TECHNICAL MEMORANDUM

2026 Lavaca Regional Water Plan

B&V PROJECT NO. 410083

PREPARED FOR

Lavaca Regional Water Planning Group &
Texas Water Development Board

6 FEBRUARY 2024

BLACK & VEATCH

TBPELS Reg. No F-258

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APPENDICES

1.0 INTRODUCTION

This Technical Memorandum is a compilation of the task work performed to date as part of the regional water planning process to develop the 2026 Lavaca Regional Water Plan for Region P. It is prepared for the Texas Water Development Board (TWDB) as a deliverable associated with Task 4C. On February 5, 2024, the Lavaca Regional Water Planning Group (LRWPG) accepted public comments on and approved the Technical Memorandum for submittal to the TWDB.

Appendix A of this Technical Memorandum includes the draft 2027 State Water Planning Database (DB27) Reports that provide data on population, water demand, water availability and supplies, water needs/surpluses, and a comparison of data to the 2021 Lavaca Regional Water Plan. The data provided in this Technical Memorandum is draft and may be subject to change prior to final approval of the 2026 Lavaca Regional Water Plan.

This Technical Memorandum also includes information regarding surface water and groundwater methodologies, water availability model versions and dates, infeasible water management strategies (WMSs) from the 2021 Lavaca Regional Water Plan, the documented process used by Region P to identify potentially feasible WMSs, a list of potentially feasible WMSs identified to date, and a description of interregional coordination efforts during this cycle.

2.0 SUMMARY OF PUBLIC COMMENTS

Rules in Title 31 of the Texas Administrative Code (31 TAC) Chapter 357.21(g)(2) describe notice requirements when a Regional Water Planning Group (RWPG) approves submittal of the Technical Memorandum. Specifically, notice must be provided at least 14 days prior to the meeting, written comment must be accepted for 14 days prior to the meeting and considered by the RWPG members prior to taking the associated action, and meeting materials must be made available on the RWPG website for a minimum of seven days prior to and 14 days following the meeting.

No written or oral comments were received during the required comment period.

3.0 TWDB DB27 REPORTS

The following reports have been generated from the TWDB 2027 State Water Planning Database (DB27) and are included in *Appendix A*.

1. Population Projections
2. Water Demand Projections
3. Source Water Availability
4. Existing Water Supplies
5. Identified Water Needs/Surpluses
6. Comparison of Supply, Demand, and Needs to 2021 RWP
7. Comparison of Source Availability to 2021 RWP

4.0 SOURCE WATER AVAILABILITY ASSUMPTIONS

The following describes the models and assumptions used to estimate the availability of water for surface water and groundwater.

4.1. SURFACE WATER

4.1.1. Water Availability Models and Associated Hydrologic Variances

For surface water availability modeling, the Lavaca Regional Water Planning Group (LRWPG) is using the unmodified Texas Commission on Environmental Quality (TCEQ) Lavaca River Water Availability Model (WAM) Run 3, dated October 1, 2023. Because the unmodified WAM is being used, a hydrologic variance request was not required for submittal to the TWDB.

The 2030 and 2080 model analyses were conducted by Black & Veatch on December 1, 2023. The WAM analyses estimated the firm yield for Lake Texana to be 79,000 acre-feet/year (acft/yr) for the 2030 and 2080 decades; therefore, no additional decadal runs were made. Because 4,500 acft/yr are required to be released for environmental flows, the water availability for Lake Texana in the 2026 Lavaca Regional Water Plan is identified as 74,500 acft/yr for all decades.

Table 1 includes details for the hydrologic model used, including the model name, version date, model input/output files used, date model used and any relevant comments. Appendix B (electronic) includes all model input/output files or other model files used to date in determining water availability.

Table 1 Details for Hydrologic Model Used

MODEL NAME	VERSION DATE	INPUT/OUTPUT FILES USED	DATE MODEL USED	COMMENTS
Unmodified TCEQ Lavaca WAM Run 3	10/1/23	2030 and 2080 model runs – created .YRO output files	12/1/23 -B&V	2030 and 2080 model Firm Yield was consistent; no other runs were performed

4.1.2. Sedimentation Methodology

The LRWPG incorporated sedimentation in the WAM analyses by using the *Volumetric and Sedimentation Survey of Lake Texana* report by the Texas Water Development Board, dated August 2020. The 2020 TWDB sedimentation survey indicates that Lake Texana has lost capacity at an average of 288 acft/yr since impoundment due to sedimentation below conservation pool elevation (44.0 feet NGVD29). The LRWPG used the area and capacity curve tables in the 2020 *Volumetric and Sedimentation Survey of Lake Texana* report to extrapolate and develop area-capacity rating curves for 2030 through 2080.

4.2. GROUNDWATER

The most recent work from Groundwater Management Areas (GMAs) are detailed in Modeled Available Groundwater (MAG) reports, prepared by the TWDB. The Lavaca Regional Water Planning Area intersects GMA 15. The MAG volumes for the Gulf Coast Aquifer System, which shows groundwater availability for each decade of the planning horizon, are detailed in GR21-020 MAG (GMA 15). There are no non-MAG groundwater numbers included for groundwater source availabilities.

