

# Regulatory Plan 2013

Adopted January 9, 2013



**Harris-Galveston  
Subsidence District**  
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## **PURPOSE AND INTENT**

It is the purpose and intent of the Regulatory Plan to establish policy in the areas of groundwater regulation, permits and enforcement and to establish District Regulatory Areas and regulatory requirements for each area.

The Regulatory Plan was developed with an overall goal to reduce groundwater withdrawal to no more than 20% (10% in Regulatory Area 1) of total water demand. The Regulatory Plan will be reviewed and may be amended as needed.

The low-lying areas along the coast are the most vulnerable to flooding resulting from hurricane storm surge events. This vulnerability remains of such concern to the District that the objective in the coastal area is to prevent any further subsidence.

In the areas that are not vulnerable to tidal storm surges, subsidence contributes to flooding, fault movement and damages wells and pipelines. The objective in the coastal area is to minimize subsidence as soon as realistically feasible. Historically, groundwater withdrawals throughout the District contribute to subsidence in areas affected by storm surge.

In establishing these objectives, the District has taken into account the time and cost of introducing alternative water supplies. The District recognizes that the burden of controlling subsidence should be borne by all users of groundwater. Although a single permittee's groundwater withdrawal may not be capable of causing severe subsidence problems, the total actions by all permittees can cause significant subsidence. Therefore, every permittee is responsible for managing their withdrawals to help contribute toward solving the subsidence problem. To achieve the objectives for each Regulatory Area, the District must have discretion in permitting groundwater withdrawals and setting disincentive fee rates as a means of achieving the plan's goals.

This Regulatory Plan prescribes ratios of groundwater withdrawal to total water demand. Nothing in this Regulatory Plan, however, should be interpreted to mean that a permittee is entitled to use groundwater in any amount merely because the Plan prescribes a ratio for that specific Regulatory Area. Each permittee will be granted a permit based on a review of that permittee's need for water, availability of alternative water supplies, and prior beneficial use without waste.

## **BACKGROUND**

The Harris-Galveston Subsidence District (District) was created in 1975 by the 64<sup>th</sup> Legislature to regulate the withdrawal of groundwater within Harris and Galveston Counties. The District was created "... to provide for the regulation of groundwater withdrawal in the district to end subsidence, which contributes to or precipitates flooding or overflow of the district, including rising water resulting from a storm or hurricane."

The District has adopted four regulatory plans beginning in 1976. The initial plan focused on having an immediate impact in the area where the most subsidence had taken place and where surface water was available as an alternative to groundwater. The 1976 Plan regulated pumpage in all of Galveston County and much of southeastern Harris County in an area referred to as the “Area of Concentrated Emphasis” (ACE).

The 1985 plan divided the District into eight Regulatory Areas so that subsidence could be addressed throughout the entire District. This plan had an overall goal of changing primary water usage from groundwater to surface water in a series of steps.

The 1992 plan modified the 1985 plan based on a detailed re-analysis of regional population and water demand data. The 1992 plan divided the District into seven Regulatory Areas each with goals for the reduction of groundwater withdrawal by certain dates. The Regulatory Areas were based on surface water availability, geophysical characteristics and groundwater demand.

The 1999 Regulatory Plan divided the District into three Regulatory Areas. The Regulatory Areas were reconfigured from the 1992 plan to generally reflect converted versus non-converted areas. The requirements contained within the 1999 Regulatory Plan were based on the then most current data and studies on water demand, aquifer levels and projected subsidence, and provided permittees organizational flexibility in meeting the regulatory goals.

