N. Jefferson St., Room 600 La Grange, Texas 78945

Telephone: (979) 968-3135

Fax: (979) 968-3135

THE ORIGINAL INSTRUMENT WAS  
FILED IN FAYETTE COUNTY, TEXAS ON

Oct. 3, 2003, at 11:45  
A.M.S.C.

## NOTICE OF MEETING OF THE BOARD OF DIRECTORS FAYETTE COUNTY GROUNDWATER CONSERVATION DISTRICT

Notice is hereby given that a meeting of the Fayette County Groundwater Conservation District will be held on the **20th day of October, 2003, at 8:30 a.m.** in the **Courtroom of the District Court of Fayette County, Texas, located at the Auxiliary Courthouse, Riverside Shopping Center, 1495 West State Highway 71, La Grange, Texas,** at which time the following subjects will be discussed, to wit:

### AGENDA

Matters to be discussed that are subject to vote by the Directors of the Fayette County Groundwater Conservation District are as follows:

1. Call to order.
2. Public hearing to receive public comment on the District's proposed Management Plan.
3. Consider and take appropriate action on the District's proposed Management Plan.
4. Adjournment.

COPY  
THE ORIGINAL INSTRUMENT WAS  
FILED IN FAYETTE COUNTY, TEXAS ON  
Oct. 3, 2003, at 11:00  
a.m.s

**NOTICE OF PUBLIC HEARING**  
**ON PROPOSED MANAGEMENT PLAN OF**  
**THE FAYETTE COUNTY GROUNDWATER CONSERVATION DISTRICT**

The Board of Directors of Fayette County Groundwater Conservation District (the District) requests comments from the public on the District's proposed Management Plan. The District will conduct a Public Hearing on, and consider adoption and approval of, the proposed Management Plan at the District's public Board meeting that is scheduled for Monday, October 20, 2003 at 8:30 a.m. at the Courtroom of the District Court of Fayette County, Texas, located at the Auxiliary Courthouse, Riverside Shopping Center, 1495 West State Highway 71, La Grange, Texas. At such time the Board of Directors will discuss and may take any action that it may determine would be appropriate on each item on the following agenda:

**PUBLIC HEARING AGENDA**

1. Call to order.
2. Public comment on the District's proposed Management Plan.
3. Consider and take appropriate action on the District's proposed Management Plan.
4. Adjournment.

Copies of the District's proposed Management Plan are available for public viewing at the District's Office located at 254 N. Jefferson St., Room 600, La Grange, Texas 78945 during the office hours of 9:00 a.m. to 12:00 noon Monday, Wednesday and Friday, and at the Fayette County and District Attorney's Office located at the Auxiliary Courthouse, Riverside Shopping Center, 1495 West State Highway 71, La Grange, Texas, during the regular office hours of 8:00 a.m. to noon and 1:00 p.m. to 5:00 p.m., Monday through Friday.

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# Fayette County Groundwater Conservation District

P.O. Box 625 254 N. Jefferson St., Room 600 La Grange, Texas 78945  
Telephone: (979) 968-3135 Fax: (979) 968-3194

COPY

THE ORIGINAL INSTRUMENT WAS  
FILED IN FAYETTE COUNTY, TEXAS ON

Oct. 3, 2003, at 11:45  
A.M.-S.C

## NOTICE OF MEETING OF THE BOARD OF DIRECTORS FAYETTE COUNTY GROUNDWATER CONSERVATION DISTRICT

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### AGENDA

Matters to be discussed that are subject to vote by the Directors of the Fayette County Groundwater Conservation District are as follows:

1. Call to order.
2. Consider and take appropriate action on adoption of the District's management plan.
3. Consider and take appropriate action on new Appraisal District contract for assessment and collection services for 2004-2005.
4. Adjournment.



# Fayette County Groundwater Conservation District

P.O. Box 625  
254 N. Jefferson St., Room 600  
La Grange, Texas 78945  
Telephone: (979) 968-3135  
Fax: (979) 968-3194

October 20, 2003

John Burke  
Chairman, Lower Colorado Regional Water Planning Group (K)  
P.O. Drawer P  
Bastrop, TX 78602

*BY CERTIFIED MAIL – RETURN RECEIPT REQUESTED*

Dear Chairman Burke:

In accordance with 31 Texas Administrative Code §356.4, please find attached to this letter the Fayette County Groundwater Conservation District's (the District) Management Plan. The District held a public hearing on the District's proposed Management Plan on October 20<sup>th</sup>, 2003. Copies of the proposed Management Plan were made available at the District Office and at the office of the Fayette County and District Attorney prior to that hearing. The attached plan reflects the consideration of any public comments made at the hearing. All comments at the public hearing were favorable to the plan and the District's general philosophies. No comments were submitted in writing. The District passed a Resolution adopting the Management Plan on October 20, 2003.