At present, the LRWPG has not reallocated annual MAG volumes, nor identified the need to use MAG Peak Factors.

5.0 INFEASIBLE WATER MANAGEMENT STRATEGIES FROM THE 2021 RWP

The LRWPG conducted a one-time, mid-cycle analysis of the 2021 Lavaca Regional Water Plan to identify any newly infeasible Water Management Strategies (WMSs) and Water Management Strategy Projects (WMSPs). The LRWPG reviewed a list of WMSs and WMSPs from TWDB that were feasible and recommended at the time of adoption of the previous plan to determine if any have since become infeasible. Information from WMS and WMSP sponsors was gathered to determine whether they have taken affirmative steps to implement projects with a near-term online decade (2020, 2030, and 2040). In addition, the list of TWDB-provided strategies was presented to the LRWPG for discussion related to implementation status.

Results of the analysis were presented at the same public meeting in which the methodology for identifying potentially feasible WMSs for the current plan were presented. At the October 23, 2023, LRWPG meeting, after asking for public comments, the planning group approved that there were no infeasible water management strategies or water management strategy projects identified in the 2021 Lavaca Regional Water Plan.

6.0 DOCUMENTED PROCESS TO IDENTIFY POTENTIALLY FEASIBLE WATER MANAGEMENT STRATEGIES FOR THE 2026 PLANNING CYCLE

At the October 23, 2023, LRWPG meeting, after asking for public comments, the planning group approved the process to identify potentially feasible water management strategies for the 2026 planning cycle. The approved process is as follows:

1. Current water planning information, including specific water management strategies (WMS) of interest, will be solicited from Water User Groups (WUGs) and Wholesale Water Providers (WWPs) in Fall 2023.

    a. Solicitation of planning information will include the recommended WMSs in the 2021 Regional Water Plan.

    b. WUGs/WWPs will be encouraged to classify each WMS on their 2021 Plan list as included or rejected for the 2026 Planning Cycle and provide comments, and to list additional WMS that will be new for the 2026 Planning Cycle.

2. A list of potential WMSs will be prepared based on an initial technical evaluation and needs analysis and the comments received, which will be available for consideration by the RWPG by early 2024.

3. Additional WMSs may be brought forth to the RWPG for consideration until March 2024.

4. The list of potential WMSs will be further considered to identify "potentially feasible" or "not potentially feasible" WMSs for WUGs and WWPs with identified water needs.

7.0 POTENTIALLY FEASIBLE WATER MANAGEMENT STRATEGIES IDENTIFIED BY THE RWPG

The LRWPG has identified potentially feasible WMSs for meeting needs in the region. Over the next two LRWPG meetings, the LRWPG may consider additional WMSs, review scope and fee of each, and submit the information to TWDB for notice to proceed. ***Error! Reference source not found.*** provides the potentially feasible WMSs identified to date for WUGs specifically with needs. There have also been other strategies identified through the process that may not be specifically for WUGs with needs, but have been requested for inclusion in the plan or are carried over from the last cycle. In summary, the potentially feasible WMSs identified to date include the following:

- Drought Management
- Advanced Water Conservation
- Expand Use of Groundwater
- Lake Texana Yield Enhancement Project
- LNRA Desalination
- LNRA Aquifer Storage and Recovery
- Reuse
- Lake Texana Dredging

8.0 INTERREGIONAL COORDINATION EFFORTS TO DATE

To support interregional coordination, the LRWPG has an agenda item at each RWPG meeting for regional liaisons and members of the interregional planning council to discuss any updates since the previous RWPG meeting. In addition, Black & Veatch regularly communicates with technical consultants of neighboring regions, and in one case, has regularly-scheduled meetings. The LRWPG has a vested interest in coordinating with neighboring regions because Region P both receives water supply from a neighboring region and provides water supplies to neighboring regions.

