



Memo

Date: Wednesday, March 15, 2017

Project: 2021 Brazos G Regional Water Plan; Task 2b

To: Brazos G Regional Water Planning Group

From: Peter Newell, PE, HDR
David Dunn, PE, HDR

Subject: Review of Draft Municipal Population and Water Demand Projections

Background

For the 2021 Regional Water Planning Cycle, the Texas Water Development Board (TWDB) has modified the definition of a municipal Water User Group (WUG) and the geographic basis for each WUG’s population projections. The previous definition defined a municipal WUG as a city or retail water utility serving a population of 500 people or more or that provided at least 280 acre-feet per year of water. For cities, this was without regard to a city-owned utility’s actual service area. A municipal WUG might be served by more than one actual water utility, if more than one utility had customers within the city limits. Recent rule revisions to 31 TAC 357.10(41), changes the definition of a municipal WUG and clarifies the basis of planning to focus on utility service areas rather than geographic census-place names. In essence, the definition of a WUG now reflects the utility rather than the city. For the 2021 Brazos G Regional Water Plan (2021 Plan), municipal WUGs will be defined as:

1. Any retail public utilities with retail water sales of 100 acre feet per year or more;
2. Any privately-owned utilities averaging sales of 100 acre-feet per year across all owned systems ; and
3. County-Other WUGs consist of all of the remaining municipal utilities with sales less than 100 acre feet per year and other individual users in the counties.

A total of 72 new WUGs have been added to the Brazos G Regional Water Planning Area due to the revised WUG definition. These are municipalities and water utilities that have been in existence in the region but have been below the previous 500 population and 280 acft/yr thresholds. A few WUGs were also dropped due to consolidation of utilities and application of the revised definitions, resulting in a total of 284 municipal WUGs included for the 2021 Plan. The new WUGs and their respective counties are listed in Table 1.

Table 1. New Brazos G Municipal WUGs

WUG Name	County Location(s)
BELL COUNTY WCID 2	BELL
BELL COUNTY WCID 3	BELL
CENTRAL TEXAS COLLEGE DISTRICT	BELL CORYELL



WUG Name	County Location(s)
THE GROVE WSC	BELL CORYELL
LITTLE ELM VALLEY WSC	BELL FALLS
SMITH BEND WSC	BOSQUE
MUSTANG VALLEY WSC	BOSQUE CORYELL
HILCO UNITED SERVICES	BOSQUE HILL
HIGHLAND PARK WSC	BOSQUE MCLENNAN
EULA WSC	CALLAHAN
HAMBY WSC	CALLAHAN JONES SHACKELFORD TAYLOR
CALLAHAN COUNTY WSC	CALLAHAN SHACKELFORD
FLAT WSC	CORYELL
FORT GATES WSC	CORYELL
MOUNTAIN WSC	CORYELL
OGLESBY	CORYELL
STAFF WSC	EASTLAND
FORT GRIFFIN SUD	EASTLAND SHACKELFORD STEPHENS THROCKMORTON
CEGO-DURANGO WSC	FALLS
NORTH MILAM WSC	FALLS MILAM
TDCJ LUTHER UNITS	GRIMES
TDCJ W PACK UNIT	GRIMES
CHATT WSC	HILL
DOUBLE DIAMOND UTILITIES	HILL JOHNSON
POST OAK SUD	HILL LIMESTONE
BIROME WSC	HILL LIMESTONE MCLENNAN
BOLD SPRINGS WSC	HILL MCLENNAN
LIPAN	HOOD



