

**NOTICE OF PUBLIC HEARING
OF
GONZALES COUNTY UNDERGROUND
WATER CONSERVATION DISTRICT
On Proposed Additions and Amendments to the
District's Management Plan**

The Gonzales County Underground Water Conservation District ("the District") will hold a public hearing for the purpose of receiving comments on proposed additions and amendments to the Management Plan of the District.

Note: A member of the public shall be allowed to address the GCUWCD Board of Directors regarding an agenda item during public comments via video or conference call with a written notice to the GCUWCD office before 5:00 pm. the day of the meeting. Forms will be made available on the District's website or at the District's office in which to request the submission of one's comments regarding a Board agenda item. The president of the Board reserves rights to place a time limit on comments. The audio and video conference opens 5 minutes before the 5:30 p.m. beginning of the meeting.

The Board of Directors will take public comments on the proposed additions and amendments to the Management Plan on Tuesday, November 12, 2024, at the District office located at 522 Saint Matthew Street, Gonzales, Texas. The public hearing will begin at 5:30 p.m. Agenda is as follows:

GCUWCD November 12, 2024, Public Hearing Management Plan

Nov 12, 2024, 5:30 – 7:30 PM (America/Chicago)

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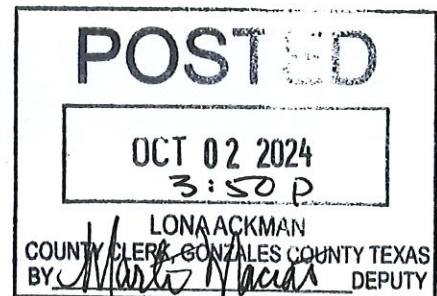
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1. Call to order.
2. President of the Board to make comments.
3. Receive comments from the public on the District's proposed Management Plan.
4. Discussion of other items of interest by the Board and direction to management.
5. Adjourn.

Copies of the proposed additions and amendments to the Management Plan of the District are available at the offices of the Gonzales County Underground Water Conservation District, 522 Saint Matthew Street, Gonzales, Texas, from 8:00 a.m. to 5:00 p.m., Monday through Friday, or on the District's website at www.gcuwcd.org.

Written comments should be submitted to the General Manager, PO Box 1919, Gonzales, Texas 78629 by November 12, 2024, at 5:00 p.m. or presented at the hearing.



POSTED THIS THE 2nd DAY OF OCTOBER 2024 AT _____ O'CLOCK by _____.

Laura Martin

From: Robert Bradley <Robert.Bradley@twdb.texas.gov>
Sent: Tuesday, September 24, 2024 4:01 PM
To: Laura Martin
Cc: GWMPlans
Subject: Gonzales County UWCD management plan items

Laura,

As discussed at the GMA 13 meeting on September 20, 2024, here are three items to address in your management plan to make it administratively complete:

As stated in Texas Water Code Chapter 36(e)(4) the district is to “**consider the water supply needs and water management strategies included in the adopted state water plan**”. The inclusion of language showing the district considered the water supply needs and water management strategies will make this a more complete plan. Please provide discussion on the water supply needs and water management strategies that are supplied in the data packet provided by TWDB.

In your district, water supply needs exist for these categories: municipal (County Line SUD, Goforth SUD, Lockhart, Luling, Martindale WSC, and San Marcos,. In addition, there are water management strategies that are within the county for using the Carrizo-Wilcox Aquifer that need more consideration in the writeup. And you can limit the list to those WUGs that are in the district. You can also add other water management strategies for consideration if you want to list demand reduction, direct reuse, or any other strategies that will affect your district.

It appears that you placed needs under Section 6, Subsection 3 Projected Water Demands and included WUGs that do not exist in the district. You can move the writeup in the demands writeup to the needs discussion but limit it to those WUGs within the district.

As we discussed, please add a statement in your writeup that precipitation enhancement is not applicable because it is not appropriate or cost effective to the district. (Checklist items 39d-42d).

We acknowledge your assessment that the Guadalupe Blanco River Authority is the sole surface water management entity in the district with which coordination is required for the final adopted plan.

If you have any questions, please contact us. We look forward to processing your final management plan after it is approved by your board after notice and hearing.

You can submit the final management plan along with the required documentation to gwmplans@twdb.texas.gov. And we would like to review your plan if you want us to prior to adoption.

Regards,

Robert G. Bradley, PG, CTCM
Manager
Groundwater Technical Assistance
Texas Water Development Board
1700 North Congress Avenue
P.O. Box 13231

Texas Water Development Board

Groundwater Conservation District Management Plan Checklist, effective December 6, 2012

District name: **Gonzales County UWCD**

Date plan received: **08/14/24**

Reviewing staff: **Stephen Allen**

Date plan reviewed: **08/29/24**

A management plan shall contain, unless explained as not applicable, the following elements, 31 TAC §356.52(a):

	Citation of rule	Citation of statute	Present in plan and administratively complete	Source of data	Evidence that best available data was used	Notés
Is a paper hard copy of the plan available?	31 TAC §356.53(a)(1)		YES			
Is an electronic copy of the plan available?	31 TAC §356.53(a)(2)		YES			
1. Is an estimate of the modeled available groundwater in the District based on the desired future condition established under Section 36.108 included?	31 TAC §356.52(a)(5)(A)	TWC §36.1071(e)(3)(A)	YES	GAM Run 21-018 MAG	YES	p. 9-12, App. 5
2. Is an estimate of the amount of groundwater being used within the District on an annual basis for at least the most recent five years included?	31 TAC §356.52(a)(5)(B); §356.10(2)	TWC §36.1071(e)(3)(B)	YES	TWDB WUS	YES	p. 12, App. 6
For sections 3-5 below, each district must use the groundwater availability modeling information provided by the TWDB in conjunction with available site-specific information provided by the district when developing the required estimates, 31 TAC §356.52(c):						
3. Is an estimate of the annual amount of recharge, from precipitation, if any, to the groundwater resources within the District included?	31 TAC §356.52(a)(5)(C)	TWC §36.1071(e)(3)(C)	YES	GAM Run 23-018	YES	p. 13, App. 7
4. For each aquifer in the district, is an estimate of the annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams and rivers, included?	31 TAC §356.52(a)(5)(D)	TWC §36.1071(e)(3)(D)	YES	GAM Run 23-018	YES	p. 13, App. 7
5. Is an estimate of the annual volume of flow a) into the District within each aquifer, b) out of the District within each aquifer, c) and between aquifers in the District,	31 TAC §356.52(a)(5)(E)	TWC §36.1071(e)(3)(E)	YES	GAM Run 23-018	YES	p. 13, App. 7
			YES	GAM Run 23-018	YES	p. 13, App. 7
			YES	GAM Run 23-018	YES	p. 13, App. 7
if a groundwater availability model is available, included?						
6. Is an estimate of the projected surface water supply within the District according to the most recently adopted state water plan included?	31 TAC §356.52(a)(5)(F)	TWC §36.1071(e)(3)(F)	YES	2022 SWP	YES	p. 12, App. 6
7. Is an estimate of the projected total demand for water within the District according to the most recently adopted state water plan included?	31 TAC §356.52(a)(5)(G)	TWC §36.1071(e)(3)(G)	YES	2022 SWP	YES	p. 12, App. 6
8. Did the District consider and include the water supply needs from the adopted state water plan?		TWC §36.1071(e)(4)	NO	2022 SWP	NO	p. 12, App. 6, incomplete consideration
9. Did the District consider and include the water management strategies from the adopted state water plan?		TWC §36.1071(e)(4)	NO	2022 SWP	NO	p. 12-13, App. 6, incomplete consideration
10. Did the district include details of how it will manage groundwater supplies in the district	31 TAC §356.52(a)(4)		YES			p. 1, 13-18
11. Are the actions, procedures, performance, and avoidance necessary to effectuate the management plan, including specifications and proposed rules, all specified in as much detail as possible, included in the plan?		TWC §36.1071(e)(2)	YES			p. 13-17, link to rules on page 14
12. Was evidence that the plan was adopted, after notice and hearing, included? Evidence includes the posted agenda, meeting minutes, and copies of the notice printed in the newspaper(s) and/or copies of certified receipts from the county courthouse(s).	31 TAC §356.53(a)(3)	TWC §36.1071(a)	NO			p. 9, App. 1 and 2 and p. 22, Adoption Resolution and Hearing Notices no current hearing notices
13. Was evidence that, following notice and hearing, the District coordinated in the development of its management plan with regional surface water management entities?	31 TAC §356.51	TWC §36.1071(a)	NO			p. 9, App. 3, letters to SWEC incomplete
14. Has any available site-specific information been provided by the district to the executive administrator for review and comment before being used in the management plan when developing the estimates required in subsections 31 TAC §356.52(a)(5)(C),(D), and (E)?	31 TAC §356.52(c)	TWC §36.1071(h)	N/A			

