



4.3.26 City of Waco

The City of Waco obtains raw water from Lake Waco, from a diversion authorized from Lake Brazos, and a small amount of groundwater from the Trinity Aquifer. In 2003, the City, in cooperation with the BRA and the U.S. Army Corps of Engineers, implemented a project to raise the water level in Lake Waco to provide for additional supply. With this additional supply, the City has the right to divert 79,870 acft/yr from Lake Waco for municipal, industrial, and irrigation uses. The City provides treated water to multiple neighboring communities and water supply corporations. The Waco Metropolitan Area Regional Sewerage System (WMARSS) facility is operated by the City of Waco on behalf of the member cities of Bellmead, Hewitt, Lacy Lakeview, Lorena, Robinson and Woodway. Effluent from the WMARSS is used to supply steam-electric cooling supply, and multiple other reuse projects are planned to offset potable water use for manufacturing and landscape irrigation in McLennan County. Projected demands, supplies and balances are shown in Table 4.3-26.

Table 4.3-26. Projected Demands, Supplies and Balance for City of Waco

<i>Projected Demands</i> <i>Major Water Contract Holders</i>	<i>Year (acft/yr)</i>					
	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>	<i>2060</i>	<i>2070</i>
<u>Fresh Water Demands</u>						
City of Waco ¹	30,114	29,344	28,224	27,059	26,921	28,333
City of Bellmead ²	0	0	0	0	0	0
City of Hewitt ²	383	558	877	1,198	1,519	1,833
City of Lacy-Lakeview	1,120	1,120	1,120	1,120	1,120	1,120
City of Woodway ²	431	657	859	1,083	1,316	1,548
City of Beverly Hills ²	252	261	268	281	297	312
City of West	1,120	1,120	1,120	1,120	1,120	1,120
City of Robinson	560	560	560	560	560	560
Bold Springs Water Supply (McLennan C-O)	560	560	560	560	560	560
Hilltop Water Supply (McLennan C-O)	97	97	97	97	97	97
Central Bosque WSC (McLennan C-O)	70	70	70	70	70	70
McLennan County Manufacturing	2,503	2,888	3,249	3,618	3,948	4,403
Cross County WSC (Recommended Strategy)				150	150	150
City of Mart (Recommended Strategy)	250	250	250	250	250	250
North Bosque WSC (Recommended Strategy)		200	200	200	200	200
City of Riesel (Recommended Strategy)	78	78	78	78	80	82
McLennan County-Other (Recommended Strategy)³						
Axtell WSC	135	146	156	168	180	194
Birome WSC - Plant 5 Only	14	15	16	17	18	19
Elk Oak Lake WSC	163	178	194	212	232	253
H & H WSC	252	252	252	252	252	252
Leroy-Tours-Gerald WSC	79	86	94	102	111	121
Moore Water System	40	40	41	41	41	42
Meier Settlement WSC	16	16	16	16	16	16
Prairie Hill WSC	189	199	209	220	232	244
Riesel-Meier Settlement WSC	84	98	115	135	158	184
Total Fresh Water Demands	38,510	38,793	38,625	38,607	39,448	41,963

<u>Reuse Water Demands</u>						
McLennan County SE (SCEA)	15,000	15,000	15,000	15,000	15,000	15,000
City of Bellmead (Bellmead/Lacy-Lakeview)	1,120	1,120	1,120	1,120	1,120	1,120
City of Hallsburg (Waco East)	31	31	31	31	31	31
City of Hewitt (Bullhide Creek)	1,223	1,223	1,223	1,223	1,223	1,223
City of Lacy-Lakeview (Bellmead/Lacy-Lakeview)	1,120	1,120	1,120	1,120	1,120	1,120
City of Lorena (Bullhide Creek)	448	448	448	448	448	448
City of Mart (Waco East)	134	134	134	134	134	134
City of Riesel (Alternative: Waco East)	43	43	43	43	43	43
McLennan County Manufacturing (Flat Creek)	1,600	1,700	1,800	2,000	2,200	2,500
McLennan County Mining (North Reuse)	811	811	811	811	811	811
Total Reuse Water Demands	21,530	21,630	21,730	21,930	22,130	22,430

1 – Demand includes any conservation applied to the City’s municipal demands as a WUG.

2 – Contract to provide supplies to meet needs less assumed conservation has been applied to the entity.

3 – Supplies to smaller utilities included in McLennan County-Other per 2017 amendment of 2016 Brazos G Plan to incorporate the McLennan County Arsenic Mitigation Plan.