WUG Name	County Location(s)
SANTO SUD	HOOD PALO PINTO
RED RIVER AUTHORITY OF TEXAS	KNOX
BAYLOR WSC	KNOX THROCKMORTON YOUNG
CORIX UTILITIES TEXAS INC	LAMPASAS WASHINGTON
BISTONE MUNICIPAL WSD	LIMESTONE
POINT ENTERPRISE WSC	LIMESTONE
SLC WSC	LIMESTONE
WHITE ROCK WSC	LIMESTONE
PRAIRIE HILL WSC	LIMESTONE MCLENNAN
AXTELL WSC	MCLENNAN
CENTRAL BOSQUE WSC	MCLENNAN
EAST CRAWFORD WSC	MCLENNAN
EOL WSC	MCLENNAN
H & H WSC	MCLENNAN
HILLTOP WSC	MCLENNAN
LEROY TOURS GERALD WSC	MCLENNAN
LEVI WSC	MCLENNAN
MCLENNAN COUNTY WCID 2	MCLENNAN
ROSS WSC	MCLENNAN
SPRING VALLEY WSC	MCLENNAN
TEXAS STATE TECHNICAL COLLEGE	MCLENNAN
WINDSOR WATER	MCLENNAN
SALEM ELM RIDGE WSC	MILAM
GORDON	PALO PINTO
LAKE PALO PINTO AREA WSC	PALO PINTO
NORTH RURAL WSC	PALO PINTO
PALO PINTO WSC	PALO PINTO
PARKER COUNTY SUD	PALO PINTO
SPORTSMANS WORLD MUD	PALO PINTO
STURDIVANT PROGRESS WSC	PALO PINTO
BETHANY HEARNE WSC	ROBERTSON
TWIN CREEK WSC	ROBERTSON
SOMERVELL COUNTY WATER DISTRICT	SOMERVELL
LAWN	TAYLOR
NORTH RUNNELS WSC	TAYLOR



WUG Name	County Location(s)
VIEW CAPS WSC	TAYLOR
CENTRAL WASHINGTON COUNTY WSC	WASHINGTON
CHAPPELL HILL WSC	WASHINGTON
WEST END WSC	WASHINGTON
PALOMA LAKE MUD 1	WILLIAMSON
PALOMA LAKE MUD 2	WILLIAMSON
SONTERRA MUD	WILLIAMSON
WALSH RANCH MUD	WILLIAMSON
WILLIAMSON COUNTY WSID 3	WILLIAMSON

Base Water Demand

The base water demand (gallons per capita per day – GPCD) was not revised for any of the WUGs included in the 2016 Plan. As described in Chapter 2 of the 2016 Plan, base water demand is generally determined from the 2011 Water User Surveys representing demands for a hot, dry year.

Population Projections

TWDB provided draft Municipal Population and Water Demand Projections for the 2021 Plan on January 18, 2016. Although the population projections for both the 2016 and 2021 Plans are based on the same 2010 Census Data, projections for each WUG have been revised to reflect population based on the new WUG definition.

Nearly every WUG in the 2016 Plan will have a different population projection in the 2021 Plan due to the revised TWDB methodology. However, the county and regional totals have not changed for the 2021 Plan. Population by county for each WUG is shown in Exhibit 1. For WUGs located in multiple counties a combined total for all counties is indicated.

Water Demand Projections

As noted previously, the base GPCDs used to calculate water demands were not revised for any WUGs between the 2016 and the 2021 Plans. However, while the total county populations are unchanged, populations within each county are shifted between WUGs. This has resulted in changes in total municipal water demands for each county because the GPCDs, which vary between WUGs, are now being applied to different WUG populations. A county-by-county comparison of the draft demands for the 2021 Plan and the final demands from the 2016 Plan is shown in Table 2. Overall, municipal water demands are greater in the draft 2021 projections, increasing for the entire Brazos G Area by 6,032 acft/yr in 2020 and 8,150 acft/yr in 2070. Total municipal water demands in eight counties are smaller in the draft 2021 Plan projections, but are larger in all other counties. Municipal water demand by WUG and county compared to the 2016 Plan is presented in Exhibit 2.