Mark an affirmative response with YES
 Mark a negative response with NO
 Mark a non-applicable checklist item with N/A

Management goals required to be addressed unless declared not applicable	Management goal (time-based and quantifiable) 31 TAC §356.51	Methodology for tracking progress 31TAC §356.52(a)(4)	Management objective(s) (specific and time-based statements of future outcomes) 31 TAC §356.52 (a)(2)	Performance standard(s) (measures used to evaluate the effectiveness of district activities) 31 TAC §356.52 (a)(3)	Notes
Providing the most efficient use of groundwater 31 TAC 356.52(a)(1)(A); TWC §36.1071(a)(1)	15) YES	16) YES, p. 18	17) YES	18) YES	p. 15, 17 and 18
Controlling and preventing waste of groundwater 31 TAC 356.52(a)(1)(B); TWC §36.1071(a)(2)	19) YES	20) YES, p. 17	21) YES	22) YES	p. 19-20
Controlling and preventing subsidence 31 TAC 356.52(a)(1)(C); TWC §36.1071(a)(3)	23) N/A	24) N/A	25) N/A	26) N/A	p. 15-16, 19
Addressing conjunctive surface water management issues 31 TAC 356.52(a)(1)(D); TWC §36.1071(a)(4)	27) YES	28) YES, p. 17	29) YES	30) YES	p. 19
Addressing natural resource issues that impact the use and availability of groundwater and which are impacted by the use of groundwater 31 TAC 356.52(a)(1)(E); TWC §36.1071(a)(5)	31) YES	32) YES, p. 17	33) YES	34) YES	p. 16 & 17, 19-20
Addressing drought conditions 31 TAC 356.52(a)(1)(F); TWC §36.1071(a)(6)	35) YES	36) YES, p. 17	37) YES	38) YES	p. 16, 20
Addressing a) conservation, b) recharge enhancement, c) rainwater harvesting, d) precipitation enhancement, and e) brush control where appropriate and cost effective 31 TAC 356.52(a)(1)(G); TWC §36.1071(a)(7)	39)	40)	41)	42)	
	39a) YES	40a) YES, p. 17	41a) YES	42a) YES	p. 17, 20-21
	39b) YES	40b) YES, p. 17	41b) YES	42b) YES	p. 17, 20-21
	39c) YES	40c) YES, p. 17	41c) YES	42c) YES	p. 20-21
	39d) NO	40d) NO	41d) NO	42d) NO	p. 20-21, missing N/A
	39e) YES	40e) YES	41e) YES	42e) YES	p. 20-21
Addressing the desired future conditions established under TWC §36.108. 31 TAC 356.52(a)(1)(H); TWC §36.1071(a)(8)	43) YES	44) YES, p. 17	45) YES	46) YES	p. 10-12, 14, 21-22
Does the plan identify the performance standards and management objectives for effecting the plan? 31 TAC §356.52(a)(2)&(3); TWC §36.1071(e)(1)			47) YES	48) YES	

Mark required elements that are present in the plan with YES
 Mark any required elements that are missing from the plan with NO
 Mark plan elements that have been indicated as not applicable to the district with N/A

GONZALES COUNTY
UNDERGROUND WATER CONSERVATION DISTRICT

MANAGEMENT PLAN



Original: February 10, 1998

Revision 1.0: July 8, 2003

Revision 2.0: May 14, 2009

Revision 3.0: February 18, 2014

Revision 4.0: November 13, 2018

Revision 5.0: _____, 2024

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Appendix 2 Public Notices for Adoption of Management Plan

Appendix 3 Certified Mail Receipts from Surface Water Management Entities

Appendix 4 Technical Memorandums LRE Water: Discussion of Aquifer Uses and Conditions
February 07, 2020, and Groundwater Availability Modeling Technical Elements
January 14, 2022

Appendix 5 GAM Run 21-018 MAG

Appendix 6 Estimated Historical Use and 2022 State Water Plan Datasets

Appendix 7 GAM Run 23-018: Gonzales County Underground Water Conservation District
Management Plan

Appendix 8 References

1.0 DISTRICT MISSION

The mission of the Gonzales County Underground Water Conservation District (“GCUWCD” or “District”) is to conserve, preserve, protect, and prevent waste of groundwater resources. It shall be the policy of the Board of Directors that the most efficient use of groundwater in the District is to provide for the needs of the citizens and ensure growth for future generations. The Board of Directors, with the cooperation of the citizens of the District, shall implement this management plan and its accompanying rules to achieve this goal. If it appears this management plan, or production limits do not achieve the desired future conditions (DFC’s) the District will amend the management plan, or production limits. GCUWCD shall also establish, as part of this plan, the policies of water conservation, public information and technical research by cooperation and coordination with the citizens of the District and equitable enforcement of this plan and its accompanying rules.

2.0 PURPOSE OF THE MANAGEMENT PLAN

Senate Bill 1, enacted in 1997, and Senate Bill 2, enacted in 2001, established a comprehensive statewide planning process, including requirements for Groundwater Conservation Districts (“GCDs”) under the Texas Water Code Chapter 36 to manage and conserve the groundwater resources of the State of Texas. Section 36.1071, Water Code, requires that each GCD develop a management plan that 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 that impact the use and availability of groundwater, and which are impacted by the use of groundwater, (6) addressing drought conditions, (7) addressing conservation, recharge enhancement, rainwater harvesting, [precipitation enhancement](#), or brush control, where appropriate and cost-effective, and (8) addressing the DFCs adopted by the District under Section 36.108.

House Bill 1763, enacted in 2005, requires joint planning among GCDs within the same Groundwater Management Area (“GMA”). These Districts must establish the DFCs of the aquifers within their respective GMAs. Through this process, the GCDs will submit the DFCs of the aquifer to the executive administrator of the Texas Water Development Board (“TWDB”). The TWDB will calculate the modeled available groundwater (“MAG”) in each District within the management area based upon the submitted DFCs of the aquifer within the GMA. Technical information, such as the DFCs of the aquifers within the District’s jurisdiction and the amount of MAG from such aquifers is required by statute to be included in the District’s management plan and will guide the District’s regulatory and management policies.

3.0 DISTRICT INFORMATION

3.1 Creation

The GCUWCD was created on an order of the Texas Commission on Environmental Quality (TCEQ), formerly the Texas Natural Resource Conservation Commission (TNRCC), on November 19, 1993. A copy of TNRCC order number 101692-DO4, approving the petition for creation of the GCUWCD, is available on the District’s website at: <http://www.gcuwcd.org/documentsandforms.html>.

3.2 Directors

The GCUWCD Board of Directors is comprised of five (5) members elected from single member districts. The Board voted to adopt amended election procedures as stipulated in Sec.36.059, Water Code. The statute requires the District to elect directors according to the precinct method as defined by Chapter 12, page 1105, Special Laws, Acts of the 46th Legislature, Regular Session, 1939. Section 6 of Chapter 12 requires the District Directors to serve staggered terms and for the District to conduct elections every two years. The

Board of Directors meets in regular sessions on the second Tuesday each month in the City of Gonzales, Texas. All meetings of the Board of Directors are open to the public as set forth in the Texas Open Meetings Act, Title 5, Chapter 551 of the Texas Government Code, and advanced written notices of such meetings are posted as required.

