

5.19 Kent County Water Supply Plan

Table 5.19-1 lists each water user group in Kent County and their corresponding surplus or shortage in years 2040 and 2070. A brief summary of each water user group supply is presented in the following subsections.

Table 5.19-1. Kent County Surplus/(Shortage)

Water User Group	Surplus/(Shortage) ¹		Comment
	2040 (acft/yr)	2070 (acft/yr)	
City of Jayton	(112)	(111)	Projected shortage - see plan below.
County-Other	0	0	Demand equals supply
Manufacturing	0	0	No projected demand
Steam-Electric	0	0	No projected demand
Mining	686	695	Projected surplus
Irrigation	634	634	Projected surplus
Livestock	0	0	Demand equals supply

1 – From Tables C-37 and C-38, Appendix C – Comparison of Water Demands with Water Supplies to Determine Needs.

5.19.1 City of Jayton

Description of Supply

Water supply for the City of Jayton is from the Seymour Aquifer. Jayton has sufficient supplies through 2070. However, the TCEQ has mandated that the City put in reverse osmosis treatment for its groundwater supply due to high levels of chlorides, sulfates, and total dissolved solids. Shortages are projected due to a treatment constraint from 2020 through 2070.

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 for the City of Jayton. Associated costs are included for each strategy. Conservation was considered but the current per capita use is below the targeted gpcd of 140.

a. Conservation

- Cost Source: Volume II
- Date to be Implemented: before 2030
- Annual Cost: maximum of \$4,507 in 2030
- Unit Cost: \$560/acft

- b. New Water Treatment Plant (0.4 MGD)
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Project Cost: \$4,515,000
 - Unit Cost: \$2,875
- c. Alternative: Purchase Water from the Salinity Control Project
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Project Cost: \$2,115,000 for City's portion
 - Unit Cost: \$2,593/acft

Table 5.19-2. Recommended Plan Costs by Decade for City of Jayton

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(118)	(115)	(112)	(111)	(111)	(111)
Conservation						
Supply From Plan Element (acft/yr)	0	8	5	4	4	4
Annual Cost (\$/yr)	\$0	\$4,507	\$2,827	\$2,267	\$2,267	\$2,267
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	(118)	(107)	(107)	(107)	(107)	(107)
New Water Treatment Plant (0.4 MGD)						
Supply From Plan Element (acft/yr)	249	249	249	249	249	249
Annual Cost (\$/yr)	\$644,000	\$644,000	\$326,000	\$326,000	\$326,000	\$326,000
Unit Cost (\$/acft)	\$2,586	\$2,586	\$1,309	\$1,309	\$1,309	\$1,309
Alternative: Purchase Water from the Salt Fork Water Quality Cooperation Salinity Control Project						
Supply From Plan Element (acft/yr)	118	118	118	118	118	118
Annual Cost (\$/yr)	\$306,000	\$306,000	\$157,000	\$157,000	\$157,000	\$157,000
Unit Cost (\$/acft)	\$2,593	\$2,593	\$1,331	\$1,331	\$1,331	\$1,331

5.19.2 County-Other

Water supply for County-Other is from local groundwater and the Seymour Aquifer. No shortages are projected throughout the planning period, demand is equal to supply. Conservation was considered but the current per capita use is below the targeted gpcd of 140.

5.19.3 Manufacturing

No Manufacturing demand exists or is projected for the county.



5.19.4 Steam-Electric

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

5.19.5 Mining

No shortages are projected for Mining, surpluses are projected through 2070, and no changes in water supply are recommended.

5.19.6 Irrigation

No shortages are projected for Irrigation, a surplus of 634 acft/yr is projected through 2070. No changes in water supply are recommended.

5.19.7 Livestock

No shortages are projected for Livestock, the demand equals the supply, and no changes in water supply are recommended.

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