In 2010, the District, began a Regulatory Plan Update Project to 1) update population and water demand projections and 2) update and recalibrate the parameters in the groundwater models and subsidence models. The updated data and models were then used to evaluate the regulations in the 1999 Regulatory Plan and make any necessary changes to the regulations for the upcoming decades. The District was able to use the conversion plans for Regulatory Area 3 contained within certified Groundwater Reduction Plans to more accurately represent where groundwater reductions would likely occur. The District was able to incorporate the 2010 U.S. Census data and more accurately project population growth. Once projected water demands were determined for the updated population growth, multiple scenarios of groundwater pumpage regulations were tested in the groundwater model and subsidence models. The results from the groundwater model and subsidence models for each scenario of potential regulatory changes were compared back to a baseline scenario that used the regulations from the 1999 Regulatory Plan. Consideration of the projected subsidence rates throughout the District were weighed against the feasibility of obtaining alternative water supplies necessary to meet the proposed groundwater reductions. This 2013 Regulatory Plan is the result of the District’s analysis and replaces the 1999 Regulatory Plan for all Regulatory Areas within the District.

## **GROUNDWATER REGULATION**

This portion of the District’s Regulatory Plan establishes policy for the District regarding groundwater regulation. These policies are designed to support the regulation of groundwater withdrawals to control subsidence on a regional basis. Because subsidence is a region-wide problem requiring solutions achieved through concerted efforts, the District will work with political subdivisions in the region to implement this Regulatory Plan.

## Permitting

The District may limit groundwater withdrawals or deny permits following the guidelines stated in the District Act, this Regulatory Plan, and the District Rules. In determining whether to issue a permit or limit groundwater withdrawals the District will weigh the public benefit against individual hardship, after considering all appropriate documentation and relevant factors including:

- (1) the quality, quantity, and availability of surface water or alternative water supplies at prices that are competitive with prices charged by suppliers of surface water in the district;
- (2) the economic impact on the applicant of a decision to issue or deny the permit, or of the permit terms, in relation to the effect on subsidence that would result;
- (3) the applicant's use of water conservation measures;
- (4) the applicant's compliance with the requirements of this chapter or any rule, permit, or order of the district; and
- (5) all other relevant factors.

In every case the District will consider the economic impact on existing businesses, and ensure permittees have an adequate supply of water—either groundwater or alternative water supplies—to continue to conduct business. In addition, the District strives to be as fair and impartial as possible to ensure all business share both their fair share of the groundwater and their fair share of the burden of obtaining alternative water supplies to prevent further subsidence.

## Permit Fees

The District's fees are intended to operate as an economic disincentive to producing groundwater as one of the available regulatory tools. This Regulatory Plan continues a permit fee structure that includes a Base Fee and a Disincentive Fee.

**Base Fee.** This fee is applied to all of a permittee's authorized groundwater withdrawals. Funds obtained from collection of base fees are used to cover the costs of issuing permits and performing other regulatory functions of the District.

**Disincentive Fee.** In addition to the base fee, a disincentive fee will be applied to permitted groundwater withdrawals that exceed 20% of total water demand (10% in Regulatory Area 1). The purpose of the disincentive fee is to create an economic incentive for permittees to take steps to ultimately reduce groundwater use to no more than 20% of total water demand in Regulatory Areas 2 and 3 (10% in Regulatory Area 1) according to the schedule set forth in this Regulatory Plan. The disincentive fee can be avoided through actions in compliance with milestones contained in a certified Groundwater Reduction Plan (GRP). The disincentive fee is applied in each permit year that groundwater reduction requirements are not met.

The District periodically reviews the disincentive fee rate to ensure the rate encourages compliance with this Regulatory Plan and makes adjustments as necessary.

Funds obtained from the collection of disincentive permit fees are placed in a special account; those funds are used for the purpose of expediting reductions in groundwater withdrawal, the  
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development of water conservation measures and development of alternative water supply strategies. The District Act authorizes the use of these funds to provide grants or loans for purposes such as financing for design and construction of surface water treatment facilities and transmission facilities. The District will also consider various alternative means, including coordination with other agencies, for the distribution of any such funds.