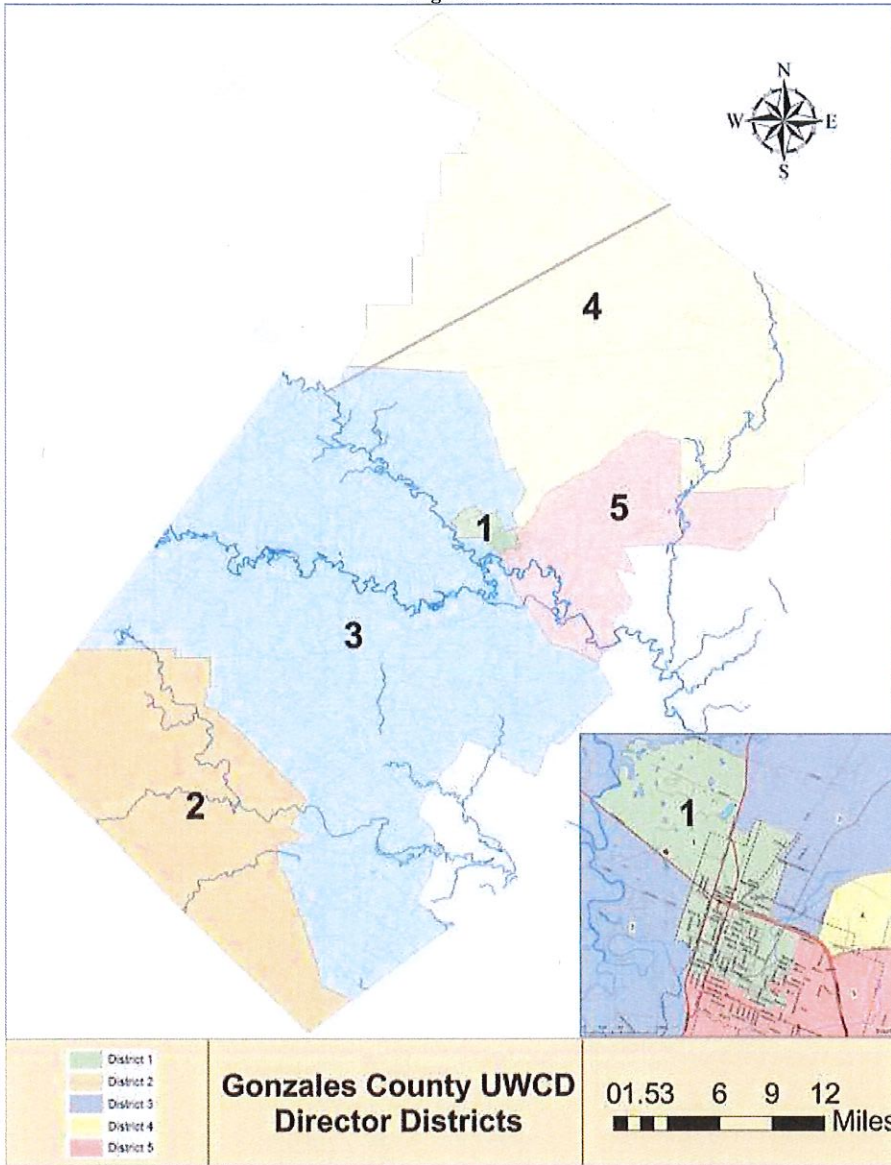
3.3 Authority of the District

As stated in TNRCC order number 101692-DO4, the GCUWCD has all the rights, powers, privileges, authority, and functions conferred by, and subject to all duties imposed by the TCEQ and the general laws of the State of Texas relating to GCD's. The District is governed by the provisions of Texas Water Code (TWC) Chapter 36 and 31 Texas Administrative Code (TAC) Chapter 356.

3.4 District Boundaries

GCUWCD serves the areas of Gonzales County and the southeast portion of Caldwell County (**Figure 1**). Gonzales County is bounded by Guadalupe, Wilson, Karnes, DeWitt, Lavaca, Fayette, and Caldwell counties. There are approximately 677,000 acres in Gonzales County, of which 101,000 acres are excluded from the District leaving 576,000 acres within the boundaries of the county. Incorporated towns within Gonzales County include Gonzales, Waelder, Nixon, and Smiley. In December 2007, GCUWCD approved a resolution to annex the southeastern portion of Caldwell County into the District. An election was held in Caldwell County on May 10, 2008, with voters approving the annexation. The Board approved the canvass of the proposition election to ratify the annexation on May 13, 2008. The annexed area of Caldwell County encompassed approximately 77,440 acres. A dispute with the Plum Creek Conservation District over portions of this annexed territory was settled through the passage of Senate Bill No. 1225 (2011) leaving approximately 72,767 acres within the GCUWCD. Delhi and Taylorsville are the principal communities in the area. The District's economy is primarily agricultural, with poultry production being the primary income producer, followed by beef cattle and farming. Oil and gas production also contributed to the local economy.

Figure 1



The GCUWCD is located within GMA 13. The GMA 13 includes seventeen (17) counties and nine (9) GCDs (Figure 2.1 and Figure 2.2). Section 36.108, Water Code, requires joint planning among the GCDs within GMA 13. The District is actively engaged in the joint planning process and provides input to GMA 13. The District has a joint management agreement with Evergreen Underground Water Conservation District, Guadalupe County Underground Water Conservation District, Medina County Groundwater Conservation District, and Wintergarden Groundwater Conservation District. This updated agreement, signed on September 13, 2022, states that the GCDs will cooperate in managing the groundwater resources of the Carrizo Aquifer. The District has provided and will continue to provide the other GCDs in the aquifer management area with copies of its management plan and rules when changes are made.

Interlocal agreements with neighboring GCD's are renewed on a five (5) year cycle to ensure a mutually advantageous benefit of constituents to coordinate statutory duties related to scientific data collection and the associated management of groundwater resources and underlying neighboring Districts, particularly within the context of the "joint planning" process and establishment and achievement of DFC's set within GMA 13.

Figure 2.1

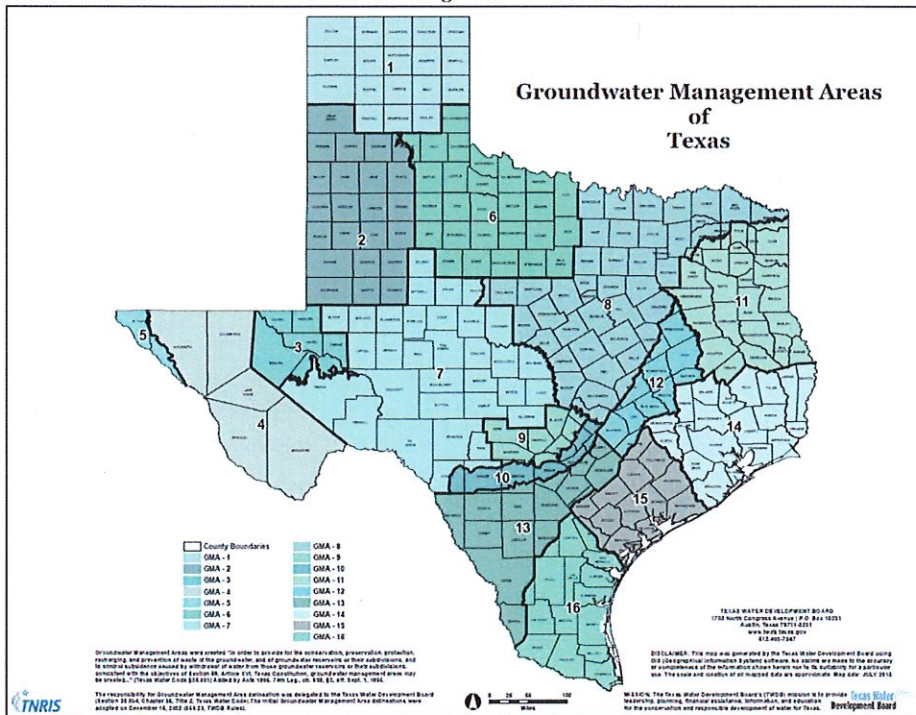
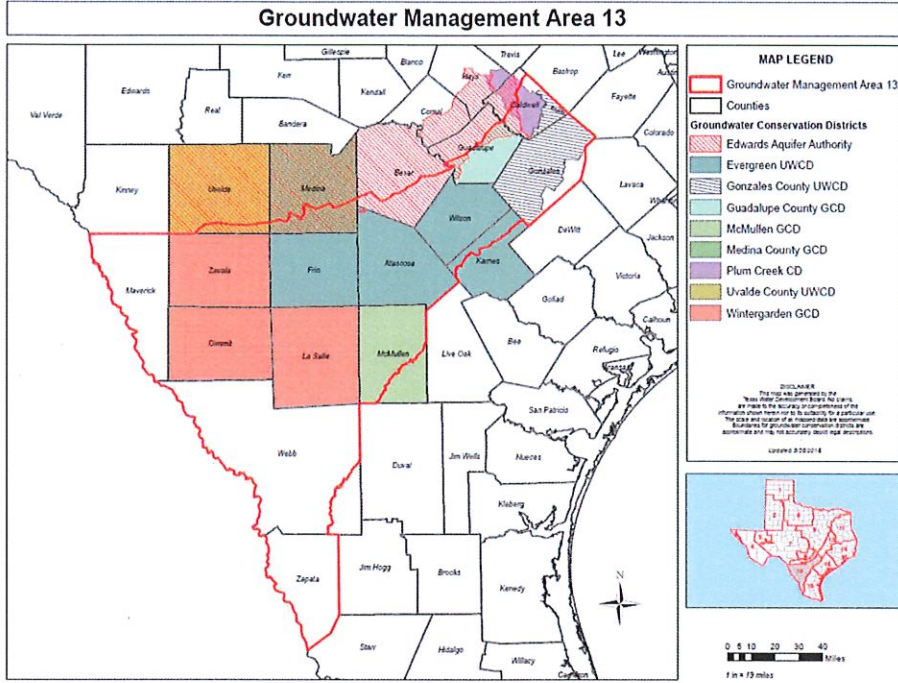


Figure 2.2



The GCUWCD is located within planning South Central Texas Regional Planning Group (SCTRWP, Region L). Region L includes all or parts of 21 counties, portions of nine river and coastal basins, the Guadalupe Estuary, and San Antonio Bay (Figure 3.1 and 3.2). The Board of Directors unanimously supports the concept of a grassroots planning effort. The District will actively provide input to the regional plan and participate in the planning effort.