The District has studied the Lower Colorado Regional Water Planning Group's (Region K) water plan and has found no conflicts with the District's plan. The District has used some data from the Region K plan as best available information.

We would appreciate your review of our Management Plan for consistency with the regional water plan. Please specify any areas of conflict between the District's Management Plan and the regional water plan, if any, as soon as possible. We look forward to working with the Lower Colorado Regional Water Planning Group on issues of mutual interest.

Sincerely,



William P. Kohlleppel, Jr.

President, Board of Directors  
Fayette County GCD

**Directors:**

Martin Manuel, Jr. - Precinct 1  
R. Clay Rightmer - Precinct 3  
Carl L. Wendler - At Large

Rodney H. Willis - Precinct 2  
William P. Kohlleppel, Jr. - Precinct 4

# Fayette County Groundwater Conservation District

P.O. Box 625  
254 N. Jefferson St., Room 600  
La Grange, Texas 78945  
Telephone: (979) 968-3135  
Fax: (979) 968-3194

October 20, 2003

Joseph J. Beal  
General Manager  
Lower Colorado River Authority  
P.O. Box 220  
Austin, TX 78767-0220

*BY CERTIFIED MAIL – RETURN RECEIPT REQUESTED*

Dear Mr. Beal:

In accordance with 31 Texas Administrative Code §356.4, please find attached to this letter the Fayette County Groundwater Conservation District's (the District) Management Plan. The District held a public hearing on the District's proposed Management Plan on October 20<sup>th</sup>, 2003. Copies of the proposed Management Plan were made available at the District Office and at the office of the Fayette County and District Attorney prior to that hearing. The attached plan reflects the consideration of any public comments made at the hearing. All comments at the public hearing were favorable to the plan and the District's general philosophies. No comments were submitted in writing. The District passed a Resolution adopting the Management Plan on October 20, 2003.

The District has studied the Lower Colorado Regional Water Planning Group's (Region K) water plan and has found no conflicts with the District's plan. The District has used some data from the Region K plan as best available information.

One of the District's stated goals is to keep communications open and share information with LCRA. As a step in that direction, we are providing you with a copy of our Management Plan and would appreciate any comments you might have. We look forward to working with LCRA on issues of mutual interest.

Sincerely,



William P. Kohlleppe, Jr.

President, Board of Directors  
Fayette County GCD

**Directors:**

Martin Manuel, Jr. - Precinct 1  
R. Clay Rightmer - Precinct 3  
Carl L. Wendler - At Large

Rodney H. Willis - Precinct 2  
William P. Kohlleppe, Jr. - Precinct 4

# Fayette County Groundwater Conservation District

P.O. Box 625  
254 N. Jefferson St., Room 600  
La Grange, Texas 78945  
Telephone: (979) 968-3135  
Fax: (979) 968-3194

October 20, 2003

Ed Bauer  
President, Lee-Fayette Counties Cummins Creek Water Control & Improvement District #1  
P. O. Box C  
La Grange, TX 78945

*BY CERTIFIED MAIL – RETURN RECEIPT REQUESTED*

Dear Mr. Bauer:

In accordance with 31 Texas Administrative Code §356.4, please find attached to this letter the Fayette County Groundwater Conservation District's (the District) Management Plan. The District held a public hearing on the District's proposed Management Plan on October 20<sup>th</sup>, 2003. Copies of the proposed Management Plan were made available at the District Office and at the office of the Fayette County and District Attorney prior to that hearing. The attached plan reflects the consideration of any public comments made at the hearing. All comments at the public hearing were favorable to the plan and the District's general philosophies. No comments were submitted in writing. The District passed a Resolution adopting the Management Plan on October 20, 2003.

The District has studied the Lower Colorado Regional Water Planning Group's (Region K) water plan and has found no conflicts with the District's plan. The District has used some data from the Region K plan as best available information.

One of the District's stated goals is to establish communications and share information with the Cummins Creek Water Control & Improvement District. As a step in that direction, we are providing you with a copy of our Management Plan and would appreciate any comments you might have. We look forward to working with you on issues of mutual interest.

Sincerely,



William P. Kohlleppe, Jr.