Appendix A DB27 Reports

DRAFT Region P Water User Group (WUG) Population

	WUG Population					
	2030	2040	2050	2060	2070	2080
Jackson County Total	**15,769**	**16,762**	**17,634**	**18,376**	**19,143**	**19,935**
Jackson County / Colorado-Lavaca Basin Total	**2,604**	**2,829**	**3,013**	**3,188**	**3,369**	**3,556**
Quadvest*	55	75	89	107	124	142
County-Other	2,549	2,754	2,924	3,081	3,245	3,414
Jackson County / Lavaca Basin Total	**12,573**	**13,293**	**13,942**	**14,472**	**15,020**	**15,586**
Edna	5,848	6,213	6,534	6,807	7,089	7,381
Ganado	1,850	1,813	1,817	1,773	1,727	1,676
County-Other	4,875	5,267	5,591	5,892	6,204	6,529
Jackson County / Lavaca-Guadalupe Basin Total	**592**	**640**	**679**	**716**	**754**	**793**
County-Other	592	640	679	716	754	793
Lavaca County Total	**21,419**	**22,796**	**24,127**	**25,631**	**27,185**	**28,790**
Lavaca County / Guadalupe Basin Total	**52**	**55**	**59**	**63**	**67**	**71**
County-Other	52	55	59	63	67	71
Lavaca County / Lavaca Basin Total	**21,359**	**22,732**	**24,059**	**25,558**	**27,108**	**28,708**
Hallettsville	3,027	3,255	3,479	3,751	4,031	4,319
Moulton	776	746	717	689	662	636
Shiner	2,282	2,441	2,598	2,781	2,970	3,166
Yoakum*	3,852	4,057	4,251	4,445	4,648	4,860
County-Other	11,422	12,233	13,014	13,892	14,797	15,727
Lavaca County / Lavaca-Guadalupe Basin Total	**8**	**9**	**9**	**10**	**10**	**11**
County-Other	8	9	9	10	10	11
Wharton County Total	**16,611**	**16,782**	**16,764**	**16,735**	**16,705**	**16,674**
Wharton County / Colorado Basin Total	**2,248**	**2,270**	**2,261**	**2,252**	**2,241**	**2,230**
El Campo*	1,682	1,699	1,700	1,699	1,698	1,697
County-Other*	566	571	561	553	543	533
Wharton County / Colorado-Lavaca Basin Total	**10,831**	**10,942**	**10,936**	**10,921**	**10,908**	**10,894**
El Campo*	10,253	10,359	10,363	10,357	10,353	10,349
County-Other*	578	583	573	564	555	545
Wharton County / Lavaca Basin Total	**3,532**	**3,570**	**3,567**	**3,562**	**3,556**	**3,550**
El Campo*	512	517	517	517	517	516
Wharton County WCID 1	730	738	777	807	840	874

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

DRAFT Region P Water User Group (WUG) Population

	WUG Population					
	2030	2040	2050	2060	2070	2080
County-Other*	2,290	2,315	2,273	2,238	2,199	2,160
Region P Population Total	**53,799**	**56,340**	**58,525**	**60,742**	**63,033**	**65,399**

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

DRAFT Region P Water User Group (WUG) Demand

	WUG Demand (acre-feet per year)					
	2030	2040	2050	2060	2070	2080
Jackson County Total	**96,979**	**98,195**	**98,335**	**98,460**	**98,592**	**98,727**
Jackson County / Colorado-Lavaca Basin Total	**33,301**	**33,957**	**33,999**	**34,039**	**34,082**	**34,126**
Quadvest*	12	16	19	23	27	31
County-Other	258	276	294	309	326	342
Manufacturing	8,727	9,361	9,382	9,403	9,425	9,449
Livestock	470	470	470	470	470	470
Irrigation	23,834	23,834	23,834	23,834	23,834	23,834
Jackson County / Lavaca Basin Total	**49,987**	**50,078**	**50,157**	**50,223**	**50,291**	**50,362**
Edna	866	917	964	1,004	1,046	1,089
Ganado	204	199	199	194	189	184
County-Other	492	529	561	591	622	655
Manufacturing	106	114	114	115	115	115
Livestock	693	693	693	693	693	693
Irrigation	47,626	47,626	47,626	47,626	47,626	47,626
Jackson County / Lavaca-Guadalupe Basin Total	**13,691**	**14,160**	**14,179**	**14,198**	**14,219**	**14,239**
County-Other	60	64	68	72	76	80
Manufacturing	6,385	6,850	6,865	6,880	6,897	6,913
Livestock	208	208	208	208	208	208
Irrigation	7,038	7,038	7,038	7,038	7,038	7,038
Lavaca County Total	**18,891**	**19,114**	**19,345**	**19,607**	**19,877**	**17,491**
Lavaca County / Guadalupe Basin Total	**27**	**28**	**28**	**29**	**29**	**30**
County-Other	6	7	7	8	8	9
Livestock	21	21	21	21	21	21
Lavaca County / Lavaca Basin Total	**18,823**	**19,045**	**19,276**	**19,537**	**19,807**	**17,420**
Hallettsville	675	723	773	833	895	959
Moulton	156	149	143	138	132	127
Shiner	529	564	601	643	687	732
Yoakum*	670	703	736	770	805	842
County-Other	1,424	1,517	1,614	1,723	1,836	1,950
Manufacturing	528	548	568	589	611	634
Mining	2,665	2,665	2,665	2,665	2,665	0
Livestock	3,484	3,484	3,484	3,484	3,484	3,484
Irrigation	8,692	8,692	8,692	8,692	8,692	8,692

*A single asterisk next to a WUG's name denotes that the WUG is split by more than one planning region.