Table 2. Draft Municipal Water Demands for the 2021 Brazos G Plan and the Final Municipal Water Demands of the 2016 Brazos G Plan (acft/yr)

County	Plan	Year					
		2020	2030	2040	2050	2060	2070
BELL	2021 Plan	64,000	72,291	81,708	91,804	102,053	112,230
	2016 Plan	64,029	72,371	81,875	92,080	102,418	112,689
	<i>2021 - 2016 Demand</i>	<i>(29)</i>	<i>(80)</i>	<i>(167)</i>	<i>(276)</i>	<i>(365)</i>	<i>(459)</i>
BOSQUE	2021 Plan	3,337	3,554	3,645	3,707	3,759	3,798
	2016 Plan	3,083	3,281	3,363	3,418	3,466	3,498
	<i>2021 - 2016 Demand</i>	<i>254</i>	<i>273</i>	<i>282</i>	<i>289</i>	<i>293</i>	<i>300</i>
BRAZOS	2021 Plan	44,876	50,680	56,557	64,236	72,729	82,156
	2016 Plan	44,928	50,728	56,578	64,224	72,685	82,071
	<i>2021 - 2016 Demand</i>	<i>(52)</i>	<i>(48)</i>	<i>(21)</i>	<i>12</i>	<i>44</i>	<i>85</i>
BURLESON	2021 Plan	2,959	3,081	3,187	3,293	3,394	3,483
	2016 Plan	2,898	3,014	3,114	3,210	3,298	3,376
	<i>2021 - 2016 Demand</i>	<i>61</i>	<i>67</i>	<i>73</i>	<i>83</i>	<i>96</i>	<i>107</i>
CALLAHAN	2021 Plan	1,395	1,425	1,426	1,431	1,444	1,454
	2016 Plan	1,389	1,407	1,402	1,401	1,413	1,423
	<i>2021 - 2016 Demand</i>	<i>6</i>	<i>18</i>	<i>24</i>	<i>30</i>	<i>31</i>	<i>31</i>
COMANCHE	2021 Plan	1,548	1,538	1,521	1,540	1,576	1,615
	2016 Plan	1,549	1,539	1,522	1,541	1,578	1,617
	<i>2021 - 2016 Demand</i>	<i>(1)</i>	<i>(1)</i>	<i>(1)</i>	<i>(1)</i>	<i>(2)</i>	<i>(2)</i>
CORYELL	2021 Plan	14,624	15,972	17,583	19,090	20,782	22,496
	2016 Plan	14,598	15,962	17,554	19,040	20,715	22,406
	<i>2021 - 2016 Demand</i>	<i>26</i>	<i>10</i>	<i>29</i>	<i>50</i>	<i>67</i>	<i>90</i>
EASTLAND	2021 Plan	2,638	2,604	2,535	2,503	2,494	2,494
	2016 Plan	2,626	2,591	2,522	2,487	2,480	2,480
	<i>2021 - 2016 Demand</i>	<i>12</i>	<i>13</i>	<i>13</i>	<i>16</i>	<i>14</i>	<i>14</i>
ERATH	2021 Plan	5,689	6,137	6,521	6,954	7,399	7,821
	2016 Plan	5,706	6,150	6,534	6,949	7,392	7,815
	<i>2021 - 2016 Demand</i>	<i>(17)</i>	<i>(13)</i>	<i>(13)</i>	<i>5</i>	<i>7</i>	<i>6</i>
FALLS	2021 Plan	3,583	3,669	3,654	3,557	3,662	3,774
	2016 Plan	3,388	3,463	3,426	3,325	3,419	3,521
	<i>2021 - 2016 Demand</i>	<i>195</i>	<i>206</i>	<i>228</i>	<i>232</i>	<i>243</i>	<i>253</i>
FISHER	2021 Plan	528	508	494	490	489	489
	2016 Plan	526	506	491	489	486	486
	<i>2021 - 2016 Demand</i>	<i>2</i>	<i>2</i>	<i>3</i>	<i>1</i>	<i>3</i>	<i>3</i>
GRIMES	2021 Plan	4,422	4,647	4,814	5,042	5,246	5,425
	2016 Plan	4,178	4,375	4,520	4,742	4,940	5,120
	<i>2021 - 2016 Demand</i>	<i>244</i>	<i>272</i>	<i>294</i>	<i>300</i>	<i>306</i>	<i>305</i>



