

5B.9 Erath County Water Supply Plan

Table 5B.9-1 lists each water user group in Erath County and their corresponding surplus or shortage in years 2030 and 2050.

**Table 5B.9-1.
Erath County Surplus/(Shortage)**

<i>Water User Group</i>	<i>Surplus/(Shortage)¹</i>		<i>Comment</i>
	<i>2030 (acft/yr)</i>	<i>2050 (acft/yr)</i>	
City of Dublin	0	0	No projected needs
City of Stephenville	(1,538)	(1,899)	Projected shortage – see plan below
County-Other	69	29	Projected surplus
Manufacturing	58	30	Projected surplus
Steam-Electric	0	0	No projected needs
Mining	0	0	No projected needs
Irrigation	4,128	4,394	Projected surplus
Livestock	6,073	6,073	Projected surplus

¹ From Tables 4-17 and 4-18, Section 4 – Comparison of Water Demands with Water Supplies to Determine Needs.

5B.9.1 The City of Dublin

The City of Dublin obtains its water supply from the Upper Leon Municipal Water District (Upper Leon MWD). The Upper Leon MWD has contracted for surface water from Lake Proctor and treats and delivers it to the City of Dublin. The City of Dublin and Upper Leon MWD have contracted for adequate quantities of water to provide a firm supply and meet their needs through the year 2050.

5B.9.2 City of Stephenville

5B.9.2.1 Description of Supply

The City of Stephenville obtains its water supply from groundwater from the Trinity Aquifer. The City's water supply is currently limited by the capacity of existing infrastructure (i.e., well capacity) to meet projected demands. The City has been planning to increase its water supply and two primary options have been considered. These options include installation of

additional wells and pipelines to increase the groundwater production capacity and implementation of a new surface water supply system from Lake Proctor through the purchase of treated water from the Upper Leon MWD. The City has contracted with the Brazos River Authority for 2,714 acft/yr from Lake Proctor.

5B.9.2.2 Options Considered

Table 5B.9-2 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 City of Stephenville’s shortage.

**Table 5B.9-2.
Water Management Strategies Considered for the City of Stephenville**

Option	Yield (acft/yr)	Approximate Cost ¹	
		Total	Unit (\$/acft)
Additional Water Conservation (Section 5A.2)	209	\$120,000/yr	\$574 ²
Lake Proctor – Upper Leon MWD	2,714	\$10,178,000	\$551 ³
Additional Groundwater Development – Trinity Aquifer	2,714	\$13,766,000	\$455 ³
No Action	-	_ ⁴	_ ⁴
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: Section 5A.2. ³ Source of Cost Estimate: Water Supply Study for City of Stephenville (Jan., 2000) adjusted for SB1 debt service computations. ⁴ Economic impact of not meeting shortage (i.e., “no action” alternative) in 2030 as estimated by TWDB.			

5B.9.2.3 Water Supply Plan

The City of Stephenville has evaluated alternatives of developing a surface water supply from Lake Proctor to supplement their existing groundwater supply and additional development of the Trinity Aquifer. A study completed in January 2000 demonstrated that the costs for each alternative are approximately equal over the study period. The surface water option provides a means for Stephenville to diversify its water supply. Based on the results of the January, 2000 study and 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 and 2050 shortage of the City of Stephenville:

- Lake Proctor – Upper Leon MWD

5B.9.2.4 Costs

Costs of the recommended plan for the City of Stephenville to meet 2030 shortages are:

- a. Lake Proctor – Upper Leon MWD:
 - Cost Source: City of Stephenville Water Supply Study (January, 2000)
 - Date to be Implemented: before 2010
 - Total Project Cost: \$10,178,000

**Table 5B.9-3.
Recommended Plan Costs by Decade for the City of Stephenville**

<i>Plan Element</i>	<i>2000</i>	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
Lake Proctor – Upper Leon MWD						
Projected Surplus/(Shortage) (acft/yr)	(598)	(930)	(1,237)	(1,538)	(1,750)	(1,899)
Supply from Plan Element (acft/yr)	-	2,714	2,714	2,714	2,714	2,714
Annual Cost (\$/yr)	-	\$1,301,000	\$1,444,000	\$1,584,000	\$944,000	\$1,013,000
Unit Cost (\$/acft)	-	\$1,399	\$1,167	\$1,030	\$539	\$534

5B.9.3 County-Other

County-Other is projected to have a surplus of water through the year 2050 and no changes in water supply are recommended.

5B.9.4 Manufacturing

Manufacturing is projected to have a surplus of water through the year 2050 and no changes in water supply are recommended.

5B.9.5 Steam-Electric

No Steam-Electric demand exists or is projected for the county.

5B.9.6 Mining

No Mining demand exists or is projected for the county.

5B.9.7 Irrigation

Irrigation is projected to have a surplus of water from available groundwater and surface water supplies and no changes in water supply are recommended.

5B.9.8 Livestock

No shortages are projected for Livestock use and no changes in water supply are recommended.