DRAFT Region P Water User Group (WUG) Demand

	WUG Demand (acre-feet per year)					
	2030	2040	2050	2060	2070	2080
Lavaca County / Lavaca-Guadalupe Basin Total	**41**	**41**	**41**	**41**	**41**	**41**
County-Other	1	1	1	1	1	1
Livestock	40	40	40	40	40	40
Wharton County Total	**93,420**	**93,439**	**93,440**	**93,438**	**93,436**	**93,435**
Wharton County / Colorado Basin Total	**391**	**394**	**393**	**391**	**390**	**389**
El Campo*	311	313	314	313	313	313
County-Other*	72	73	71	70	69	68
Livestock*	8	8	8	8	8	8
Wharton County / Colorado-Lavaca Basin Total	**6,866**	**6,880**	**6,880**	**6,880**	**6,879**	**6,877**
El Campo*	1,899	1,912	1,912	1,912	1,911	1,910
County-Other*	74	74	73	72	71	69
Manufacturing*	33	34	35	36	37	38
Livestock*	151	151	151	151	151	151
Irrigation*	4,709	4,709	4,709	4,709	4,709	4,709
Wharton County / Lavaca Basin Total	**86,163**	**86,165**	**86,167**	**86,167**	**86,167**	**86,169**
El Campo*	95	95	95	95	95	95
Wharton County WCID 1	121	122	129	134	139	145
County-Other*	294	295	290	285	280	276
Steam Electric Power*	1,572	1,572	1,572	1,572	1,572	1,572
Livestock*	344	344	344	344	344	344
Irrigation*	83,737	83,737	83,737	83,737	83,737	83,737
Region P Demand Total	**209,290**	**210,748**	**211,120**	**211,505**	**211,905**	**209,653**

*A single asterisk next to a WUG's name denotes that the WUG is split by more than one planning region.

DRAFT Region P Source Total Availability

				Source Availability (acre-feet per year)					
Source Name	**County**	**Basin**	**Salinity***	**2030**	**2040**	**2050**	**2060**	**2070**	**2080**
Groundwater Source Availability Total				**189,130**	**189,125**	**189,125**	**189,118**	**189,114**	**189,096**
Carrizo-Wilcox Aquifer	Lavaca	Lavaca	Fresh	0	0	0	0	0	0
Gulf Coast Aquifer System	Jackson	Colorado-Lavaca	Fresh/ Brackish	28,157	28,157	28,157	28,157	28,157	28,157
Gulf Coast Aquifer System	Jackson	Lavaca	Fresh/ Brackish	49,484	49,484	49,484	49,484	49,484	49,484
Gulf Coast Aquifer System	Jackson	Lavaca-Guadalupe	Fresh	12,930	12,930	12,930	12,930	12,930	12,930
Gulf Coast Aquifer System	Lavaca	Guadalupe	Fresh	41	41	41	41	41	41
Gulf Coast Aquifer System	Lavaca	Lavaca	Fresh	19,942	19,937	19,937	19,930	19,926	19,908
Gulf Coast Aquifer System	Lavaca	Lavaca-Guadalupe	Fresh	401	401	401	401	401	401
Gulf Coast Aquifer System	Wharton	Colorado	Fresh	874	874	874	874	874	874
Gulf Coast Aquifer System	Wharton	Colorado-Lavaca	Fresh	14,100	14,100	14,100	14,100	14,100	14,100
Gulf Coast Aquifer System	Wharton	Lavaca	Fresh	63,193	63,193	63,193	63,193	63,193	63,193
Yegua-Jackson Aquifer	Lavaca	Lavaca	Fresh	8	8	8	8	8	8
Surface Water Source Availability Total				**74,500**	**74,500**	**74,500**	**74,500**	**74,500**	**74,500**
Texana Lake/Reservoir	Reservoir**	Lavaca	Fresh	74,500	74,500	74,500	74,500	74,500	74,500
Region P Source Availability Total				**263,630**	**263,625**	**263,625**	**263,618**	**263,614**	**263,596**

* Salinity field indicates whether the source availability is considered ‘fresh’ (less than 1,000 mg/L), ‘brackish’ (1,000 to 10,000 mg/L), ‘saline’ (10,001 mg/L to 34,999 mg/L), or ‘seawater’ (35,000 mg/L or greater). Sources can also be labeled as ‘fresh/brackish’ or ‘brackish/saline’, if a combination of the salinity types is appropriate.

** Since reservoir sources can exist across multiple counties, the county field value, ‘reservoir’ is applied to all reservoir sources.

