

# **District Regulatory Plan: Phase 1** **Lone Star Groundwater Conservation District**

(Adopted December 12, 2006)

## **A. Purpose of District Regulatory Plan**

The purpose of the District Regulatory Plan ("DRP") for the Lone Star Groundwater Conservation District ("District") is to create a regulatory framework for the District to responsibly regulate and conserve the use of groundwater in Montgomery County. Along with the District Rules, the DRP sets forth specific regulations or policies related to groundwater management within the boundaries of the District or within a particular management zone, including without limitation the delineation of management zones and the establishment of proportional adjustment regulations or other regulations adopted to conserve groundwater or facilitate the use of surface water or reclaimed water within the District.

As the governmental entity tasked with the management and regulation of the groundwater resources of Montgomery County, the District must confront the significant challenges created by the increasing water demands of the county's rapidly expanding population. The areas north of the city of Houston and, particularly, Montgomery County have experienced substantial population growth in recent years and such growth is projected to increase exponentially over the next 40 years.

As part of its effort to plan for the future of the groundwater resources in Montgomery County, the District has established the DRP in concert with the District Rules to set forth the groundwater management strategies created by the District and the necessary steps the District will take to implement its strategies. The District's management of the production and use of groundwater in Montgomery County is crucial to protect the area from the negative effects of the depletion of the area's aquifers and subsidence.

## **B. Background**

The District was created by the Texas Legislature in 2001 through the enactment of House Bill 2362 (hereinafter, together with any amendments, "District Act"). The citizens of Montgomery County approved the creation of the District in a confirmation election held on November 6, 2001, with 73.65 percent of the voters casting favorable ballots. The boundaries of the District are coextensive with the boundaries of Montgomery County. In accordance with Chapter 36 of the Texas Water Code and the District Act, the District adopted its initial rules in 2002 and its Management Plan in 2003.

An important part of the District Rules is the registration and permitting process instituted by the District. The District Rules created a process by which users of

groundwater were required to register their groundwater wells with the District. If the groundwater users and their wells met certain criteria, then the user would be required to obtain either a Historic Use Permit ("HUP") or an Operating Permit ("OP"). Non-exempt groundwater users who used water for a beneficial purpose during the Existing and Historic Use Period established in the District Rules (January 1, 1992, through August 26, 2002) were eligible to file an application for an HUP. All non-exempt groundwater users who commenced beneficially using groundwater after the Existing and Historic Use Period were and continue to be required to obtain an OP. Some wells, such as small wells used for domestic and livestock purposes, are exempt from the permitting process altogether.

In 2004, the District commenced joint planning activities with the San Jacinto River Authority ("SJRA") under a grant provided by the Texas Water Development Board ("TWDB") through the TWDB's State Regional Facilities Planning Grant Program. After completion of the joint planning activities, the District and the SJRA generated the *Regulatory Study and Facilities Implementation Plan for Lone Star Groundwater Conservation District and San Jacinto River Authority* (June 2006) ("TWDB Study"). The TWDB Study, which is incorporated herein by reference, provides substantial regulatory, hydrogeological and technical information, including regulatory options available to the District and the technical and scientific basis for the establishment of management zones by the District.

### **C. Managing the District's Groundwater Resources on a Sustainable Basis**

After extensive analysis of the technical and scientific data available for Montgomery County, the District decided to manage the groundwater resources within its jurisdiction on a sustainable basis. The District believes it is important to protect and preserve the groundwater resources of Montgomery County for future generations by preventing the long-term depletion of the aquifers located within Montgomery County and working towards the continued sustainability and viability of such aquifers. Based on this decision, the District Management Plan designated the total amount of groundwater to be available for production and use in the District as the amount of effective annual recharge to the Gulf Coast Aquifer located within Montgomery County. In other words, the District decided that the amount of groundwater which the District would authorize for withdrawal through its permitting process, after taking into account an estimate of groundwater produced by exempt users, would equal the sustainable recharge rate, which the District has determined to be 64,000 acre-feet per year based upon the best available science.

The District performed a review of the permit applications that it has received as part of the HUP permitting process and the permits it has issued. Upon completion of its review, the District determined the total volume that could be authorized for withdrawal under pending HUP applications is in excess of 59,000 acre-feet. This amount of HUP volume is the sum of the maximum year of existing and historic groundwater use claimed to have been used during the Existing and Historic Use Period by HUP applicants. Further, the total amount of volume currently authorized for use by the District under the