Figure 3.1

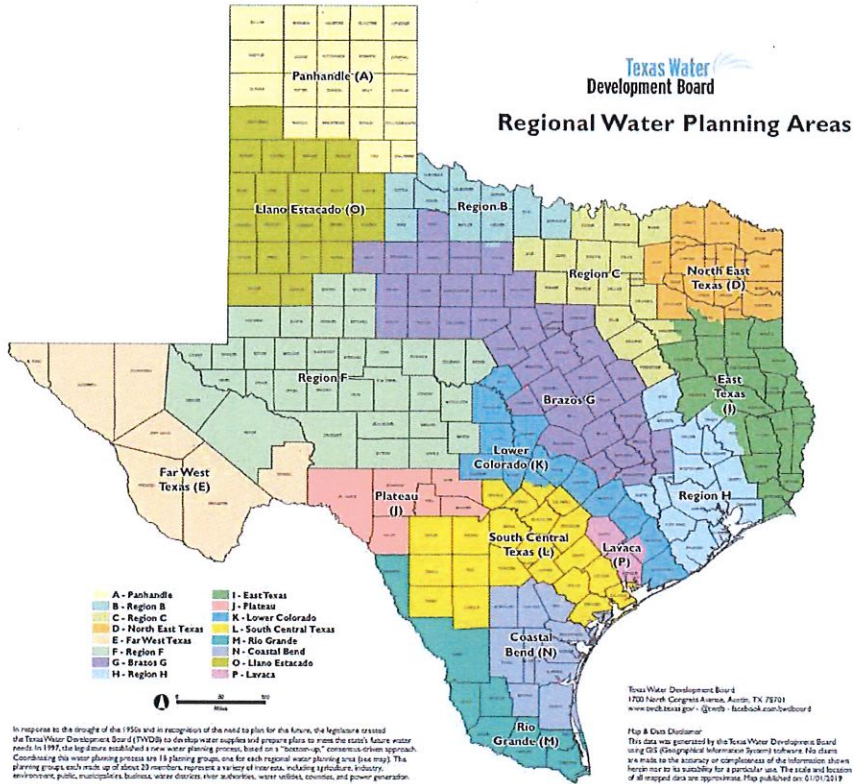
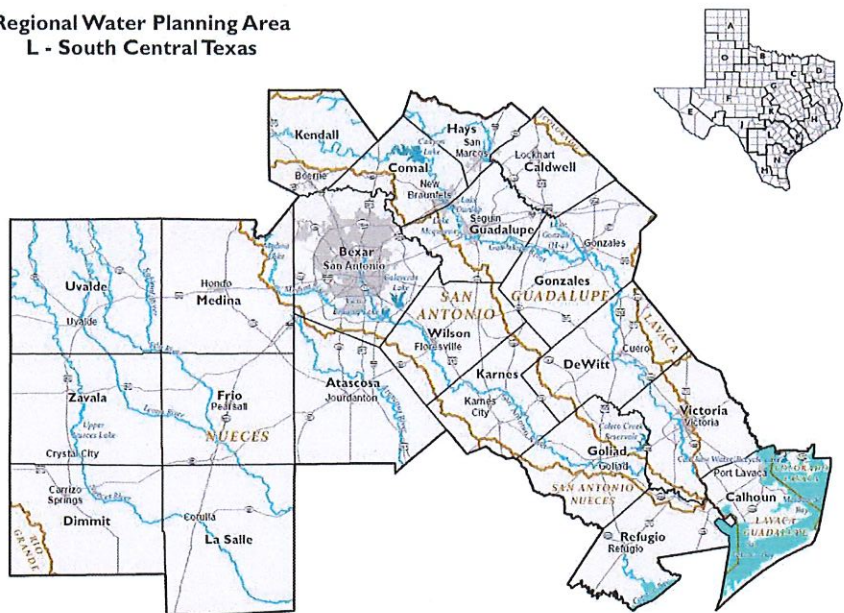


Figure 3.2

Regional Water Planning Area
L - South Central Texas



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County boundaries
 Major river basin boundaries
 Major reservoirs
 Major reservoirs
 Major rivers
 County seats

Texas Water Development Board
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 www.twdb.state.tx.us @twdb facebook.com/twdb

Texas Water Development Board

3.5 Topography and Drainage

The GCUWCD lies within south-central Texas on the Gulf Coastal Plain. In most of the District the topography ranges from flat to rolling. However, two prominent lines of hills extend across parts of Gonzales County – one along the northwestern boundary from Ottine to about seven (7) miles northwest of Devville and the other along the boundary of Lavaca County. In Caldwell County, the minimum elevation, about 295 feet, is at the southern tip of the County where Plum Creek joins the San Marcos River. The maximum elevation is in the area of the so-called “Iron Mountains” peaks southeast and south of McMahan.

Most of the District lies in the drainage basin of the Guadalupe River. Two small areas in the eastern and southeastern parts of the District are drained by the Colorado River. Most of the southern and southwestern parts of Gonzales County are drained by Sandies Creek, which flows southeastward and enters the Guadalupe River near Curo in Dewitt County. Most of the northern and northeastern parts of Gonzales County are drained by Peach Creek, which flows southward, entering the Guadalupe River about ten (10) miles southeast of Gonzales. Plum Creek, the major tributary to the San Marcos River in Caldwell County, drains about 310 square miles (about 60 percent) of the County.

3.6 Groundwater Resources

The Wilcox Group yields small to moderate quantities of fresh to slightly saline water to a few wells in and near the outcrop in the northwestern part of Gonzales County. In Caldwell County, the Wilcox yields small to large quantities of water to many wells for domestic and stock purposes, public supply, and some irrigation. The Wilcox Group crops out in a small area in the GCUWCD near Ottine. The Wilcox is composed of clay, silt, fine to medium-grained sand and sandstone, sandy shale, and thin beds of lignite. The thickness of the Wilcox ranges from about 1,300 to 3,200 feet, with a maximum thickness of 2,000 feet occurring in an erosional channel in the southeastern part of the District. This erosional channel is filled largely with silty shale.

The principal water-bearing formation in the GCUWCD is the Carrizo Aquifer, which yields moderate to large quantities of fresh to slightly saline water throughout a large part of its subsurface extent. Most of the Carrizo in the GCUWCD has at least 80 percent sand. Portions of the Carrizo in the eastern half of the GCUWCD have 60 to 80 percent sand, generally corresponding to the area of the Yoakum Channel. Geologic thickness maps produced for the GCUWCD indicate that the Carrizo varies from less than 200 feet over the San Marcos Arch in the central portion of the county to more than 600 feet in the western portion of the GCUWCD and about 800 feet in the Yoakum Channel in the eastern portion of the GCUWCD. The Carrizo crops out in a small area along the western edge of Gonzales County and across the southeast portion of Caldwell County in a belt 1.5 to 3.5 miles wide. The Carrizo consists of beds of massive, commonly cross-bedded coarse sand and some minor amounts of sandstone and clay.

The Queen City Aquifer yields small to moderate quantities of fresh to slightly saline water to wells in the area of the outcrop and downdip for a distance of about 5 to 8 miles. The Queen City Aquifer crops out in a northeastward trending belt across Gonzales and Caldwell Counties about 2 to 4 miles wide and is composed of massive to thin bedded medium to fine sand and clay. The thickness of the Queen City ranges from about 400 to 825 feet where the entire section is present.

The Sparta Aquifer yields small to moderate quantities of fresh to slightly saline water in the outcrop and for a few miles downdip. The Sparta Aquifer crops out in a belt about 1-mile-wide trending northeastward across Gonzales County and consists of fine to medium grained sand with some shale. The thickness of the Sparta Aquifer averages about 100 feet.

The Yegua-Jackson Aquifer runs approximately parallel to the Gulf of Mexico coastline and is aligned across the south-central portion of the GCUWCD in a narrow band approximately 7 to 10 miles wide. In

Gonzales County, the Yegua Formation yields small quantities of slightly to moderately saline water for domestic use and for livestock. At some places in the County, sands in the Jackson also yield small quantities of fresh to slightly saline water for domestic use and for livestock. The Yegua Formation is composed of medium to fine sand, clay, silt, small amounts of gypsum, and beds of lignite. The Yegua has a maximum thickness of about 1,000 feet. The Jackson Group conformably overlies the Yegua Formation and consists of clay, silt, tuffaceous sand, sandstone, bentonitic clay, and some volcanic ash, and has a maximum thickness of at least 950 feet and possibly as much as 1,200 feet.

4.0 CRITERIA FOR PLAN APPROVAL

4.1 Planning Horizon

This plan shall be used for the ten (10) year period following approval as administratively complete by the Texas Water Development Board (TWDB) as required by *31 TAC §356.52(a)*. The GCUWCD shall implement these goals and policies for a planning period of ten (10) years and will review the plan in five (5) years or sooner as circumstances warrant.