DRAFT Region P Water User Group (WUG) Existing Water Supply

WUG Name	Source Region	Source Description	Existing Supply (acre-feet per year)					
			2030	2040	2050	2060	2070	2080
Jackson County WUG Total			**93,346**	**93,346**	**93,346**	**93,346**	**93,346**	**93,346**
Jackson County / Colorado-Lavaca Basin WUG Total			**29,725**	**29,725**	**29,725**	**29,725**	**29,725**	**29,725**
Quadvest*	P	Gulf Coast Aquifer System | Jackson County	31	31	31	31	31	31
County-Other	P	Gulf Coast Aquifer System | Jackson County	342	342	342	342	342	342
Manufacturing	P	Gulf Coast Aquifer System | Jackson County	169	169	169	169	169	169
Manufacturing	P	Texana Lake/Reservoir	4,879	4,879	4,879	4,879	4,879	4,879
Livestock	P	Gulf Coast Aquifer System | Jackson County	470	470	470	470	470	470
Irrigation	P	Gulf Coast Aquifer System | Jackson County	23,834	23,834	23,834	23,834	23,834	23,834
Jackson County / Lavaca Basin WUG Total			**49,382**	**49,382**	**49,382**	**49,382**	**49,382**	**49,382**
Edna	P	Gulf Coast Aquifer System | Jackson County	1,089	1,089	1,089	1,089	1,089	1,089
Ganado	P	Gulf Coast Aquifer System | Jackson County	204	204	204	204	204	204
County-Other	P	Gulf Coast Aquifer System | Jackson County	655	655	655	655	655	655
Manufacturing	P	Gulf Coast Aquifer System | Jackson County	115	115	115	115	115	115
Livestock	P	Gulf Coast Aquifer System | Jackson County	693	693	693	693	693	693
Irrigation	P	Gulf Coast Aquifer System | Jackson County	46,626	46,626	46,626	46,626	46,626	46,626
Jackson County / Lavaca-Guadalupe Basin WUG Total			**14,239**	**14,239**	**14,239**	**14,239**	**14,239**	**14,239**
County-Other	P	Gulf Coast Aquifer System | Jackson County	80	80	80	80	80	80
Manufacturing	P	Gulf Coast Aquifer System | Jackson County	360	360	360	360	360	360
Manufacturing	P	Texana Lake/Reservoir	6,553	6,553	6,553	6,553	6,553	6,553
Livestock	P	Gulf Coast Aquifer System | Jackson County	208	208	208	208	208	208
Irrigation	P	Gulf Coast Aquifer System | Jackson County	7,038	7,038	7,038	7,038	7,038	7,038

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

DRAFT Region P Water User Group (WUG) Existing Water Supply

WUG Name	Source Region	Source Description	Existing Supply (acre-feet per year)					
			2030	2040	2050	2060	2070	2080
Lavaca County WUG Total			**19,685**	**19,685**	**19,685**	**19,685**	**19,685**	**19,685**
Lavaca County / Guadalupe Basin WUG Total			**30**	**30**	**30**	**30**	**30**	**30**
County-Other	P	Gulf Coast Aquifer System | Lavaca County	9	9	9	9	9	9
Livestock	P	Gulf Coast Aquifer System | Lavaca County	21	21	21	21	21	21
Lavaca County / Lavaca Basin WUG Total			**19,614**	**19,614**	**19,614**	**19,614**	**19,614**	**19,614**
Hallettsville	P	Gulf Coast Aquifer System | Lavaca County	959	959	959	959	959	959
Moulton	P	Gulf Coast Aquifer System | Lavaca County	156	156	156	156	156	156
Shiner	P	Gulf Coast Aquifer System | Lavaca County	732	732	732	732	732	732
Yoakum*	P	Gulf Coast Aquifer System | Lavaca County	842	842	842	842	842	842
County-Other	P	Gulf Coast Aquifer System | Lavaca County	1,950	1,950	1,950	1,950	1,950	1,950
Manufacturing	P	Gulf Coast Aquifer System | Lavaca County	634	634	634	634	634	634
Mining	P	Gulf Coast Aquifer System | Lavaca County	2,665	2,665	2,665	2,665	2,665	2,665
Livestock	P	Gulf Coast Aquifer System | Lavaca County	3,484	3,484	3,484	3,484	3,484	3,484
Irrigation	P	Gulf Coast Aquifer System | Lavaca County	8,192	8,192	8,192	8,192	8,192	8,192
Lavaca County / Lavaca-Guadalupe Basin WUG Total			**41**	**41**	**41**	**41**	**41**	**41**
County-Other	P	Gulf Coast Aquifer System | Lavaca County	1	1	1	1	1	1
Livestock	P	Gulf Coast Aquifer System | Lavaca County	40	40	40	40	40	40
Wharton County WUG Total			**85,751**	**85,751**	**85,751**	**85,751**	**85,751**	**85,751**
Wharton County / Colorado Basin WUG Total			**395**	**395**	**395**	**395**	**395**	**395**
El Campo*	P	Gulf Coast Aquifer System | Wharton County	314	314	314	314	314	314
County-Other*	P	Gulf Coast Aquifer System | Wharton County	73	73	73	73	73	73