OPs the District has granted was approximately 15,806 acre-feet per year as of November 2006. It is important to note that the total amount of volume of use authorized under OPs will continue to increase as the District issues new OPs each month. While the total amount of permitted groundwater use under OPs and pending HUP applications is slightly over 75,000 acre-feet as of November 2006 as indicated by District records, the District must also take the groundwater used by exempt domestic and livestock wells into consideration to determine the total amount of groundwater being produced within the county. As of November 2006, the District had registered 2,557 exempt domestic and livestock wells. The TWDB Study estimated domestic use accounts for approximately 3,000 acre-feet per year. Therefore, the total amount of groundwater used in Montgomery County as of November 2006 is estimated at 78,000 acre-feet per year when adding together the total amount of permitted groundwater use, the total amount claimed under HUPs, and the total amount of exempt groundwater use. The total volume of groundwater produced and used within Montgomery County, therefore, already exceeds the amount of groundwater use the District determined would achieve the sustainability of the Gulf Coast Aquifer within its jurisdiction by approximately 14,000 acre-feet per year and the amount of groundwater use permitted by the District under OPs and pending HUP applications by close to 11,000 acre-feet per year.

Based on the volumes of groundwater use set forth above and the water demand realities it currently faces, the District has decided to implement its DRP in phases during which the District will take numerous actions to manage the groundwater resources of Montgomery County to meet the goals set forth in the District Management Plan, as set forth below.

#### **D. Phase I of DRP**

In its adoption and implementation of Phase I of the DRP, the District will take several actions to enable the District to responsibly manage and conserve the groundwater resources of Montgomery County. During Phase I, the District will establish one or more management zones; will establish the availability of groundwater within the management zone(s); will determine if any proportional adjustments or other reductions of groundwater production and use are necessary within the designated management zones; and make any and all revisions to the District Rules which are necessary to carry out the purposes of the DRP.

#### **I. Management Zones and Delineation**

##### **A. Statutory Authority**

The District was granted the authority in the District Act to designate areas or management zones within its boundaries to assist the District in its efforts to manage and regulate the groundwater resources of Montgomery County. In pertinent part, the District Act provides the District with the power to:

"(1) establish zones within the boundaries of the district for the purposes of groundwater management and regulation; and

(2) implement regulations for each zone... ."

The District was also provided with the statutory authority to adopt different rules for separate and distinct areas of the District through both the District Act and Section 36.116(d) of the Texas Water Code. Specifically, the District Act provides in Section 5A as follows:

"(a) [t]he district may adopt different rules under Section 36.116, Water Code, for:

(1) each aquifer, subdivision of an aquifer, or geologic stratum located in whole or in part within the boundaries of the district; or

(2) different geographic areas of an aquifer or subdivision of an aquifer located in whole or in part within the boundaries of the district:

(A) if the district finds that conditions in or use of the aquifer differs substantially from one geographic area to another; or

(B) to promote better management of the groundwater resources in the district.

#### B. Authority from District Rules

The current rules of the District require the District's Board of Directors, no later than January 31, 2007, to initially divide the District into one or more management zones for the administration of groundwater management and regulation in the District. The Board's delineation of management zones should be made using the best available hydrogeologic and geographic information. In accordance with District Rule 4.1, the one or more designated management zones will serve as the areas for which the District shall determine water availability, authorize total production, implement proportional reduction regulations, if any, and within which the District may allow the transfer of wells and/or the right to produce water as set forth in the District's Rules.

In the process of designating the one or more management zones, the District must attempt to establish boundaries that "to the extent practicable, will promote fairness and efficiency by the District in its management of groundwater, while considering hydrogeologic conditions and the ability of the public to identify the boundaries based upon land surface features." District Rule 4.1.

Management zones have an essential role in the District's groundwater availability determinations. District Rule 4.2(a) mandates the District to establish "the annual amount of recharge available for withdrawal in each management zone, based upon the

District Management Plan, and the amount of actual annual production from permittees, registrants, and exempt users in each management zone."

The District must meet the planning requirement created by District Rule 4.2 by determining availability no later than January 31, 2007, and every five years thereafter. In its groundwater availability decision-making the District must use the best available scientific information, including the TWDB's Groundwater Availability Model ("GAM") for the area, and any information available regarding the saturation rate of aquifers within the District.

### C. Delineation and Designation of Management Zone(s)

Pursuant to Section 4 of the District Rules, the District hereby establishes a single management zone for the District. The boundaries for the management zone will be co-extensive with the boundaries of both the District and Montgomery County and can be seen on the following map:

(Map from TWDB Study – Pg. 32)

The District has decided to initially designate a single county-wide management zone during Phase I of the DRP implementation based upon the information provided by the TWDB Study, which demonstrates that the depletion of the groundwater resources of Montgomery County is a problem which exists throughout the county. (See TWDB Study – Pgs. 26-31 (Figures 15-20)). The District is currently proceeding with its HUP permitting process, and it is anticipated that the process will be substantially completed in 2007. Because the amount of permitted use issued by the District under HUPs may ultimately differ substantially from the amounts claimed in HUP applications, the District believes that it should substantially complete the HUP permitting process prior to further division of the District into multiple management zones, if any, as the District will have a better understanding of the groundwater production and use patterns within Montgomery County after the HUP permitting process is substantially completed. The District specifically reserves the right to further subdivide the District into multiple management zones in the future and to adopt rules and regulations specific to each such management zone.