## General Elements

Elements of the District's 2013 Regulatory Plan, which are applicable to all Regulatory Areas and all permittees, include:

1. When an alternative water supply is available to a site, regardless of total water demand, permittees will be required to reduce groundwater withdrawals to no more than 20% of their total water demand (10% in Regulatory Area 1), unless the permittee is in compliance with a certified GRP.
2. Permits for irrigating agricultural crops, as defined in the District Rules, are exempted from groundwater reduction requirements and disincentive fees in the Regulatory Plan. However, all permittees are encouraged to use best management practices to minimize groundwater withdrawals.
3. A disincentive fee will be applied consistent with specific groundwater reduction requirements in Regulatory Areas 1, 2 and 3.
4. Exemptions from the disincentive fee may be granted for users with a total water demand of 10 million gallons per year (MGY) or less.
5. Two or more permittees within the same Regulatory Area, may enter into contractual agreements to share costs or cooperate in ways that achieve orderly reductions in total groundwater use and conversions to alternative water supplies. Any such groundwater reduction agreements must be approved by the District's Board of Directors. Permittees may join with or form new regional entities for the purpose of reducing groundwater withdrawal. Individual permittees will be waived from separate compliance with groundwater reduction requirements when they form part of a group of permittees, within the same Regulatory Area, that together (as a group) achieve compliance with the Regulatory Area requirement for that region or group.
6. Groundwater Credits will be honored for the terms, conditions and periods prescribed on each Certificate. Over Conversion Credits will be honored for the terms prescribed in the District Rules.



## **Regulatory Area Requirements**

The District is divided into three Regulatory Areas. This Regulatory Plan sets out a schedule for regulating groundwater withdrawal for each of the three Regulatory Areas. Specific Regulatory Area requirements are in addition to the general element requirements.

### **Regulatory Area One**

1. Groundwater withdrawals for each permittee must comprise no more than 10% of the permittee's annual total water demand.
2. A disincentive fee will be applied to any groundwater allocation that constitutes greater than 10% of the permittee's total water demand.

### **Regulatory Area Two**

1. Groundwater withdrawals for each permittee must comprise no more than 20% of the permittee's annual total water demand.
2. A disincentive fee will be applied to any groundwater allocation that constitutes greater than 20% of the permittee's total water demand.

### **Regulatory Area Three**

1. Groundwater withdrawals for each permittee must comprise no more than 20% of the permittee's annual total water demand, unless the permittee is operating under a certified GRP.
2. A permittee (or a group of permittees operating under a single permit, within the same Regulatory Area) may submit a Groundwater Reduction Plan to the District's Board of Directors for certification. To qualify for certification a GRP must meet the minimum requirements of this Regulatory Plan. Existing certified GRPs must incorporate any changes required by this Regulatory Plan and resubmit that plan for certification no later than July 1, 2014. Any GRP that is not amended and re-certified will remain in effect, and the original deadlines and reduction percentages will remain in place.
3. A permittee operating under a certified GRP must maintain their groundwater withdrawals to comprise no more than 70% of the permittee's total water demand.
4. Beginning with permits issued in 2025, a permittee operating under a certified GRP shall be required to reduce and maintain their groundwater withdrawals to comprise no more than 40% of the permittee's total water demand.
5. Beginning with permits issued in 2035, and continuing thereafter, a permittee operating under a certified GRP shall be required to reduce and maintain their groundwater withdrawals to comprise no more than 20% of the permittee's total water demand.

6. A disincentive fee shall be applied to any groundwater allocation that constitutes greater than 20% of a permittee's total water demand if that permittee has not developed and received certification of a GRP.
7. A disincentive fee shall be applied to any groundwater allocation that constitutes greater than 20% of a permittee's total water demand if that permittee is not in compliance with their certified GRP.
8. Permittees who qualify for the Permit Reconciliation Process shall pay disincentive fees in accordance with that process.