County	Plan	Year					
		2020	2030	2040	2050	2060	2070
HAMILTON	2021 Plan	1,197	1,176	1,143	1,131	1,128	1,128
	2016 Plan	1,203	1,181	1,148	1,136	1,133	1,133
	<i>2021 - 2016 Demand</i>	<i>(6)</i>	<i>(5)</i>	<i>(5)</i>	<i>(5)</i>	<i>(5)</i>	<i>(5)</i>
HASKELL	2021 Plan	864	842	828	828	839	857
	2016 Plan	872	851	834	835	845	863
	<i>2021 - 2016 Demand</i>	<i>(8)</i>	<i>(9)</i>	<i>(6)</i>	<i>(7)</i>	<i>(6)</i>	<i>(6)</i>
HILL	2021 Plan	5,821	6,014	6,147	6,340	6,509	6,652
	2016 Plan	5,616	5,828	5,965	6,160	6,328	6,474
	<i>2021 - 2016 Demand</i>	<i>205</i>	<i>186</i>	<i>182</i>	<i>180</i>	<i>181</i>	<i>178</i>
HOOD	2021 Plan	7,454	8,666	9,600	10,328	10,962	11,519
	2016 Plan	7,434	8,642	9,573	10,293	10,919	11,471
	<i>2021 - 2016 Demand</i>	<i>20</i>	<i>24</i>	<i>27</i>	<i>35</i>	<i>43</i>	<i>48</i>
JOHNSON	2021 Plan	26,861	30,405	34,169	38,823	43,868	49,265
	2016 Plan	26,011	29,428	33,068	37,582	42,478	47,698
	<i>2021 - 2016 Demand</i>	<i>850</i>	<i>977</i>	<i>1,101</i>	<i>1,241</i>	<i>1,390</i>	<i>1,567</i>
JONES	2021 Plan	3,354	3,451	3,508	3,589	3,671	3,746
	2016 Plan	3,354	3,447	3,502	3,581	3,665	3,739
	<i>2021 - 2016 Demand</i>	<i>0</i>	<i>4</i>	<i>6</i>	<i>8</i>	<i>6</i>	<i>7</i>
KENT	2021 Plan	132	130	127	126	126	126
	2016 Plan	125	123	121	121	120	120
	<i>2021 - 2016 Demand</i>	<i>7</i>	<i>7</i>	<i>6</i>	<i>5</i>	<i>6</i>	<i>6</i>
KNOX	2021 Plan	648	653	654	669	679	689
	2016 Plan	636	639	642	656	666	676
	<i>2021 - 2016 Demand</i>	<i>12</i>	<i>14</i>	<i>12</i>	<i>13</i>	<i>13</i>	<i>13</i>
LAMPASAS	2021 Plan	3,555	3,827	4,036	4,276	4,510	4,727
	2016 Plan	3,556	3,833	4,044	4,286	4,518	4,735
	<i>2021 - 2016 Demand</i>	<i>(1)</i>	<i>(6)</i>	<i>(8)</i>	<i>(10)</i>	<i>(8)</i>	<i>(8)</i>
LEE	2021 Plan	3,002	3,285	3,438	3,486	3,530	3,555
	2016 Plan	2,979	3,258	3,410	3,458	3,499	3,525
	<i>2021 - 2016 Demand</i>	<i>23</i>	<i>27</i>	<i>28</i>	<i>28</i>	<i>31</i>	<i>30</i>
LIMESTONE	2021 Plan	2,814	2,882	2,935	3,023	3,118	3,200
	2016 Plan	2,548	2,602	2,645	2,720	2,800	2,878
	<i>2021 - 2016 Demand</i>	<i>266</i>	<i>280</i>	<i>290</i>	<i>303</i>	<i>318</i>	<i>322</i>
MCLENNAN	2021 Plan	52,445	55,568	58,396	61,628	65,176	68,753
	2016 Plan	51,013	54,030	56,768	59,888	63,349	66,821
	<i>2021 - 2016 Demand</i>	<i>1,432</i>	<i>1,538</i>	<i>1,628</i>	<i>1,740</i>	<i>1,827</i>	<i>1,932</i>