4.2 Board Resolution

A certified copy of the GCUWCD's resolution adopting this plan as required by *31 TAC §356.53(a)(2)* is included in **Appendix 1**.

4.3 Plan Adoption

Public notices documenting that this plan was adopted following appropriate public meetings and hearings, as required by *31 TAC §356.53(a)(3)*, are included in **Appendix 2**.

4.4 Coordination with Surface Water Management Entities

Letters transmitting copies of this plan to the Guadalupe Blanco River Authority and Region L are included in **Appendix 3** as required by *31 TAC §356.51*.

5.0 DESIRED FUTURE CONDITIONS AND MODELED AVAILABLE GROUNDWATER

Section 36.108, Texas Water Code, requires joint planning among the GDC's within GMA 13. A key part of joint planning is determining DFCs that are used to calculate "modeled available groundwater" (MAG). These conditions and volumes are used for regional water plans, groundwater management plans, and permitting. DFCs are the desired, quantified conditions of groundwater resources (such as water levels, water quality, spring flows, or volumes) at a specified time or times in the future or in perpetuity.

The DFCs for the Carrizo-Wilcox, Queen City, and Sparta Aquifers described in Resolution 21-02 from Groundwater Management Area 13, adopted November 19, 2021, are:

- *"The first desired future condition for the Carrizo-Wilcox, Queen City and Sparta Aquifers in Groundwater Management Area 13 is that 75 percent of the saturated thickness in the outcrop at the end of 2012 remains in 2080. Due to the limitations of the current Groundwater Availability Model, this desired future condition cannot be simulated as documented during 2016 Joint Planning in GMA 13 Technical Memorandum 16-08 (Hutchison, 2017a)."*
- *"In addition, a secondary proposed desired future condition for the Carrizo-Wilcox, Queen City, and Sparta Aquifers in Groundwater Management Area 13 is an average drawdown of 49 feet (+/- 5 feet) for all of GMA 13. The drawdown is calculated from the end of 2012 conditions to the year 2080. This desired future condition is consistent with simulation "GMA13_2019_001" summarized during a meeting of Groundwater Management Area 13 members on March 19, 2021."*

The desired future conditions for the Yegua-Jackson Aquifer described in Resolution 21-03 from Groundwater Management Area 13, adopted November 19, 2021, are:

"For Gonzales County, the average drawdown from 2010 to 2080 is 3 feet (+/- 1 foot)." The Edwards (Balcones Fault Zone), Gulf Coast, and Trinity Aquifers were declared not relevant for purposes of joint planning by Groundwater Management Area 13 in Resolution 21-01

For each aquifer, the DFC average drawdowns encompass the full extent of the aquifers within the District, from the outcrop to the downdip limit of the aquifer within the District boundary. The GMA13 wide DFCs for the Carrizo-Wilcox, Queen City, Sparta, and Yegua-Jackson Aquifers equate to drawdowns in the District's aquifers as shown in **Table 1** below.

Table 1
Desired Future Conditions
Appendix 4: GMA 13 Technical Memorandums GMA13-2019-001
Gonzales County Underground Water Conservation District

Aquifer	Average Drawdown (feet)
Wilcox (Upper)	120
Wilcox (Middle)	129
Wilcox (Lower)	145
Carrizo-	120
Queen City	31
Sparta	23
Yegua-Jackson	3

Modeled Available Groundwater (MAG) is defined in the Texas Water Code, Section 36.001, Subsection (25) as "the amount of water that the executive administrator determines may be produced on an average annual basis to achieve a DFC established under Section 36.108." MAG estimates for the Wilcox, Carrizo, Queen City, Sparta and Yegua-Jackson Aquifers were received from the TWDB in October 2023. Presentation of this data in the management plan is required by 31 TAC §356.52 (a)(5)(A).

Table 2
Modeled Available Groundwater
Gonzales County Underground Water Conservation District
Appendix 5: GAM Run 21-018 MAG

Aquifer	Year						
	2020 (ac- ft/yr)	2030 (ac- ft/yr)	2040 (ac- ft/yr)	2050 (ac- ft/yr)	2060 (ac- ft/yr)	2070 (ac- ft/yr)	2080 (ac- ft/yr)
Carrizo-Caldwell County	453	9,457	16,386	25,495	30,072	30,072	30,072
Carrizo-Gonzales County	47,131	51,908	55,242	55,832	56,206	57,166	49,620
Carrizo Total	47,584	61,365	71,628	81,327	86,278	87,238	79,692
Upper Wilcox	15	15	15	15	15	15	15
Middle Wilcox	11,096	15,563	20,114	24,556	24,556	24,556	24,556
Lower Wilcox	2,204	8,794	15,432	21,985	21,985	21,985	21,985
Wilcox Total	13,315	24,372	35,561	46,556	46,556	46,556	46,556
Queen City	9,815	9,789	9,530	9,505	9,505	8,477	8,477
Sparta	3,524	2,451	2,457	2,451	2,451	2,451	2,451
Yegua Jackson	4,728	4,728	4,728	4,728	4,728	4,728	4,728

The GAM run used to determine the MAG included all groundwater from the outcrop to the downdip extent within the GCUWCD for all the aquifers. The quality of the water was not considered so the MAG volumes include water with total dissolved solids concentrations (TDS) up to and possibly exceeding 3,000 ppm.

According to information included in the Final Reports of Groundwater Availability Models for the Carrizo-Wilcox, Queen City and Sparta Aquifers, prepared for the TWDB, limitations are intrinsic to models. Model limitations can be grouped into several categories including: (1) limitations in the data supporting a model, (2) limitations in the implementation of a model which may include assumptions inherent to the model application, and (3) limitations regarding model applicability. The report also states that the GAMs were developed on a regional scale and are applicable for assessing regional aquifer conditions resulting from groundwater development over a fifty-year period. At this scale, the models are not capable of precisely predicting aquifer responses at specific points such as a particular well. Thus, the estimation of available groundwater calculated by the Southern Carrizo-Wilcox Queen City and Sparta (SCWQCS) GAM should be considered as a tool to assist the District in managing the aquifers to comply with the District's adopted DFCs.

Drawdown averages and modeled available groundwater values were based on the TWDB defined aquifer boundaries rather than the model extent. Drawdowns for cells that became dry during the simulation (water level dropped below the base of the cell) were calculated as the reference year water level elevation minus the elevation of the model cell bottom. Pumping in dry cells was excluded from the modeled available groundwater calculations for the decades after the cell went dry. A tolerance of five feet was assumed when comparing DFCs to modeled drawdown results. This tolerance was specified by the GMA in their definition

of the DFCs. Estimates of modeled available groundwater from the model simulation were rounded to the nearest whole number. The verification calculation for the DFCs is based on an average of all model layers (Layers 1 through 8). The modeled available groundwater calculations are based on Layer 1 for the Sparta Aquifer, Layer 3 for the Queen City Aquifer, and the sum of Layers 5 through 8 for the Carrizo-Wilcox Aquifer.

6.0 Estimated Historical Groundwater Use and 2022 State Water Plan Datasets

The TWDB provides a package of data reports (Parts 1 and 2) to GCD's to assist them in meeting the requirements for approval of their five-year groundwater Management Plan. Each report in the package addresses a specific numbered requirement in the TWDB's Groundwater Management Plan checklist. The five reports are:

1. **Estimated Historical Groundwater Use** - the TWDB Uses Unit operates an annual survey of ground and surface water use by municipal and industrial entities within the state of Texas. This survey collects the volume of both ground and surface water used, the source of the water, water sales and other pertinent data from the users. The data provides an important source of information in helping guide water supply studies and regional and state water planning. Presentation of this data in the management plan is required by §36.1071(e)(3)(B), *Texas Water Code*.
2. **Projected Surface Water Supplies** - estimates of projected water supplies represent the estimated capacity of water systems to deliver water to meet user needs on an annual basis. Estimates of projected water supplies are compared with estimates of projected water demand to determine if the existing infrastructure can meet the expected needs of the water user group. Presentation of this data in the management plan is required by §36.1071(e)(3)(F), *Texas Water Code*.
3. **Projected Water Demands** - the projected water demand estimates are derived from the TWDB [Estimated Historical Groundwater use And 2022 State Water Plan Datasets](#) (Appendix 6). These water demand projections are separated into the following designated uses: municipal, manufacturing, steam electric, irrigation, mining, and livestock. Water demand is the total volume of water required to meet the needs of the specified user groups located within the District's planning area. Municipal needs in Gonzales County exist for the following water user groups (WUGs): [In Caldwell County: Aqua WSC, Caldwell County-Other, Canyon Lake Water Service Company, County Line SUD, City of Buda, Gonzales, City of Lockhart, City of Luling, City of Cibola, Nixon, City of San Marcos, City of Kyle, Smiley, City of La Vernia, Waelder, City of Marion, City of San Marcos, City of Schertz, City of Seguin, City of Selma, County Line WSC, Crystal Clear WSC, East Central WSC, Green Valley SUD, Martindale WSC, Maxwell WSC, San Antonio Water System, Spring Hill Water Company, S.S. WSC, Water Services Incorporated, Creedmoore-Maha WSC, Goforth SUD, Gonzales County WSC, Caldwell-Irrigation, Livestock, Manufacturing, and Mining, Polonia WSC, Tri Community WSC. In Gonzales County: Gonzales County-Other, City of Gonzales, City of Lockhart, City of Luling, City of Nixon, City of San Marcos, City of Smiley, City of Waelder, Gonzales County WSC, Gonzales-Irrigation, Livestock, Manufacturing, and Mining, City C.](#) Additional demands from 2020-2070 in Calwell County increase from 6,264 ac-ft to 12,068 ac-ft while need reflects -140 to -3,060. An overall demand in reduction of conservation has been presented as a management strategy to meet demand. (Appendix 6). Presentation of this data in the management plan is required by §36.1071(e)(3)(G), *Texas Water Code*.
4. **Projected Water Supply Needs** - the projected water supply needs estimates are derived from the 2022 State Water Plan. Estimates of Projected Water Supplies are compared with estimates of Projected Water Demand to determine if the existing infrastructure can meet the expected Water Supply Needs of the water user group. Presentation of Water Supply Needs in the management

