

5B.25 Milam County Water Supply Plan

Table 5B.25-1 lists each water user group in Milam County and their corresponding surplus or shortage in years 2030 and 2050. For each water user group with a projected shortage, a water supply plan has been developed and is presented in the following subsections.

**Table 5B.25-1.
Milam County Surplus/(Shortage)**

Water User Group	Surplus/(Shortage) ¹		Comment
	2030 (acft/yr)	2050 (acft/yr)	
City of Cameron	1,321	1,295	Projected surplus
City of Rockdale	178	(30)	Projected shortage – see plan below
City of Thorndale	197	194	Projected surplus
County-Other	1,998	2,013	Projected surplus
Manufacturing	9,739	8,189	Projected surplus
Steam-Electric	(3,498)	(6,998)	Projected shortage – see plan below
Mining	0	0	No Projected Needs
Irrigation	8,941	8,964	Projected surplus
Livestock	1,627	1,627	Projected surplus

¹ From Tables 4-49 and 4-50, Section 4 – Comparison of Water Demands with Water Supplies to Determine Needs.

5B.25.1 City of Cameron

No shortage is projected for the City of Cameron and no changes in water supply are recommended.

5B.25.2 City of Rockdale

5B.25.2.1 Description of Supply

Source: Simsboro Aquifer

Estimated Reliable Supply: 2,121 acft/yr

System Description: 6 wells

The City of Rockdale’s groundwater supply is limited by well capacity.

5B.25.2.2 Options Considered

The City of Rockdale has a shortage of 30 acft per year in 2050, which is about 1 percent of demand. Table 5B.25-2 lists the water management strategies, references to the report section detailing the strategy, total project cost, and unit costs that were considered for meeting the City of Rockdale shortage.

**Table 5B.25-2.
Water Management Strategies Considered for the City of Rockdale**

Option	Yield (acft/yr)	Approximate Cost ¹	
		Total	Unit (\$/acft)
Additional Water Conservation (Section 5A.2)	215	\$103,000/year	\$4,574
Further Development of Carrizo-Wilcox Aquifer	300	\$250,000 ²	\$4,214 ²
No Action	-	\$1,392,000 ³	\$46,394 ³

¹ Unless otherwise noted, costs are Total Project Cost and Unit Cost (\$/acft per year) for treated water delivered to the water supply entity or entities. Unit cost is for full utilization of project capacity.
² Source of Cost Estimate: (1) 200 gpm capacity well at 400' depth with 0.5 miles of 6" pipe.
³ Economic impact of not meeting shortage (i.e., "no action") in 2050 as estimated by TWDB.

5B.25.2.3 Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water supply plan is recommended to meet the projected 2050 shortage of the City of Rockdale:

- Further development of Carrizo-Wilcox Aquifer

5B.25.2.3 Costs

Costs of the Recommended Plan for the City of Rockdale.

- Cost Source: New Cost estimate for additional well
- Date to be Implemented: 2030
- Total Project Cost: \$250,000

**Table 5B.25-3.
Recommended Plan Costs by Decade for the City of Rockdale**

<i>Plan Element</i>	<i>2000</i>	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
Additional Well						
Projected Surplus/(Shortage) (acft/yr)	391	318	279	178	86	(30)
Supply From Plan Element (acft/yr)	-	-	-	300	300	300
Annual Cost (\$/yr)	-	-	-	\$19,000	\$19,000	\$19,000
Unit Cost (\$/acft)	-	-	-	\$64	\$64	\$64

5B.25.3 City of Thorndale

No shortage is projected for the City of Thorndale and no changes in water supply are recommended.

5B.25.4 County-Other

The water supply entities for County-Other show a projected surplus and no changes in water supply are recommended.

5B.25.5 Manufacturing

The water supply entities for Manufacturing show a projected surplus and no changes in water supply are recommended.

5B.25.6 Steam-Electric

5B.25.6.1 Description of Supply

Alcoa Steam-Electric surface water supply is limited due to expiring BRA contract from Lake Granger in 2019.

5B.25.6.2 Options Considered

Milam County Steam-Electric has a shortage of 3,498 acft per year in 2030, which is about 28 percent of demand. Table 5B.25-4 lists the water management strategies, references to the report section discussing the strategy, total project cost, and unit costs that were considered for meeting the Milam County Steam-Electric shortage.

**Table 5B.25-4.
Water Management Strategies Considered for Milam County Steam-Electric**

<i>Option</i>	<i>Yield (acft/yr)</i>	<i>Approximate Cost¹</i>	
		<i>Total</i>	<i>Unit (\$/acft)</i>
Alcoa Renewal of BRA Contract (Raw Water)	5,000	\$115,000/year	\$23 ²
Reallocation of Manufacturing Groundwater Supply	2,000	³	³
No Action	-	\$16,446,000*	\$4,701*

¹ Unless otherwise noted, costs are Total Project Cost and Unit Cost (\$/acft per year) for treated water delivered to the water supply entity or entities. Unit cost is for full utilization of project capacity.
² Source of Cost Estimate: BRA System Rate.
³ Infrastructure needed to implement this option is not known.
* Economic impact of not meeting shortage (i.e., "no action" alternative) in 2030 as estimated by TWDB.

5B.25.6.3 Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water supply plan is recommended to meet the projected 2030 shortage of Milam County's Steam-Electric supply:

- Alcoa renewal of BRA raw water contract

For the long-term period beyond 2030, the following additional water management strategies are recommended:

- Alcoa renewal of BRA raw water contract
- Reallocation of manufacturing groundwater supply to Steam-Electric

5B.25.6.4 Costs

Costs of the Recommended Plan for Steam-Electric shortage:

- Cost Source: BRA System Rate
- Date to be Implemented: By Year 2020
- Total Project Cost: \$115,000/year

**Table 5B.25-5.
Recommended Plan Costs by Decade for Milam County Steam-Electric**

<i>Plan Element</i>	<i>2000</i>	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
Renewal of BRA raw water contract						
Projected Surplus/(Shortage) (acft/yr)	322	322	(3,498)	(3,498)	(3,498)	(6,998)
Supply from Plan Elements (acft/yr)	-	-	5,000	5,000	5,000	5,000
Annual Cost (\$/yr)	-	-	\$115,000	\$115,000	\$115,000	\$115,000
Unit Cost (\$/acft)	-	-	\$23	\$23	\$23	\$23

5B.25.7 Mining

Projected Mining demand in Milam County is primarily associated with Alcoa and their lignite mining operation. The operation includes depressurization of the groundwater in the layer below the underground lignite formation in order to extract the lignite resource. The water supply available is essentially the amount of water that is produced in the depressurization operation. This operation is largely non-consumptive and the water produced is available for other uses. The San Antonio Water System (SAWS), located in the South Central Texas Region (L), has contracted to purchase Carrizo-Wilcox Aquifer groundwater produced from land owned or leased by Alcoa in Milam, Lee, and Bastrop Counties. The Region L water plan calls for 55,000 acft/yr to be purchased through this contract. Water to be sold by Alcoa originates primarily from their ongoing lignite mining activities. Table 4-49A reports water quantities to be delivered from Milam County to SAWS consistent with the water plan being prepared by the South Central Texas Region RWPG. No shortages for Mining use are projected through the year 2050.

5B.25.8 Irrigation

No shortage is projected for the Milam County's Irrigation and no changes in water supply are recommended.

5B.25.9 Livestock

No shortage is projected for the Milam County's Livestock and no changes in water supply are recommended.