## II. Groundwater Availability within the Management Zone

The total amount of groundwater available for use within the boundaries of the designated management zone is 64,000 acre-feet per year. The District decided its total groundwater availability amount should match the amount of effective annual recharge to the Gulf Coast Aquifer in the District to provide for the long-term sustainability of the groundwater resources within the District. The District determined the estimated annual amount of recharge to the groundwater resources within the District based on the rate of annual deep recharge to the Gulf Coast Aquifer of approximately 1.1 inches per year used in the development of the Northern Gulf Coast Aquifer GAM.

### **III. Reduction and/or Proportional Adjustment of Groundwater Production and Use in the Management Zone**

#### **A. Current and Projected Groundwater Use Demands**

Based on the calculations of the District, the current demand for groundwater in Montgomery County is approximately 78,000 acre-feet per year which exceeds the amount of total groundwater availability of the District by 14,000 acre-feet per year. According to the TWDB Study, the projected groundwater demand in Montgomery County will increase exponentially and continue to exceed the total groundwater availability of the District. The following figure demonstrates the projected groundwater demands for Montgomery County and compares those demand amounts to the total groundwater availability of the District at the time of the TWDB Study:

(Figure 11 – TWDB Study Pg. 20)

In response to the current and projected imbalance between groundwater demand and groundwater availability, the District may use its authority to proportionally adjust or otherwise reduce the groundwater production and usage within the management zone delineated within the District.

#### **B. Authority from District Rules**

To institute reduction of groundwater production and use within its jurisdiction, the District may employ the process set forth under Section 4 of the District Rules to adjust groundwater production and use authorized under its permits.

##### **1. Production Less than Recharge in Management Zone**

Under the provisions of District Rule 4.2, the District shall determine the total amount of production and the amount of recharge available for withdrawal for the management zone. If the total amount of production within the management zone is less than the amount of recharge available for withdrawal, the production amounts authorized by the District under the HUPs and OPs may remain the same or be increased.

##### **2. Production Exceeds Recharge in the Management Zone**

Alternatively, under District Rule 4.2(c.), if the amount of production exceeds the amount of recharge, the District may proportionally decrease the production amounts under HUPs and OPs among all permittees with any necessary adjustments first applied to OPs and then HUPs. The complete process of proportional adjustment is set forth in the provisions of District Rule 4.4.

##### **3. Factors for District Consideration**

In accordance with District Rule 4.4, the Board of the District may consider the time frames by which groundwater users could reasonably secure alternate sources of water by economically feasible means when making its proportional adjustment determinations. The Board may also encourage cooperative arrangements between permittees within a management zone in its proportional adjustment regulations in an effort to diminish the impacts experienced by permittees in their efforts to comply with the regulations.

C. Groundwater Reduction Determinations for the Management Zone

In accordance with District Rule 4.4, the District may establish proportional adjustment regulations or other groundwater regulations in the DRP. Based upon the hydrogeologic and scientific information available concerning the groundwater resources of Montgomery County, the District Rules, and the goals of the District Management Plan, the District has chosen to reduce the groundwater production amounts in the management zone. After considering the time reasonably necessary for water users in the District to secure alternative sources of water by economically feasible means, as set forth in the TWDB Study, the District hereby establishes a deadline of January 1, 2015, by which total groundwater production within Montgomery County shall be reduced by the District to an amount equal to or less than 64,000 acre-feet per year, which is the sustainable recharge rate for the groundwater resources within Montgomery County. All past, current, and future users of groundwater in Montgomery County are hereby put on notice that the District will curtail both new and historic use of groundwater as necessary by January 1, 2015, to reduce total production and use of groundwater in the District to an amount equal to or less than 64,000 acre-feet per year.

D. Options to Meet Groundwater Reduction Determination

The District has a number of regulatory options available to ensure that total groundwater production and use in the District is reduced to an amount equal to or less than 64,000 acre-feet per year by January 1, 2015. However, the District has determined that it is in the best interest of the District and the citizens of Montgomery County to substantially complete the HUP permitting process prior to adopting such specific regulations, which may include the proportional adjustment regulations set forth in Section 4 of the District Rules. The District sets a target date of January 1, 2008, by which the District will substantially complete the HUP permitting process, and of July 1, 2008, by which the District will adopt Phase II of the DRP, which Phase II will establish specific regulations for groundwater reduction by new and historic users of groundwater and which may delineate additional management zones as determined by the Board of Directors of the District.