County	Plan	Year					
		2020	2030	2040	2050	2060	2070
MILAM	2021 Plan	4,664	4,822	4,923	5,116	5,307	5,495
	2016 Plan	4,566	4,722	4,823	5,014	5,201	5,387
<i>2021 - 2016 Demand</i>		98	100	100	102	106	108
NOLAN	2021 Plan	2,471	2,522	2,547	2,629	2,699	2,765
	2016 Plan	2,442	2,492	2,515	2,595	2,665	2,729
<i>2021 - 2016 Demand</i>		29	30	32	34	34	36
PALO PINTO	2021 Plan	4,985	5,208	5,341	5,502	5,658	5,790
	2016 Plan	4,636	4,824	4,930	5,077	5,217	5,334
<i>2021 - 2016 Demand</i>		349	384	411	425	441	456
ROBERTSON	2021 Plan	2,796	2,950	3,111	3,321	3,535	3,756
	2016 Plan	2,576	2,710	2,861	3,056	3,254	3,457
<i>2021 - 2016 Demand</i>		220	240	250	265	281	299
SHACKELFORD	2021 Plan	784	804	790	789	787	788
	2016 Plan	767	788	772	771	770	770
<i>2021 - 2016 Demand</i>		17	16	18	18	17	18
SOMERVELL	2021 Plan	1,417	1,542	1,629	1,703	1,773	1,832
	2016 Plan	1,405	1,530	1,618	1,691	1,760	1,819
<i>2021 - 2016 Demand</i>		12	12	11	12	13	13
STEPHENS	2021 Plan	1,492	1,499	1,485	1,480	1,485	1,494
	2016 Plan	1,469	1,475	1,460	1,455	1,463	1,470
<i>2021 - 2016 Demand</i>		23	24	25	25	22	24
STONEWALL	2021 Plan	317	310	305	305	304	304
	2016 Plan	318	310	307	306	305	305
<i>2021 - 2016 Demand</i>		(1)	0	(2)	(1)	(1)	(1)
TAYLOR	2021 Plan	24,174	24,613	24,979	25,398	25,858	26,245
	2016 Plan	24,242	24,682	25,049	25,468	25,934	26,321
<i>2021 - 2016 Demand</i>		(68)	(69)	(70)	(70)	(76)	(76)
THROCKMORTON	2021 Plan	274	267	262	261	261	260
	2016 Plan	266	258	254	253	252	252
<i>2021 - 2016 Demand</i>		8	9	8	8	9	8
WASHINGTON	2021 Plan	6,728	7,044	7,243	7,491	7,718	7,912
	2016 Plan	6,503	6,797	6,978	7,210	7,427	7,615
<i>2021 - 2016 Demand</i>		225	247	265	281	291	297
WILLIAMSON	2021 Plan	97,820	119,190	145,330	173,059	205,914	239,872
	2016 Plan	96,299	117,492	143,550	171,208	203,965	237,834
<i>2021 - 2016 Demand</i>		1,521	1,698	1,780	1,851	1,949	2,038



County	Plan	Year					
		2020	2030	2040	2050	2060	2070
YOUNG	2021 Plan	3,454	3,569	3,646	3,758	3,885	4,014
	2016 Plan	3,360	3,469	3,545	3,651	3,775	3,901
<i>2021 - 2016 Demand</i>		<i>94</i>	<i>100</i>	<i>101</i>	<i>107</i>	<i>110</i>	<i>113</i>
TOTAL	2021 Plan	409,122	457,345	510,217	568,706	634,327	701,979
	2016 Plan	403,094	450,798	503,283	561,377	626,598	693,829
<i>2021 - 2016 Demand</i>		<i>6,028</i>	<i>6,547</i>	<i>6,934</i>	<i>7,329</i>	<i>7,729</i>	<i>8,150</i>

Proposed Process for Reviewing and Revising Population and Water Demand Projections for Municipal WUGs in the 2021 Brazos G Plan

The following process is proposed by HDR to disseminate the draft projections for municipal WUGs for review by interested parties.

