



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 | (89) | (88) | Projected shortage – see plan below |
| County-Other | 13 | 13 | Projected surplus |
| Manufacturing | 0 | 0 | No projected demand |
| Steam-Electric | 0 | 0 | No projected demand |
| Mining | 424 | 433 | Projected surplus |
| Irrigation | 278 | 371 | 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 and Dockum Aquifers. It is estimated that Jayton has sufficient supplies through 2070. However, the TCEQ has recently 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 from a treatment constraint and are projected 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, Chapter 2
- Date to be Implemented: before 2020
- Annual Cost: \$3,800
- Unit Cost: \$474/acft

- b. New Water Treatment Plant (0.4 MGD)
 - Cost Source: Volume II, Chapter 12.2
 - Date to be Implemented: before 2020
 - Annual Cost: \$549,000

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

| Plan Element | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|--|-----------|-----------|-----------|-----------|-----------|-----------|
| <i>Projected Surplus/(Shortage) (acft/yr)</i> | (92) | (91) | (89) | (89) | (88) | (88) |
| Conservation | | | | | | |
| Supply From Plan Element (acft/yr) | 3 | 6 | 4 | 4 | 3 | 3 |
| Annual Cost (\$/yr) | \$1,608 | \$2,994 | \$2,046 | \$2,046 | \$1,572 | \$1,572 |
| <i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i> | (89) | (85) | (85) | (85) | (85) | (85) |
| New Water Treatment Plant (0.4 MGD) | | | | | | |
| Supply From Plan Element (acft/yr) | 224 | 224 | 224 | 224 | 224 | 224 |
| Annual Cost (\$/yr) | \$549,000 | \$549,000 | \$253,000 | \$253,000 | \$253,000 | \$253,000 |
| Unit Cost (\$/acft) | \$2,451 | \$2,451 | \$1,129 | \$1,129 | \$1,129 | \$1,129 |

5.19.2 County-Other

Water supply for County-Other is from local groundwater, and the Seymour and Dockum Aquifers. No shortages are projected, surpluses are projected through 2070, and no changes in water supply are recommended. 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, surpluses are projected through 2070, and 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.