## **Groundwater Reduction Plans**

### **Regulatory Area Three**

Permittees within Regulatory Area 3, with a total water demand greater than 10 million gallons per year, may avoid disincentive fees by submitting and receiving certification of a Groundwater Reduction Plan as long as they comply with the groundwater reduction goals and other milestones in that plan. GRPs must, at a minimum, include details of the strategies and steps necessary for achieving Regulatory Area 3 groundwater reductions. GRPs must be submitted for certification by the District's Board of Directors.

Minimum requirements for an acceptable GRP include:

1. Identification of current and projected total water demand
  - The data must be from a source agreed upon by the District
  - Projections must be for a time period sufficiently into the future to achieve full compliance with regulatory requirements.
  - Reasons detailing any potential increase in groundwater use
2. Plans for groundwater reduction
  - Definition of infrastructure requirements to meet permittee's projected total water demand
  - Timetable showing what infrastructure will be constructed by a specific date to meet projected requirements
  - Explanation of how infrastructure costs will be financed
  - Identification of source for water supply, water provider, and amount of water supply available
  - Evidence (executed contractual agreement or financial commitment) that the water supplier has sufficient water supplies or rights and is willing to meet the permittee's projected alternative water demands necessary to meet the 2025 requirements
  - Timetable showing when contractual agreements or financial commitments will be executed for alternative water demands for 2035 and beyond

- Preliminary engineering report of the proposed facilities to be constructed, necessary to meet the 2025 requirements including a description of the proposed project and area maps.
- Conceptual schematic plans of the proposed facilities to be constructed, necessary to meet the 2035 requirements

3. Other information reasonably necessary for an adequate understanding of the project.

The Board of Directors may, during consideration of certifying a GRP, require additional information, milestones or reports as a condition of issuing the certification.

## **Groundwater Reduction Exemptions**

A permittee that does not have an available alternative water supply, is not located in the service area of any regional water supplier, and presents an acceptable groundwater conservation plan to the District may be exempted from that Regulatory Area's groundwater reduction requirements and disincentive fees. The groundwater conservation plan must be presented to the Board of Directors for approval as part of that permittee's permit renewal no less than once every five years. The plan must provide for an annual report to the District and the Board of Directors may add requirements or adjust deadlines as needed to ensure maximum conservation is achieved. The District may, as part of that permittee's permit renewal consideration, determine that an alternative groundwater supply is available and therefore rescind the exemption and reduce the permit accordingly.

## **DEFINITIONS**

“Alternative Water Supply” means metered water from any source that meets the regulatory requirements of the Regulatory Plan including but not limited to: surface water, reuse water, treated effluent, desalinated water, or water from a public water supply. Water obtained from any supplier that is in compliance with an approved groundwater reduction plan shall be considered an alternative water supply.

“Contractual Agreement” means the entire agreement made between the parties where one party agrees to provide a specified amount of an alternative water supply to another for a specified period of time.

“District” means the Harris-Galveston Subsidence District.

“District Act” means Chapter 8801, Texas Special District Local Laws Code.

“District Rules” means The Rules of the Harris-Galveston Subsidence District as amended from time to time.

“GRP” means Groundwater Reduction Plan.

“Groundwater” means water located beneath the earth’s surface within the District but does not include water produced with oil in the production of oil and gas.

“Permittee” includes any person to whom the District issues a permit allowing the withdrawal of a specified amount of groundwater for a designated period of time. Permittee may also include a group of individual entities, within the same Regulatory Area who have contracted together to operate under a single permit in order to meet groundwater reduction requirements.

“Person” includes corporation, individual, organization, government or governmental subdivision or agency, business trust, estate, trust, partnership, association, or any other legal entity.

“Preliminary Engineering” means the amount of engineering necessary to define the infrastructure needs of the project, to determine the feasibility and projected construction timetable of the project, and to establish reliable cost estimates. The requirement of preliminary engineering is not intended to include preliminary construction plans for the entire submittal; however, that level of detail could be required for specific components. The District will make the final determination of whether a proposed GRP meets the definition of preliminary engineering.