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

DRAFT Region P Water User Group (WUG) Existing Water Supply

WUG Name	Source Region	Source Description	Existing Supply (acre-feet per year)					
			2030	2040	2050	2060	2070	2080
Livestock*	P	Gulf Coast Aquifer System | Wharton County	8	8	8	8	8	8
Wharton County / Colorado-Lavaca Basin WUG Total			**6,884**	**6,884**	**6,884**	**6,884**	**6,884**	**6,884**
El Campo*	P	Gulf Coast Aquifer System | Wharton County	1,912	1,912	1,912	1,912	1,912	1,912
County-Other*	P	Gulf Coast Aquifer System | Wharton County	74	74	74	74	74	74
Manufacturing*	P	Gulf Coast Aquifer System | Wharton County	38	38	38	38	38	38
Livestock*	P	Gulf Coast Aquifer System | Wharton County	151	151	151	151	151	151
Irrigation*	P	Gulf Coast Aquifer System | Wharton County	4,709	4,709	4,709	4,709	4,709	4,709
Wharton County / Lavaca Basin WUG Total			**78,472**	**78,472**	**78,472**	**78,472**	**78,472**	**78,472**
El Campo*	P	Gulf Coast Aquifer System | Wharton County	95	95	95	95	95	95
Wharton County WCID 1	P	Gulf Coast Aquifer System | Wharton County	145	145	145	145	145	145
County-Other*	P	Gulf Coast Aquifer System | Wharton County	295	295	295	295	295	295
Steam Electric Power*	P	Gulf Coast Aquifer System | Wharton County	1,572	1,572	1,572	1,572	1,572	1,572
Livestock*	P	Gulf Coast Aquifer System | Wharton County	344	344	344	344	344	344
Irrigation*	K	Colorado Run-of-River	16,000	16,000	16,000	16,000	16,000	16,000
Irrigation*	P	Gulf Coast Aquifer System | Wharton County	60,021	60,021	60,021	60,021	60,021	60,021
Region P WUG Existing Water Supply Total			**198,782**	**198,782**	**198,782**	**198,782**	**198,782**	**198,782**

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

DRAFT Region P Water User Group (WUG) Needs or Surplus

WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The needs shown in the WUG Needs/Surplus report are calculated by first deducting the WUG split's projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Surplus volumes are shown as positive values, and needs are shown as negative values in parentheses.

			Water Supply Needs or Surplus (acre-feet per year)					
WUG Name	**County**	**Basin**	**2030**	**2040**	**2050**	**2060**	**2070**	**2080**
Quadvest*	Jackson	Colorado-Lavaca	19	15	12	8	4	0
County-Other	Jackson	Colorado-Lavaca	84	66	48	33	16	0
Manufacturing	Jackson	Colorado-Lavaca	(3,679)	(4,313)	(4,334)	(4,355)	(4,377)	(4,401)
Livestock	Jackson	Colorado-Lavaca	0	0	0	0	0	0
Irrigation	Jackson	Colorado-Lavaca	0	0	0	0	0	0
Edna	Jackson	Lavaca	223	172	125	85	43	0
Ganado	Jackson	Lavaca	0	5	5	10	15	20
County-Other	Jackson	Lavaca	163	126	94	64	33	0
Manufacturing	Jackson	Lavaca	9	1	1	0	0	0
Livestock	Jackson	Lavaca	0	0	0	0	0	0
Irrigation	Jackson	Lavaca	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)
County-Other	Jackson	Lavaca-Guadalupe	20	16	12	8	4	0
Manufacturing	Jackson	Lavaca-Guadalupe	528	63	48	33	16	0
Livestock	Jackson	Lavaca-Guadalupe	0	0	0	0	0	0
Irrigation	Jackson	Lavaca-Guadalupe	0	0	0	0	0	0
County-Other	Lavaca	Guadalupe	3	2	2	1	1	0
Livestock	Lavaca	Guadalupe	0	0	0	0	0	0
Hallettsville	Lavaca	Lavaca	284	236	186	126	64	0
Moulton	Lavaca	Lavaca	0	7	13	18	24	29
Shiner	Lavaca	Lavaca	203	168	131	89	45	0
Yoakum*	Lavaca	Lavaca	172	139	106	72	37	0
County-Other	Lavaca	Lavaca	526	433	336	227	114	0
Manufacturing	Lavaca	Lavaca	106	86	66	45	23	0
Mining	Lavaca	Lavaca	0	0	0	0	0	2,665
Livestock	Lavaca	Lavaca	0	0	0	0	0	0
Irrigation	Lavaca	Lavaca	(500)	(500)	(500)	(500)	(500)	(500)

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

DRAFT Region P Water User Group (WUG) Needs or Surplus

			Water Supply Needs or Surplus (acre-feet per year)					
WUG Name	**County**	**Basin**	**2030**	**2040**	**2050**	**2060**	**2070**	**2080**
County-Other	Lavaca	Lavaca-Guadalupe	0	0	0	0	0	0
Livestock	Lavaca	Lavaca-Guadalupe	0	0	0	0	0	0
El Campo*	Wharton	Colorado	3	1	0	1	1	1
County-Other*	Wharton	Colorado	1	0	2	3	4	5
Livestock*	Wharton	Colorado	0	0	0	0	0	0
El Campo*	Wharton	Colorado-Lavaca	13	0	0	0	1	2
County-Other*	Wharton	Colorado-Lavaca	0	0	1	2	3	5
Manufacturing*	Wharton	Colorado-Lavaca	5	4	3	2	1	0
Livestock*	Wharton	Colorado-Lavaca	0	0	0	0	0	0
Irrigation*	Wharton	Colorado-Lavaca	0	0	0	0	0	0
El Campo*	Wharton	Lavaca	0	0	0	0	0	0
Wharton County WCID 1	Wharton	Lavaca	24	23	16	11	6	0
County-Other*	Wharton	Lavaca	1	0	5	10	15	19
Steam Electric Power*	Wharton	Lavaca	0	0	0	0	0	0
Livestock*	Wharton	Lavaca	0	0	0	0	0	0
Irrigation*	Wharton	Lavaca	(7,716)	(7,716)	(7,716)	(7,716)	(7,716)	(7,716)