plan is required by §36.1071(e)(4), *Texas Water Code*. The Texas Water Development Board (TWDB) projects that total water demand will increase from 17.7 million acre-feet in 2020 to 19.2 million acre-feet in 2070. Municipal demand is expected to increase due to population growth and surpass irrigation demand by 2060. Aqua WSC, Canyon Lake Water Service Company, City of Buda, City of Cibolo, City of Kyle, City of La Vernia, City of Marion, City of San Marcos, City of Schertz, City of Seguin, City of Selma, County Line WSC, Crystal Clear WSC, East Central WSC, Green Valley SUD, Martindale WSC, Maxwell WSC, San Antonio Water System, Spring Hill Water Company, S.S. WSC, Water Services Incorporated. Additional demands from 2020-2070 in Calwell County increase from 6,264 ac-ft to 12,068 ac-ft while need reflects -140 to -3,060. An overall demand in reduction of conservation has been presented as a management strategy to meet demand. (Appendix 6).

5. **Projected Water Management Strategies** - water management strategies are specific plans to increase water supply or maximize existing supply to meet a specific need. Municipal water conservation strategies focus on reducing conservation. Local Carrizo-Wilcox temporary overdraft strategies involve temporarily over-drafting the aquifer during drought conditions to supplement water supplies, direct reuse, and demand reduction. Aqua WSC, Canyon Lake Water Service Company, County Line SUD, Alliance Regional Water Authority Phase 2, Goforth SUD, Guadalupe-Blanco River Authority, City of Lockhart, City of Luling, Martindale WSC, Canyon Regional Water Authority, Maxwell WSC, Polonia WSC, City of San Marcos, Tri Community WSC, Gonzales County Water Supply Corporation, City of Nixon, City of Smiley, City of Buda, City of Cibolo, City of Kyle, City of La Vernia, City of Marion, City of San Marcos, City of Schertz, City of Seguin, City of Selma, County Line WSC, Crystal Clear WSC, East Central WSC, Green Valley SUD, Martindale WSC, Maxwell WSC, San Antonio Water System, Spring Hill Water Company, S.S. WSC, Water Services Incorporated. Presentation Waelder. Presentation of water management strategies in the management plan is required by §36.1071(e)(4), *Texas Water Code*.

The data package reports are included in **Appendix 6**.

7.0 Groundwater Availability Model Report

TWDB data package includes the Groundwater Availability Model report. Texas Water Code, Section 36.1071, Subsection (h) states that, in developing a Groundwater Management Plan, GCDs shall use groundwater availability modeling provided by the TWDB. Information derived from the groundwater availability models that shall be included in the management plan includes:

1. the annual amount of recharge from precipitation, if any, to the groundwater resources within the District – required by §36.1071(e)(3)(E), *Texas Water Code*.
2. for each aquifer within the District, the annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams, and rivers – required by §36.1071(e)(3)(E), *Texas Water Code*.
3. the annual volume of flow into and out of the District within each aquifer and between aquifers in the District – required by §36.1071(e)(3)(E), *Texas Water Code*.

The TWDB ran a groundwater availability model (GAM Run 23-018) for the central and southern Carrizo-Wilcox, Queen City, and Sparta Aquifers, the Yegua-Jackson Aquifer, and the central portion of the Gulf Coast Aquifer to create a groundwater budget. A groundwater budget summarizes water entering and leaving the aquifer according to input parameters assigned in the models to simulate the groundwater flow system. The components of the water budgets include:

1. **Precipitation Recharge** – this is the aerially distributed recharge sourced from precipitation falling on the outcrop areas of the aquifers (where the aquifer is exposed at the land surface) within the District.
2. **Surface Water Outflow** – this is the total water exiting the aquifer (outflow) to surface water features such as streams, reservoirs, and drains (springs).
3. **Flow into and Out of District** – this component describes lateral flow within the aquifer between the District and adjacent counties.
4. **Flow Between Aquifers** – this describes the vertical flow, or leakage, between aquifers or confining units. Inflow to an aquifer from an overlying aquifer will always equal the outflow from the other aquifer.

The Part 2 data package is included in Appendix 7.

8.0 MANAGEMENT OF GROUNDWATER RESOURCES

The GCUWCD will manage groundwater resources consistent with the intent and purpose of the District to conserve, preserve, protect and prevent waste of groundwater resources so that the economy of the areas within the District will be ensured of growth for future generations. Details of how the District will manage groundwater supplies, as required by *31 TAC 356.52(a)(4)*, as well as the actions, procedures, performance and avoidance necessary to effectuate the management plan, including specifications and the proposed rules, as required by *§36.1071(e)(2), Texas Water Code* are presented below.

8.1 Regulatory Action Plan

Pursuant to Chapter 36 of the Texas Water Code, the District has adopted rules limiting groundwater production based on tract size and the spacing of wells, to provide for conserving, preserving, protecting, preventing degradation of water quality, and to prevent the waste of groundwater. This District will enforce the rules of the District to meet the goals of regulating the production of groundwater within the District. These rules will govern the permitting of wells to be drilled and the production of water from permitted wells. The rules shall be adhered to and shall be based on the best technical evidence available. Copies of the District's Rules and the Management Plan shall be available at the District's office at no charge to residents of the District. A copy of the District's Rules and Management Plan are also available on the District's website at www.gcuwcd.org.

The District will monitor water levels in selected observation wells and evaluate whether the annual change in water levels is in conformance with the DFCs adopted by GMA 13 for each aquifer. The District will use information readily available (Groundwater Availability Models, TWDB reports, etc.) or install observation wells to assess the saturated thickness of the outcrops for the Carrizo-Wilcox, Queen City, and Sparta Aquifers. The District will use the saturated thickness of the approximate center of the outcrop as the monitoring location for the DFC. Water levels will be collected from nearby observation wells to monitor the saturated thickness levels of the aquifers.

For the Yegua-Jackson Aquifer the starting water level date for the District's DFC is January 2010. The District will measure water levels in designated observation wells during the winter months (November through February). Water level measurements will be obtained by automatic or manual water level monitoring equipment. The District will calculate the average yearly change in water level based on all of the wells in the observation well network. These changes will be summed each year over the DFC planning period. The average water level declines over time will be compared to production amounts to assist in predicting future water level declines.

The District will estimate total annual groundwater production for each aquifer based on water use reports, estimated exempt use, and other relevant information and compare these production estimates to the MAGs. The District will base future permitting decisions on the amount of existing water permitted, amount existing water being produced, and the condition of the aquifer (water level drawdowns) at the time the permit application is filed in order to achieve the DFC.

8.2 Permits and Enforcement

The District may deny permits or limit groundwater withdrawals following the guidelines stated in the rules of the District and this plan. In determining whether to issue a permit or limit groundwater withdrawal, the District will consider the public benefit against individual hardship after considering all relevant evidence, appropriate testimony and all relevant factors.

In carrying out its purpose, the District may require the reduction of groundwater withdrawal to amounts that will not cause the water table or artesian pressure to drop to a level that would cause harm to the aquifer or exceed the specified drawdown limitations under the adopted DFCs. To achieve this purpose the District may, at its discretion and based on information obtained through its groundwater monitoring procedures, amend or revoke any permits after notice and hearing. The monitoring procedures include calculation of yearly average drawdowns which will ensure that the District and permit holders are fully aware of the condition of the aquifers and corrective action measures can be reasonably implemented over appropriate intervals without causing harm to human health.

The District will enforce the terms and conditions of permits and its rules by enjoining the permittee in a court of competent jurisdiction as provided for in Section 36.102 of the Texas Water Code.