1. The BRA will mail out the projections to individual WUGs, Wholesale Water Providers, councils of government, groundwater conservation districts and county judges in the Brazos G Area approximately May 15, 2017.
2. We will request to receive comments and requests for revision by June 30, 2017.
3. Between May 15 and August 31, 2017, HDR will coordinate with entities requesting or recommending revision to the population and water demand projections. This may entail revisions to the base water demands (GPCD) and/or to the projected populations.
4. After August 31, 2017, HDR will compile the comments and requests/recommendations for revision and present them to the Brazos G RWPG.
5. In August and September 2017, HDR will hold up to two public meetings to discuss the revisions. We will target specifically those counties from which we receive a large number of revision requests and for which coordination between individual WUGs will be necessary. These public meetings will be held at the BRA offices, preferably in conjunction with regular Brazos G RWPG meetings.
6. During August and September 2017, HDR will coordinate with TWDB staff regarding the revision requests.
7. In September or November 2017, HDR will present the final requested revisions to the Brazos G RWPG for submittal to the TWDB and submit the formal revision request to the TWDB.
8. The TWDB tentatively plans to adopt the final projections in January/February 2018.

Note that a parallel process will take place for review and revision of the draft water demand projections for mining, irrigation, livestock, manufacturing and steam-electric power generation as those draft projections become available. The TWDB criteria and data requirements for revisions to the various population and water demand projections are excerpted from the general planning guidelines¹ in Exhibit 3 for your reference.

¹ Draft First Amended General Guidelines for Fifth Cycle of Regional Water Plan Development, http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/doc/current_docs/contract_docs/20161118_Draft_FirstAmendedGeneralGuidelines.pdf.