President, Board of Directors  
Fayette County GCD

**Directors:**

Martin Manuel, Jr. - Precinct 1  
R. Clay Rightmer - Precinct 3  
Carl L. Wendler - At Large

Rodney H. Willis - Precinct 2  
William P. Kohlleppe, Jr. - Precinct 4

**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:  
**ED BAUER**  
 President, Lee-Fayette County  
 Cummins Creek WCID  
 P.O. Box C  
 Lee Grange, TX 78945

2. Article Number  
 (Transfer from service label) **7002 0860 0005 0643 0388**  
 PS Form 3811, August 2001 Domestic Return Receipt

**COMPLETE THIS SECTION ON DELIVERY**

- A. Signature  Agent  Addressee
- B. Received by (Printed Name) **75 ALBERT** C. Date of Delivery **10-22-03**
- D. Is delivery address different from item 1?  Yes  No  
 If YES, enter delivery address below:

- 3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.
- 4. Restricted Delivery? (Extra Fee)  Yes

**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:  
**JOHN BURKE**  
 CHAIRMAN LOWER COLORADO  
 REGIONAL WATER PLANNING GROUP (R)  
 P.O. DRAWER P  
 Bastrop, TX 78602

2. Article Number  
 (Transfer from service label) **7002 0860 0005 0643 0371**  
 PS Form 3811, August 2001 Domestic Return Receipt

**COMPLETE THIS SECTION ON DELIVERY**

- A. Signature  Agent  Addressee
- B. Received by (Printed Name) **John Burke** C. Date of Delivery **10-23-03**
- D. Is delivery address different from item 1?  Yes  No  
 If YES, enter delivery address below:

- 3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.
- 4. Restricted Delivery? (Extra Fee)  Yes

**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:  
**Joseph J. Beal**  
 General Manager  
 Lower Colorado River Authority  
 P.O. Box 220  
 Austin, TX 78767-0220

2. Article Number  
 (Transfer from service label) **7002 0860 0005 0643 0364**

**COMPLETE THIS SECTION ON DELIVERY**

- A. Signature  Agent  Addressee
- B. Received by (Printed Name) **George Arreaga** C. Date of Delivery **23 OCT 2003**
- D. Is delivery address different from item 1?  Yes  No  
 If YES, enter delivery address below:

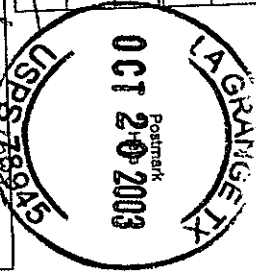
- 3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.
- 4. Restricted Delivery? (Extra Fee)  Yes

7002 0860 0005 0643 0371

U.S. Postal Service  
**CERTIFIED MAIL RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

**OFFICIAL USE**

Postage	\$ 152
Certified Fee	230
Return Receipt Fee (Endorsement Required)	175
Restricted Delivery Fee (Endorsement Required)	557
Total Postage & Fees	\$ 1114



Sent To: JOHN BURKE, Chairman, Board of Planning & Comp (K)  
 Street, Apt. No.: P.O. Denver P.  
 or PO Box No.:  
 City, State, ZIP+4: Baskop, Texas 78602

\*\*\* THANK YOU \*\*\*

**CUSTOMER RECEIPT**

109 POST VAL IMP	5.57
109 POST VAL IMP	5.57
109 POST VAL IMP	5.57
TOTAL	16.71
CHECK #006	16.71
CHANGE	.00

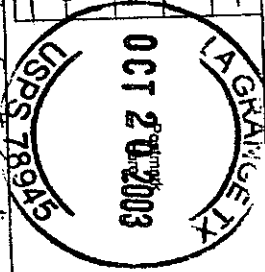
\*\*\* U.S. POSTAL SERVICE \*\*\*  
 78945  
 LA GRANGE, TX  
 # 08  
 484850  
 B MEUTH  
 10-20-03

7002 0860 0005 0643 0388

U.S. Postal Service  
**CERTIFIED MAIL RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

**OFFICIAL USE**

Postage	\$ 152
Certified Fee	230
Return Receipt Fee (Endorsement Required)	175
Restricted Delivery Fee (Endorsement Required)	557
Total Postage & Fees	\$ 1114



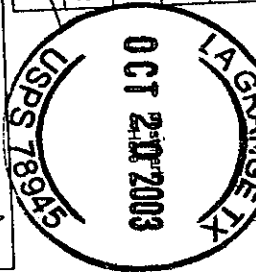
Sent To: ED BAUER, President, Kee-Faythe County  
 Street, Apt. No.: P.O. Box C  
 or PO Box No.:  
 City, State, ZIP+4: La Grange, TX 78945  
 PS Form 3800, April 2002 See Reverse for Instructions

7002 0860 0005 0643 0364

U.S. Postal Service  
**CERTIFIED MAIL RECEIPT**  
(Domestic Mail Only; No Insurance Coverage Provided)

**OFFICIAL USE**

Postage	\$ 152
Certified Fee	230
Return Receipt Fee (Endorsement Required)	175
Restricted Delivery Fee (Endorsement Required)	557
Total Postage & Fees	\$ 1114



Sent To: Leah J. Beal, General Manager, LCR  
 Street, Apt. No.: P.O. Box 220  
 or PO Box No.:  
 City, State, ZIP+4: Austin, Texas 78767-0220  
 PS Form 3800, April 2002 See Reverse for Instructions