“Regulatory Area” means a geographic subdivision of the District in which goals are established to reduce groundwater withdrawals by specific deadlines.

“Subsidence” means the lowering in elevation of the surface of land by the withdrawal of groundwater.

“Total Water Demand” means the aggregate amount of alternative water supply and groundwater being utilized by a permittee to meet current or projected water needs.

“Well” means any facility, device, or method used to withdraw groundwater from the groundwater supply within the District.

“Withdraw” means the act of extracting groundwater by pumping or some other method.

## **APPENDIX A:**

### **Description of Regulatory Areas**

#### **Regulatory Area One**

Beginning at the mouth of Cedar Bayou on Galveston Bay at the Harris County boundary, follow the Harris County boundary north to 29° 45' 00" north latitude.

Thence, west along this line of latitude to the point at 95° 00' 00" west longitude.

Thence, north along this line of longitude to the point at 29° 47' 30" north latitude.

Thence, west along this line of latitude to the point at 95° 02' 30" west longitude.

Thence, north along this line of longitude to the point 29° 50' 00" north latitude.

Thence, west along this line of latitude to the point at 95° 07' 30" west longitude.

Thence, south along this line of longitude to the point at 29° 45' 00" north latitude.

Thence, west along this line of latitude to the point at 95° 17' 30" west longitude.

Thence, south along this line of longitude to the point at 29° 42' 30" north latitude.

Thence, east along this line of latitude to the point at 95° 10' 00" west longitude.

Thence, south along this line of longitude to the common boundary of Galveston and Brazoria Counties.

Thence, continuing generally south-southeast along this Galveston County boundary to the southernmost extent of Galveston County.

Thence, continuing generally northeast along this Galveston County boundary to the common boundary with Chambers County, this being the easternmost extent of Galveston County.

Thence, continuing generally west and north along this Galveston County boundary to the common boundary of Harris County.

Thence, continuing generally north along this Harris County boundary to the point of beginning for Regulatory Area One, at the mouth of Cedar Bayou on Galveston Bay.

## **Regulatory Area Two**

Beginning at the intersection of the common boundary of Galveston and Brazoria Counties and the line of 95° 10' 00" west longitude, follow this boundary generally north and northwest to Clear Creek, this being the southern boundary of Harris County.

Thence, generally west along the southern boundary of Harris County to the intersection of the common boundary of Harris and Fort Bend Counties and Gessner Road.

Thence, generally north along Gessner Road to the intersection with Interstate 10.

Thence, generally east along Interstate 10 to the point at 95° 27' 30" west longitude.

Thence, north along this line of longitude to the point at 29° 50' 00" north latitude.

Thence, east along this line of latitude to the point at 95° 15' 00" west longitude.

Thence, north along this line of longitude to the point at 29° 55' 00" north latitude.

Thence, east along this line of latitude to Cedar Bayou, this being the eastern boundary of Harris County.

Thence, generally south along the eastern boundary of Harris County to the point at 29° 45' 00" north latitude, this being the intersection of the boundary of Harris County and Regulatory Area One.

Thence, generally west and south, following the line of definition of Regulatory Area One to the point of beginning for Regulatory Area Two.

## **Regulatory Area Three**

Beginning at the intersection of the common boundary of Harris and Liberty Counties and the point at 29° 55' 00" north latitude, follow the Harris County boundary generally, north to the farthest northeastern point in Harris County.

Thence, generally west from the farthest northeastern point, follow the Harris County boundary to the farthest northwestern point in Harris County.

Thence, generally south-southeast from the farthest northwestern point, follow the Harris County boundary to the common boundary of Harris, Fort Bend and Waller Counties.

Thence, generally southeast from this common boundary, follow the Harris County boundary to the point of intersection of the common boundary of Harris and Fort Bend Counties and Gessner Road, the point of beginning of Regulatory Area Two.

Thence, generally north and east, following the line of definition of Regulatory Area Two to the point of beginning for Regulatory Area Three.