Exhibit 1 - Draft Population Projections for the 2021 Brazos G Plan

County(ies)	WUG Name	Population 2020	Population 2030	Population 2040	Population 2050	Population 2060	Population 2070	% Change from 2040 Pop (2016 BGRWP)	Change from 2040 Pop (2016 BGRWP)
BELL	439 WSC	10,220	12,327	14,490	16,700	18,961	21,285	55.51%	5,172
BELL	ARMSTRONG WSC	2,616	2,810	2,994	3,168	3,338	3,507	16.91%	433
BELL	BELL COUNTY WCID 2	2,239	2,535	2,835	3,130	3,419	3,704	New WUG	
BELL	BELL COUNTY WCID 3	4,639	5,454	6,295	7,130	7,951	8,758	New WUG	
BELL	BELTON	21,753	25,571	29,514	33,433	37,278	41,063	1.63%	473
BELL	COUNTY-OTHER, BELL	5,458	4,618	7,635	12,863	17,816	22,565	-54.62%	-9,189
BELL	DOG RIDGE WSC	5,211	6,126	7,070	8,008	8,930	9,836	69.06%	2,888
BELL	HARKER HEIGHTS	31,372	36,879	42,566	48,218	53,763	59,222	0.00%	0
BELL	HOLLAND	1,100	1,132	1,154	1,172	1,189	1,206	-1.45%	-17
BELL	KILLEEN	144,243	169,560	195,711	221,697	247,195	272,291	-4.03%	-8,223
BELL	MOFFAT WSC	4,019	4,242	4,440	4,621	4,799	4,974	0.00%	0
BELL	MORGANS POINT RESORT	5,077	6,110	7,187	8,261	9,315	10,353	0.04%	3
BELL	PENDLETON WSC	2,284	2,430	2,565	2,691	2,813	2,934	12.35%	282
BELL	ROGERS	1,343	1,450	1,551	1,648	1,743	1,837	4.94%	73
BELL	SALADO WSC	6,001	6,648	7,288	7,913	8,525	9,128	12.28%	797
BELL	TEMPLE	81,736	96,082	110,900	125,626	140,074	154,295	5.24%	5,519
BELL	TROY	2,049	2,321	2,598	2,869	3,136	3,398	11.60%	270
BELL	WEST BELL COUNTY WSC	4,911	5,321	5,348	5,348	5,348	5,348	-1.98%	-108
BELL, CORYELL	SOUTH FORT HOOD	30,950	31,210	31,296	31,296	31,296	31,296	-7.16%	-2,415
BELL, CORYELL	THE GROVE WSC	1,399	1,497	1,728	1,958	2,181	2,403	New WUG	
BELL, FALLS	EAST BELL WSC	3,804	4,457	5,119	5,765	6,419	7,059	-2.29%	-120
BELL, FALLS	LITTLE ELM VALLEY WSC	1,583	1,859	2,146	2,430	2,711	2,986	New WUG	
BELL, MCLENNAN, CORYELL	ELM CREEK WSC	4,459	5,204	5,938	6,665	7,387	8,099	-3.08%	-189
BELL, MILAM, FALLS, WILLIAMSON	BELL-MILAM FALLS WSC	5,199	5,596	5,931	6,238	6,611	6,982	-6.95%	-443
BOSQUE	CHILDRESS CREEK WSC	2,226	2,432	2,537	2,602	2,644	2,670	-16.19%	-490
BOSQUE	CLIFTON	3,859	4,215	4,398	4,513	4,585	4,629	0.55%	24
BOSQUE	COUNTY-OTHER, BOSQUE	5,645	6,189	6,442	6,564	6,609	6,806	-38.34%	-4,006
BOSQUE	HILCO UNITED SERVICES	1,420	1,530	1,610	1,694	1,774	1,863	New WUG	
BOSQUE	MERIDIAN	1,764	1,927	2,011	2,062	2,097	2,117	6.01%	114
BOSQUE	SMITH BEND WSC	751	820	856	878	892	689	New WUG	
BOSQUE, CORYELL	MUSTANG VALLEY WSC	2,132	2,329	2,430	2,492	2,533	2,558	New WUG	
BOSQUE, MCLENNAN	HIGHLAND PARK WSC	585	638	669	693	712	728	New WUG	
BOSQUE, MCLENNAN	VALLEY MILLS	1,393	1,528	1,602	1,653	1,687	1,712	3.16%	49
BRAZOS	BRYAN	88,475	93,588	119,466	139,045	159,663	181,882	0.05%	56
BRAZOS	COLLEGE STATION	100,537	130,606	139,724	161,911	185,756	212,162	-1.57%	-2,228
BRAZOS	COUNTY-OTHER, BRAZOS	4,723	2,909	2,687	3,541	4,793	6,625	-29.20%	-1,108
BRAZOS	THE TEXAS A&M UNIVERSITY SYSTEM	11,851	12,000	12,000	12,000	12,000	12,000	0.00%	0

