Brazos River Authority

August 29, 2022

Mr. Gary Westbrook
General Manager
Post Oak Savannah Groundwater
Conservation District
310 East Avenue C
P.O. Box 92
Milano, Texas 76556

Re: Comments Regarding the Process Followed by Groundwater Management Area 12 in Adoption of Desired Future Conditions

Dear Mr. Westbrook:

On behalf of the Brazos River Authority (BRA), R. W. Harden & Associates, Inc. prepared herein comments on the process followed by Groundwater Management Area 12 (GMA-12) for consideration and adoption of Desired Future Conditions (DFCs). It is in our opinion that the process for development of DFCs for GMA-12 must include all permitted non-exempt and exempt/registered pumpage, which is part of the nine factors presented in the Texas Water Code, Chapter 36.108(d), for the following reasons:

1. **Investment-Backed Expectations**
   A permittee who has been approved to produce groundwater has made an economic investment (and similarly the end-user) of that permitted production from a groundwater well or well system. The removal of District-approved permitted pumpage during a GMA-wide joint planning process creates a loss of an investment-backed expectation by that permittee and the end-user. That is, they have a reasonable expectation to produce a specified amount of permitted groundwater for which they have invested in wells and other infrastructure.

2. **Post Oak Savannah Groundwater Conservation District (POSGCD) Rules, Management Plan, and Approved-Impacts**
   The POSGCD's Rules state that when granting a permit, the POSGCD will consider "the impact on other landowners and well owners from a grant or denial of the permit, or the terms prescribed by the permit including whether the well will interfere with the production of water from exempt, existing or previously permitted wells and surface water resources..." (Rules, p. 37).

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The POSGCD Management Plan states that when making a determination to grant or deny a permit, the District also considers "the potential effect the permit may have on the aquifer, and groundwater users" (Groundwater Management Plan, p. 10). Predicted impacts associated with a requested permit (in this case, Vista Ridge) were and are understood to be fully vetted by POSGCD's consulting hydrogeologist (Intera) and documented for recommendation for approval by the POSGCD Board. Additionally, since Vista Ridge production has begun, Intera has reported, "Measured drawdowns are about the same or less than simulated by groundwater water -- no surprises" (Young, Harding, & Kushnereit, 2020).

3. **Hydrological Conditions**

As stated in GMA-12's 2022 DFC Explanatory Report, the GMA's approach "is similar to the process undertaken by many GMAs across the state, where GMAs evaluated the relationship between pumping and DFCs prior to finalizing the DFCs. DFCs are policy decisions being made by the GMAs, and it is reasonable and prudent for GMAs to want to understand the ramifications of major policy decisions prior to adopting these policies" (Donnelly, Seifert Jr. P.E., Uliana, & Young, 2022, p. 29). This statement is an indication that DFCs are reversed-engineered and derived as a result of the amount of pumpage included into a model file, which in turn becomes the modeled available groundwater presented by the Texas Water Development Board and used in regional and state planning. **Policy driven DFCs based on specified pumping model files result in false shortages of groundwater availability and a misrepresentation of how the water needs of the State can be met.** The Carrizo-Wilcox aquifer within GMA-12 is a massive aquifer with abundant supplies of stored groundwater. The groundwater in storage is the largest component of the water balance, not artesian water level and its declines. Artesian water level declines occur rapidly in response to short-term variation in pumping volumes and the artesian water level in a well at any given point in time is simply a transient reflection of the amount of pumping and not reflective of the groundwater availability. Therefore, total aquifer storage (which is defined by the Texas Water Code Chapter 36.001(24) as "the total calculated volume of groundwater that an aquifer is capable of producing" must be included and utilized as a tool for DFCs because it removes the arbitrary nature of artesian drawdown DFCs, eliminates reverse engineering, and provides for groundwater rights holder's opportunity to produce groundwater.

The process of development of DFCs must be consistent with the law and consider the nine factors including the effect on private property rights. Permit holders have a legitimate understanding that when a District approves a permit, the associated impacts have been evaluated and found reasonable which provides an expectation they may invest in their right to produce groundwater. If a District does not include that approved permitted production within a DFC model simulation, then that District ultimately creates a loss of reasonable investment-backed expectations by a permittee and the end-user and inhibits a permittee's ability to produce in accordance with their permit.

Importantly, the process and development of DFCs must consider the full capabilities of an aquifer as to not develop unrealistic shortfalls of groundwater availability for future planning by the State. DFCs based on regional aquifer storage allow for flexible water planning, while maintaining clear assurances that resource depletion is controlled. On a local level, managing aquifer storage can be verified easily and inexpensively through monitoring of the shallow aquifer water table levels. Unlike changes in artesian pressure changes in aquifer storage generally occur at a slow, steady pace over a very large area that allows groundwater conservation districts to distinguish between important aquifer trends and localized, short- term fluctuations in artesian pressure. When definite, long-term trends can be recognized and discussed over time in a public forum, relations between regulators and stakeholders generally improve. Perhaps most importantly, managing by the total aquifer storage targets a primary concern of most Texans, succinctly and without uncertainty.

The BRA appreciates the opportunity to provide input on this important process.

Sincerely,

BRAD BRUNETT
Regional Manager, Central & Lower Basins

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