8.3 Exempt Use Wells

This plan and its accompanying rules shall exempt certain uses from the permit requirement as provided for in Section 36.117 of the Texas Water Code. The District, by rule, also provides exemptions for other categories of groundwater use including agricultural use, fracking use, and monitoring wells.

8.4 Permit Fees

The District will assess reasonable fees for processing a permit application to drill a test hole, for processing drilling and production permit applications, for processing export permit applications, and for processing permit applications to rework, re-equip, or alter a water well. No application fees are required for registering and recording the location of an existing well with the District.

8.5 Equity and Discretion

The District shall treat all citizens and entities of the District equally. Upon applying for a permit to drill a water well or a permit to increase the capacity of an existing well, the Board of Directors shall take into consideration all circumstances concerning the applicant's situation. The Board may grant an exception to the rules of the District when granting permits to prevent hardship or economic loss, also taking into consideration hydrological, physical or geophysical characteristics. Therefore, temporary exceptions to the general rule for a specific area may be necessary if an economic hardship will be created that is significantly greater for one person than for others in the District. In considering a request for an exception, the Board will also consider any potential adverse impacts on adjacent landowners. The exercising of discretion by the Board may not be construed to limit the power of the Board.

8.6 Spacing Requirements

Spacing of wells from the property line shall be in accordance with the rules of the District.

8.7 Production Ratios

The District may adopt rules to regulate groundwater withdrawals by means of production limits. The District may deny a well permit or limit groundwater withdrawals in accordance with guidelines stated in the rules of the District. In deciding to deny a permit or reduce the amount of groundwater withdrawals authorized in an existing permit, the District may weigh the public benefit in managing the aquifer to be derived from denial of a groundwater withdrawal permit or the reduction of the amount of authorized groundwater withdrawals against the individual hardship imposed by the permit denial or authorization reduction.

8.8 Cooperation and Coordination

Public cooperation is essential for this plan to accomplish its objectives. The District will work with the public and local and state governments to achieve the goals set forth in this plan. The District will coordinate activities with all public water suppliers, private water suppliers, industrial users and agricultural users to help them conserve groundwater. The Guadalupe Blanco River Authority (GBRA) is the local entity regulating all surface water in the District, and the District will work closely with this agency to achieve our mutual water related goals. The TCEQ is the agency charged with protecting the state's water resources, and the TWDB is the agency responsible for water resources planning and promotion of water conservation practices. The District will continue to work with both agencies to conserve, preserve and protect water resources, and to prevent waste as outlined in this plan. GCUWCD met with GBRA to discuss surface

8.9 Subsidence

Subsidence is not a relevant factor with the aquifers managed by this District according to regional groundwater management planning; the District includes a portion of the Gulf Coast Aquifer, which is known for its susceptibility to subsidence, but the District's creation order does not give the District any jurisdiction over the Gulf Coast Aquifer. In the report "Identification of the Vulnerability of the Major and Minor Aquifers of Texas to Subsidence with Regard to Groundwater Pumping-TWDB Contract Number 164830262"

the Subsidence Risk Value (SRV) in the Carrizo-Wilcox Aquifer as an aggregate scored a medium-high vulnerability score of 4.7, the total subsidence risk to be represented by a value between 0 and 10 (inclusive) with the higher values being at the greatest risk. Subsidence investigations at the local level may be appropriate for areas identified as medium, or high risk with critical infrastructure that would be sensitive to land surface elevation changes and/or land surface fissures. The objective of further investigating subsurface characteristics that lead to subsidence is to provide data that can inform a more accurate evaluation of subsidence risk or that can contribute to more accurate subsidence predictions. This is a regional study and should not be used for local subsidence risk analysis. The results of this study may provide a qualitative indication of local risk, but greater data uncertainty at the local level increases the uncertainty of the results. While the results may inform stakeholders of the risk for potential subsidence, site specific investigations of aquifer properties affecting subsidence would be needed for local scale analysis.

No subsidence has been observed in the District. The District will conduct a subsidence study at the local level during this planning cycle to investigate the local vulnerability to provide a more accurate evaluation of subsidence risk. Subsidence investigation methods will include lithologic; geotechnical, and/or geophysical borings; geophysical surveys; and survey benchmark re-leveling.

8.10 Transportation of Water from the District

In accordance with Section 36.122 of the Texas Water Code, if the proposed use of a water well or wells is for transportation of water outside the District additional information shall be required and an export permit

must be obtained from the Board before operating a transportation facility. The District may, in considering renewal of an export permit, review the amount of water that may be transferred out of the District. At any time during the term of an export permit, the District may revise or revoke a permit if the use of water unreasonably affects existing groundwater and surface water resources, or existing Permit Holders.

8.11 Groundwater Protection

Section 26.401 of the Texas Water Code states that: "In order to safeguard present and future groundwater supplies, usable and potential usable groundwater must be protected and maintained."

Groundwater contamination may result from many sources, including current and past oil and gas production, agricultural activities, industrial and manufacturing processes, commercial and business endeavors, domestic activities and natural sources that may be influenced by or may result from human activities. The District will take appropriate measures to monitor activities that are either causing, or have the potential threat to cause groundwater contamination. Due to permeability of aquifer outcrops and recharge zones, there is a greater threat of groundwater contamination from surface pollution in recharge and outcrop regions, and the District will monitor those areas more closely.

8.12 Drought Management

Periodic drought is a condition that plagues the GCUWCD. The Board of Directors of the District is very concerned that water will be available for the needs of the citizens during times of drought. The General Manager of the District will update the Board at every monthly meeting on drought conditions in the District. The General Manager will report the Palmer Drought Severity Index to the Board during the manager's report for the month. The Board of Directors will instruct the General Manager of the appropriate actions to be taken upon notification of moderate to severe drought. The possible actions to be taken may include public service announcements on the radio, newspaper articles on conditions of the aquifer, water conservation information, and/or notices to municipal suppliers to implement their drought plan.

8.13 Technical Research and Studies

The District, in cooperation with the TWDB and the TCEQ, will conduct studies to monitor the water level in the Yegua Jackson, Sparta, Queen City, Carrizo, and Wilcox Aquifers to determine if there is any danger of damaging these aquifers due to over production. The District will also establish water quality monitoring wells throughout the District to determine if any degradation of water quality is occurring. The District is currently cooperating with the Texas Water Development Board with its monitoring of the Wilcox, Carrizo, Queen City, Sparta and Yegua Jackson Aquifers.

8.14 Groundwater Recharge

The GCUWCD is prohibited from financing any groundwater recharge enhancement projects by order of the Texas Natural Resource Conservation Commission number 101692-DO4. The District has adopted rules to regulate Managed Aquifer Recharge projects.

8.15 Public Information

A well-informed public is vital to the proper operation of a GCD. The District is in compliance with the Open Meetings Act of the Texas Government Code Chapter 551 to keep Texas government transparent, open, and accountable to the people. The District will keep the citizens of the District informed by means of a website, timely newspaper articles and/or public service radio announcements, and informational handouts in the District's office. As part of the public information program the directors of the District and the District manager will make presentations to public gatherings, as requested, to keep the citizens informed about District activities and to promote proper use of available groundwater. The District conducts community outreach in the form of providing rain gauges and informational presentations at community group events. A water quality fair will be held for citizens to test their well water quality.

8.16 Conservation and Natural Resource Issues

Water is the most precious natural resource on Earth. The District will promote conservation as a way of life in order to conserve fresh water for future generations. The District will require wells in areas that are in danger of over producing groundwater and damaging the aquifers to restrict production by means of production permits and metering of the amount of water produced. The District will work with water utilities, agricultural and industrial users to promote the efficient use of water so that we may conserve water. The District will keep abreast of developments in water conservation and update requirements as needed. The District will, upon request, provide information on wells and water levels to the Natural Resources Conservation Service to develop waste management plans for the poultry producers.

Abandoned oil wells pose the greatest threat to the aquifers of the District. District personnel will monitor oilfield activity and notify the public that they may report abandoned oil wells and other problems associated with oil production to the District.

9.0 METHODOLOGY FOR TRACKING DISTRICT PROGRESS IN ACHIEVING MANAGEMENT GOALS

The District manager will prepare and present an Annual Report to the Board of Directors on District performance in regards to achieving management goals and objectives. The Annual Report will be presented to the Board on or before March 31st of each new year. The Board will maintain the report on file for public inspection at the District's offices upon adoption.

10.0 GOALS, MANAGEMENT OBJECTIVES, PERFORMANCE STANDARDS AND METHODOLOGY FOR TRACKING PROGRESS

The District's management goals, objectives, performance standards, and methodology for tracking progress, as specified in 36.1071(e)(2), *Texas Water Code* are addressed below.

10.1 Plan Elements Required by State Law and Rule

Providing the Most Efficient Use of Groundwater
31 TAC 356.52(a)(1)(A)

The District's goal is to provide for the most efficient use of the groundwater resources of the GCUWCD.