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

DRAFT Region P 2026 Regional Water Plan (RWP)
Water User Group (WUG) Data Comparison to 2021 RWP

Water Volumes Shown in Acre-Feet per year

	2030 Planning Decade*			2070 Planning Decade*		
	2021 RWP	2026 RWP	Difference (%)	2021 RWP	2026 RWP	Difference (%)
Jackson County| Municipal WUG Type						
Existing WUG supply total	2,625	2,401	-8.5%	2,625	2,401	-8.5%
Projected demand total	1,819	1,892	4.0%	1,797	2,286	27.2%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Jackson County| Manufacturing WUG Type						
Existing WUG supply total	11,005	12,076	9.7%	11,005	12,076	9.7%
Projected demand total	11,005	15,218	38.3%	11,005	16,437	49.4%
Water supply needs total**	0	3,679	100.0%	0	4,377	100.0%
Jackson County| Mining WUG Type						
Existing WUG supply total	73	0	-100.0%	73	0	-100.0%
Projected demand total	73	0	-100.0%	19	0	-100.0%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Jackson County| Livestock WUG Type						
Existing WUG supply total	1,882	1,371	-27.2%	1,882	1,371	-27.2%
Projected demand total	1,882	1,371	-27.2%	1,882	1,371	-27.2%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Jackson County| Irrigation WUG Type						
Existing WUG supply total	78,498	77,498	-1.3%	78,498	77,498	-1.3%
Projected demand total	78,498	78,498	0.0%	78,498	78,498	0.0%
Water supply needs total**	0	1,000	100.0%	0	1,000	100.0%
Lavaca County| Municipal WUG Type						
Existing WUG supply total	4,197	4,649	10.8%	4,197	4,649	10.8%
Projected demand total	3,136	3,461	10.4%	3,014	4,364	44.8%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Lavaca County| Manufacturing WUG Type						
Existing WUG supply total	625	634	1.4%	625	634	1.4%

*The 2030 and 2070 planning decades are used in this comparison because they represent the earliest and latest planning decades in both the 2021 and 2026 RWPs

**WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The needs shown in the WUG Data Comparison to 2021 RWP report are calculated by first deducting the WUG split's projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Before aggregating the difference between supplies and demands to the WUG county and category level, calculated surpluses are updated to zero so that only the WUGs with needs in the decade are included with the water supply needs totals.

DRAFT Region P 2026 Regional Water Plan (RWP)
Water User Group (WUG) Data Comparison to 2021 RWP

Water Volumes Shown in Acre-Feet per year

	2030 Planning Decade*			2070 Planning Decade*		
	2021 RWP	2026 RWP	Difference (%)	2021 RWP	2026 RWP	Difference (%)
Projected demand total	625	528	-15.5%	625	611	-2.2%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Lavaca County| Mining WUG Type						
Existing WUG supply total	2,544	2,665	4.8%	2,544	2,665	4.8%
Projected demand total	1,860	2,665	43.3%	297	2,665	797.3%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Lavaca County| Livestock WUG Type						
Existing WUG supply total	3,763	3,545	-5.8%	3,763	3,545	-5.8%
Projected demand total	3,763	3,545	-5.8%	3,763	3,545	-5.8%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Lavaca County| Irrigation WUG Type						
Existing WUG supply total	8,692	8,192	-5.8%	8,692	8,192	-5.8%
Projected demand total	8,692	8,692	0.0%	8,692	8,692	0.0%
Water supply needs total**	0	500	100.0%	0	500	100.0%
Wharton County| Municipal WUG Type						
Existing WUG supply total	3,363	2,908	-13.5%	3,363	2,908	-13.5%
Projected demand total	3,015	2,866	-4.9%	3,363	2,878	-14.4%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Wharton County| Manufacturing WUG Type						
Existing WUG supply total	34	38	11.8%	34	38	11.8%
Projected demand total	34	33	-2.9%	34	37	8.8%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Wharton County| Mining WUG Type						
Existing WUG supply total	19	0	-100.0%	19	0	-100.0%
Projected demand total	19	0	-100.0%	4	0	-100.0%
Water supply needs total**	0	0	0.0%	0	0	0.0%

*The 2030 and 2070 planning decades are used in this comparison because they represent the earliest and latest planning decades in both the 2021 and 2026 RWPs

**WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The needs shown in the WUG Data Comparison to 2021 RWP report are calculated by first deducting the WUG split's projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Before aggregating the difference between supplies and demands to the WUG county and category level, calculated surpluses are updated to zero so that only the WUGs with needs in the decade are included with the water supply needs totals.