Supply Source	Year (acft/yr)					
	2020	2030	2040	2050	2060	2070
<u>Fresh Water Supplies</u>						
Lake Waco (Municipal & Industrial)	79,877	79,877	79,877	79,877	79,877	79,877
Lake Brazos	5,600	5,600	5,600	5,600	5,600	5,600
Total Fresh Water Supplies	85,477	85,477	85,477	85,477	85,477	85,477
Constrained Fresh Water Supply¹	50,400	50,400	50,400	50,400	50,400	50,400
<u>Reuse Water Supplies (WMARSS)</u>						
McLennan County SE (SCEA)	15,000	15,000	15,000	15,000	15,000	15,000
Undeveloped WMARSS Reuse Supply	12,035	13,902	15,769	17,636	19,503	21,370
Total Reuse Supply from WMARSS²	27,035	28,902	30,769	32,636	34,503	36,370

1 – Fresh water supply has been constrained based on average annual capacity of the existing Waco treatment plant. The average annual capacity is determined as 50% of the normal rated design capacity (90 MGD).

2 – Reuse supplies are based on projected WMARSS plant flows.

Projected Balance	Year (acft/yr)					
	2020	2030	2040	2050	2060	2070
Fresh Water Balance/(Shortage)	11,890	11,607	11,775	11,793	10,952	8,437
Reuse Water Balance/(Shortage)	5,505	7,272	9,039	10,706	12,373	13,940

Table 4.3-27. WWP Projected Contract Water Use by Type, County and Basin

Buyer/Use	County	Basin	Year					
			2020	2030	2040	2050	2060	2070
PALO PINTO COUNTY MWD No. 1 TOTAL			5,355	5,181	5,355	5,181	5,007	4,833
ROUND ROCK								
MANUFACTURING	WILLIAMSON	BRAZOS	565	651	780	924	1,059	1,205
MINING	WILLIAMSON	BRAZOS	3	3	3	3	3	3
MUNICIPAL	WILLIAMSON	BRAZOS	3,916	4,199	4,572	5,290	6,315	7,370
MUNICIPAL	WILLIAMSON	COLORADO	165	195	235	373	457	552
ROUND ROCK TOTAL			4,649	5,048	4,649	5,048	5,590	6,590
STAMFORD								
MUNICIPAL	HASKELL	BRAZOS	160	160	160	160	160	160
MUNICIPAL	JONES	BRAZOS	89	89	89	89	89	89
STEAM- ELECTRIC	HASKELL	BRAZOS	2,200	2,200	2,200	2,200	2,200	2,200
STAMFORD TOTAL			2,449	2,449	2,449	2,449	2,449	2,449
SWEETWATER								
MANUFACTURING	NOLAN	BRAZOS	368	368	368	368	368	368
MUNICIPAL	FISHER	BRAZOS	538	533	528	525	521	519
MUNICIPAL	NOLAN	BRAZOS	272	277	282	285	289	291
MUNICIPAL	TAYLOR	BRAZOS	187	187	187	187	187	187
SWEETWATER TOTAL			1,365	1,365	1,365	1,365	1,365	1,365
TEMPLE								
MANUFACTURING	BELL	BRAZOS	481	481	481	481	481	481
MUNICIPAL	BELL	BRAZOS	3,540	3,540	3,540	3,540	3,540	3,540
TEMPLE TOTAL			4,021	4,021	4,021	4,021	4,021	4,021
UPPER LEON MWD								
MUNICIPAL	COMANCHE	BRAZOS	996	985	972	910	893	867
MUNICIPAL	EASTLAND	BRAZOS	169	168	166	156	153	149
MUNICIPAL	ERATH	BRAZOS	2,383	2,366	2,344	2,234	2,206	2,160
MUNICIPAL	HAMILTON	BRAZOS	673	665	654	599	584	562
UPPER LEON MWD TOTAL			4,221	4,184	4,221	4,184	4,136	3,899
WACO								
MANUFACTURING	MCLENNAN	BRAZOS	2,503	2,888	3,249	3,618	3,948	4,403
MUNICIPAL	MCLENNAN	BRAZOS	5,498	5,966	6,557	7,185	7,834	8,482
STEAM- ELECTRIC	MCLENNAN	BRAZOS	15,000	15,000	15,000	15,000	15,000	15,000
WACO TOTAL			23,001	23,854	24,806	25,803	26,782	27,885