Management Objective 1: The District will register at least 20 exempt use wells and will compile the data into a database.

Performance: Record the date and number of exempt use wells registered in a database and include the information in the District's Annual Report.

Management Objective 2: The District will measure water levels in at least 40 observation wells to provide coverage across the Wilcox, Carrizo, Queen City, Sparta, and Yegua-Jackson Aquifers three times a year and will compile the water level data into a database.

Performance: Record the number of wells and water level measurements measured for each aquifer annually in a database and include this information in the District's Annual Report.

Management Objective 3: The District will meet with the cities of Gonzales, Nixon, Smiley, and Waelder, and the Gonzales Area Development Corporation at least once a year to inform them on water availability for economic development.

Performance: Record the date and number of meetings annually and include a copy of the meeting attendee's sheet and information on the topics of discussion with each entity in the District's Annual Report.

Management Objective 4: The District will gather water production data from local public water suppliers including the Gonzales County Water Supply Corporation, City of Gonzales, City of Nixon, City of Smiley, and City of Waelder, ten permitted or registered irrigation wells, and two livestock production facilities annually and compile the data into a database.

Performance: Record the amount of water used by each public water supplier, irrigation well, and livestock production facility and include the information into the District's Annual Report.

Controlling and Preventing Waste of Groundwater
31 TAC 356.52(a)(1)(B)

Management Objective 1: The District will provide educational resources to citizens within the District on controlling and preventing waste of groundwater. The District will, at least annually, submit an information article on controlling and preventing waste of groundwater within the District for publication in a newspaper of general circulation in the District or may publish the article on the District's website.

The District may also make a presentation to the public through local service organizations or public schools describing measures that can be taken by water users within the District.

Performance: Record the dates of each control and prevention of waste article submitted for publication, published on the District's website, or presentation made to the public and include this information in the District's Annual Report.

Controlling and Preventing Subsidence
31 TAC 356.52(a)(1)(C)

Because of the rigid geologic framework of the aquifers regulated by the District subsidence is not a relevant issue within the GCUWCD. The District includes a portion of the Gulf Coast Aquifer, which is known for its susceptibility to subsidence, but the District's creation order does not give the District any jurisdiction over the Gulf Coast Aquifer. Therefore, the management goal is not relevant or applicable.

Conjunctive Surface Water Management
31 TAC 356.52(a)(1)(D)

The District's goal is to maximize the efficient use of groundwater and surface water for the benefit of the residents of the District.

Management Objective 1: The District will meet with the staff of the Guadalupe Blanco River Authority ("GBRA"), at least once a year, to share information updates about conjunctive use potential.

Performance: Record the number of GBRA meetings attended annually and include a copy of the meeting attendee's sheet and information on the topics of discussion in the District's Annual Report.

Management Objective 2: The District will attend at least one Regional Water Planning Group ("RWPG") meeting annually to share information updates about conjunctive use potential.

Performance: Record the number of RWPG meetings attended annually and include a copy of each RWPG meeting agenda and a copy of the meeting minutes in the District's Annual Report.

Addressing Natural Resource Issues
31 TAC 356.52(a)(1)(E)

The District's goal is to protect the Natural Resources of the GCUWCD. The District believes that preventing the contamination of groundwater is the single most important waste prevention activity it can undertake.

Management Objective 1: The District will collect water quality data in at least 20 wells annually at locations throughout the District and will compile the data into a database. In selecting wells the District will emphasize the wells at or near the zone of bad water or potential pollution sources based on best available data. The District may conduct field measurements using hand held meters and/or collect samples for laboratory analysis from each well.

Performance: Record the number of wells in which water quality measurements were collected and the water quality results for each well and include this information in the District's Annual Report.

Management Objective 2: The District will monitor new facilities and activities on the recharge zones of the Carrizo/Wilcox, Queen City, Sparta, and Yegua-Jackson Aquifers on at least an annual basis for point source and non-point source pollution and compile this data into a database.

Performance: Record the date and results of the visual survey of all recharge zones for point source and nonpoint source activities and facilities and include the information in the District's Annual Report.

Management Objective 3: The District will meet with the local Texas Railroad Commission ("TRC") engineering technician at least once annually to review oil well permits and oil related activity that could endanger the aquifers and coordinate its efforts with this agency in locating abandoned or deteriorated oil wells.

Performance: Record the date and number of meetings with the TRC, the number of oil related activities that endangered the aquifers, the number of abandoned or deteriorated wells filed with the District and include the information in the District's Annual Report.

Management Objective 4: The District will meet with Natural Resources Conservation Service representatives to exchange information on irrigation demands, NRCS programs, and wells and water levels at least once annually.

Performance: Record the date and number of meetings with the Natural Resources Conservation Service representatives and include the information in the District's Annual Report.

Addressing Drought Conditions
31 TAC 356.52(a)(1)(F)

The District's goal is to provide information and coordinate an appropriate response with local water users and water managers regarding the existence of extreme drought events in the District.

Management Objective 1: The General Manager will access the National Weather Service – Climate Prediction Center website (http://www.cpc.ncep.noaa.gov/products/monitoring_and_data/drought.shtml) to determine the Palmer Drought Severity Index and will submit a report to the Board of Directors monthly. The District will provide information to and coordinate with local water users and water managers regarding drought response activities.

Performance: Record the number of monthly reports made to the District Board of Directors and the date and number of times when the District was under extreme drought conditions and the number of times letters were sent to public water suppliers. Include this information in the District's Annual Report.

**Addressing Conservation, Recharge Enhancement, Rainwater Harvesting, Precipitation
Enhancement, Brush Control**
31 TAC 356.52(a)(1)(G)

The District believes that the most efficient and effective ways to facilitate conservation within the District are through sound data collection, dissemination, and the distribution of public information about the groundwater resources in the GCUWCD, its current use and more effective ways to use it.

Management Objective 1: The District will, at least annually, submit an information article describing conservation measures that can be taken by water users within the District for publication in a newspaper of general circulation in the District or may publish the article on the District's website.

Performance: Record the dates of each conservation article submitted for publication or published on the District's website and include this information in the District's Annual Report.

Management Objective 2: The District will, at least annually, submit an information article describing recharge enhancement measures for publication in a newspaper of general circulation in the District or may publish the article on the District's website.

Performance: Record the dates of each recharge enhancement article submitted for publication or published on the District's website and include this information in the District's Annual Report.

Management Objective 3: The District will, at least annually, submit an information article describing rainwater harvesting measures that can be taken by water users within the District for publication in a newspaper of general circulation in the District or may publish the article on the District's website.

Performance: Record the dates of each rainwater harvesting article submitted for publication or published on the District's website and include this information in the District's Annual Report.

Management Objective 4: Precipitation Enhancement is no an applicable goal of the district due to the burdensome cost and lack of significant scientific evidence of the benefit.

Performance: The District will continue to monitor the costs and scientific benefit of precipitation enhancement by researching articles and studies related to precipitation enhancement and at least annually post to the district's website.

Management Objective 45: The District will publish an information article in a publication of wide circulation in the District or on its website, at least annually, describing brush control measures that can be used by landowners within the District

Performance: Record the date and number of brush control articles published and include this information in the Annual Report.

<p style="text-align: center;">Addressing the Desired Future Conditions of the Groundwater Resources <i>31 TAC 356.52(a)(1)(H)</i></p>

Management Objective 1: A District representative will attend all Groundwater Management Area 13 meetings annually.

Performance: Record the number of GMA13 meetings attended annually and include a copy of each GMA13 meeting agenda and a copy of the meeting minutes in the District's Annual Report.

Management Objective 2: The District will monitor water levels and evaluate whether the change in water levels is in conformance with the DFCs adopted by the District. The District will estimate total annual

groundwater production for each aquifer based on water use reports, estimated exempt use, and other relevant information and compare these production estimates to the MAGs.

Performance: Record the water level data and annual change in water levels for each aquifer and compare to the DFCs. Include this information in the District's Annual Report.

Performance: Record the total estimated annual production for each aquifer and compare these amounts to the MAG. Include this information in the District's Annual Report.

10.2 Plan Elements Developed at the Discretion of the District

Transportation of Water from the District
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The District will seek an accurate accounting of water transported from the District to users outside its boundaries.

Management Objective: The District will obtain monthly usage reports from individuals or entities that transport groundwater out of the District and will compile this data into a database.

Performance: Record the monthly transporter usage reports and present the results in the District's Annual Report.

This Management Plan is approved by resolution on January 09, 2024. This Management Plan takes effect on approval by the Texas Water Development Board. **Appendix 1**

Location of District Office:

Gonzales County UWCD
522 Saint Matthew Street
P.O. Box 1919
Gonzales, TX 78629

Telephone: 830.672.1047
Fax: 830.672.1387

Email: generalmanager@gcuwcd.org, admin@gcuwcd.org
Website: www.gcuwcd.org