DRAFT Region P 2026 Regional Water Plan (RWP)
Water User Group (WUG) Data Comparison to 2021 RWP

Water Volumes Shown in Acre-Feet per year

	2030 Planning Decade*			2070 Planning Decade*		
	2021 RWP	2026 RWP	Difference (%)	2021 RWP	2026 RWP	Difference (%)
Wharton County| Steam Electric Power WUG Type						
Existing WUG supply total	2,060	1,572	-23.7%	2,060	1,572	-23.7%
Projected demand total	2,060	1,572	-23.7%	2,060	1,572	-23.7%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Wharton County| Livestock WUG Type						
Existing WUG supply total	834	503	-39.7%	834	503	-39.7%
Projected demand total	834	503	-39.7%	834	503	-39.7%
Water supply needs total**	0	0	0.0%	0	0	0.0%
Wharton County| Irrigation WUG Type						
Existing WUG supply total	80,379	80,730	0.4%	80,379	80,730	0.4%
Projected demand total	88,446	88,446	0.0%	88,446	88,446	0.0%
Water supply needs total**	8,067	7,716	-4.4%	8,067	7,716	-4.4%
Region P Total						
Existing WUG supply total	200,593	198,782	-0.9%	200,593	198,782	-0.9%
Projected demand total	205,761	209,290	1.7%	204,333	211,905	3.7%
Water supply needs total**	8,067	12,895	59.8%	8,067	13,593	68.5%

*The 2030 and 2070 planning decades are used in this comparison because they represent the earliest and latest planning decades in both the 2021 and 2026 RWPs

**WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The needs shown in the WUG Data Comparison to 2021 RWP report are calculated by first deducting the WUG split's projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Before aggregating the difference between supplies and demands to the WUG county and category level, calculated surpluses are updated to zero so that only the WUGs with needs in the decade are included with the water supply needs totals.

DRAFT Region P 2026 Regional Water Plan (RWP)
Source Availability Comparison to 2021 RWP
Water Volumes Shown in Acre-Feet per year

	2030 Planning Decade*			2070 Planning Decade*		
	2021 RWP	2026 RWP	Difference (%)	2021 RWP	2026 RWP	Difference (%)
Jackson County						
Groundwater availability total	90,482	90,571	0.1%	90,482	90,571	0.1%
Lavaca County						
Groundwater availability total	20,253	20,392	0.7%	20,253	20,376	0.6%
Reservoir County**						
Surface Water availability total	74,500	74,500	0.0%	74,500	74,500	0.0%
Wharton County						
Groundwater availability total	77,956	78,167	0.3%	77,956	78,167	0.3%
Region P Total						
Groundwater availability total	188,691	189,130	0.2%	188,691	189,114	0.2%
Surface Water availability total	74,500	74,500	0.0%	74,500	74,500	0.0%

*The 2030 and 2070 planning decades are used in this comparison because they represent the earliest and latest planning decades in both the 2021 and 2026 RWPs.

**Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

Appendix B Model Input/Output Files (Electronic)

Appendix C Potentially Feasible Water Management Strategies Identified to Meet Needs

Appendix C: Potentially Feasible Water Management Strategies Considered

Every WUG Entity with an Identified Need		**WMSs to be considered by statute[1]**												**Additional WMSs to be considered by rule**								
WUG Name	Maximum need 2030-2080 (af/yr)	conservation - water use reduction	conservation - water loss mitigation	drought management	reuse	management of existing supplies	development of large-scale marine seawater or brackish groundwater	conjunctive use	acquisition of available existing supplies	development of new supplies	development of regional water supply or regional management of water supply facilities	voluntary transfer of water (including regional water banks, sales, leases, options, subordination agreements, and financing agreements)	emergency transfer of water under Section 11.139	system optimization, reallocation of reservoir storage to new uses, contracts, water marketing, enhancement of yield, improvement of water quality	new surface water supply	new groundwater supply	brush management; precipitation enhancement	interbasin transfers of surface water	aquifer storage and recovery	cancellation of water rights	rainwater harvesting	other
Irrigation, Jackson County	1,000	PF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	
Irrigation, Lavaca County	500	PF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	
Irrigation, Wharton County	7,716	PF	PF	nPF	PF	nPF	nPF	nPF	PF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	nPF	
Manufacturing, Jackson County	4,401	PF	PF	nPF	nPF	nPF	PF	nPF	nPF	PF	nPF	nPF	nPF	PF	nPF	PF	nPF	PF	PF	nPF	nPF	

[1] Texas Water Code §16.053(e)(5)

nPF = considered but determined 'not potentially feasible' (may include WMSs that were initially identified as potentially feasible)

PF = considered 'potentially feasible' and therefore evaluated

(all pertinent information for WMS evaluations must be presented in the regional water plan, including for WMSs considered potentially feasible but not recommended)