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County(ies)	WUG Name	Population 2020	Population 2030	Population 2040	Population 2050	Population 2060	Population 2070	% Change from 2040 Pop (2016 BGRWP)	Change from 2040 Pop (2016 BGRWP)
BRAZOS, GRIMES, ROBERTSON	WICKSON CREEK SUD	16,216	18,560	20,907	23,676	26,570	29,688	16.64%	2,982
BRAZOS, ROBERTSON	WELLBORN SUD	14,166	16,232	18,372	20,989	23,795	26,887	27.47%	3,959
BURLESON	CALDWELL	4,896	5,060	5,276	5,312	5,412	5,498	0.02%	1
BURLESON	COUNTY-OTHER, BURLESON	5,502	6,273	6,488	7,021	7,262	7,402	0.42%	27
BURLESON	DEANVILLE WSC	3,186	3,244	3,379	3,356	3,401	3,440	-11.45%	-437
BURLESON	SNOOK	865	930	970	1,013	1,045	1,072	56.45%	350
BURLESON	SOMERVILLE	1,530	1,686	1,848	2,033	2,226	2,432	10.72%	179
CALLAHAN	BAIRD	1,601	1,601	1,601	1,601	1,601	1,601	7.02%	105
CALLAHAN	CLYDE	3,792	4,060	4,205	4,280	4,337	4,372	-4.52%	-199
CALLAHAN	COUNTY-OTHER, CALLAHAN	2,887	3,206	3,383	3,471	3,535	3,578	-61.27%	-5,351
CALLAHAN	CROSS PLAINS	1,134	1,214	1,257	1,280	1,296	1,307	7.90%	92
CALLAHAN	EULA WSC	2,499	2,676	2,771	2,823	2,860	2,884	New WUG	
CALLAHAN, SHACKELFORD	CALLAHAN COUNTY WSC	2,152	2,304	2,387	2,429	2,462	2,482	New WUG	
CALLAHAN, TAYLOR	COLEMAN COUNTY SUD	394	418	433	444	450	454	49.83%	144
COMANCHE	COMANCHE	4,491	4,670	4,791	4,947	5,081	5,208	-0.17%	-8
COMANCHE	COUNTY-OTHER, COMANCHE	7,715	8,021	8,228	8,498	8,728	8,944	0.56%	46
COMANCHE	DE LEON	2,296	2,387	2,448	2,529	2,597	2,662	-1.53%	-38
CORYELL	COUNTY-OTHER, CORYELL	2,474	4,864	7,599	9,942	12,494	15,050	-26.92%	-2,799
CORYELL	FLAT WSC	467	530	601	662	727	793	New WUG	
CORYELL	FORT GATES WSC	1,913	2,173	2,461	2,714	2,983	3,250	New WUG	
CORYELL	GATESVILLE	17,489	19,858	22,494	24,799	27,257	29,702	-2.79%	-645
CORYELL	MOUNTAIN WSC	1,639	1,861	2,109	2,326	2,555	2,785	New WUG	
CORYELL	OGLESBY	645	732	829	914	1,005	1,095	New WUG	
CORYELL, BELL	CENTRAL TEXAS COLLEGE DISTRICT	780	781	781	781	781	781	New WUG	
CORYELL, HAMILTON	MULTI-COUNTY WSC	3,020	3,369	3,737	4,060	4,403	4,745	-14.93%	-656
CORYELL, LAMPASAS	COPPERAS COVE	36,253	41,385	47,053	52,061	57,332	62,549	-2.39%	-1,154
CORYELL, MCLENNAN	CORYELL CITY WATER SUPPLY DISTRICT	5,713	6,534	7,415	8,203	9,033	9,858	-0.01%	-1
EASTLAND	CISCO	4,108	4,197	4,201	4,203	4,203	4,203	1.47%	61
EASTLAND	COUNTY-OTHER, EASTLAND	5,211	5,326	5,331	5,331	5,331	5,331	-19.20%	-1,267
EASTLAND	EASTLAND	3,946	4,032	4,035	4,035	4,035	4,035	-4.04%	-170
EASTLAND	GORMAN	1,082	1,106	1,107	1,107	1,107	1,107	-3.74%	-43
EASTLAND	RANGER	2,654	2,712	2,715	2,715	2,715	2,715	3.59%	94
EASTLAND	RISING STAR	867	886	887	887	887	887	0.00%	0
EASTLAND, STEPHENS	STAFF WSC	1,684	1,720	1,722	1,722	1,722	1,722	New WUG	
ERATH	COUNTY-OTHER, ERATH	18,611	20,848	22,698	24,811	26,462	27,989	-1.40%	-322
ERATH	DUBLIN	4,449	4,833	5,198	5,199	5,545	5,864	5.76%	283
ERATH	STEPHENVILLE	19,044	21,209	23,037	24,781	26,430	27,953	0.02%	4
FALLS	CEGO-DURANGO WSC	1,054	1,108	1,119	1,093	1,126	1,160	New WUG	

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FALLS	COUNTY-OTHER, FALLS	6,108	6,380	6,082	5,797	5,916	6,047	37.98%	1,674
FALLS	MARLIN	6,772	7,115	7,189	7,020	7,233	7,453	4.45%	306
FALLS	ROSEBUD	1,553	1,632	1,648	1,610	1,659	1,709	1.23%	20
FALLS, MCLENNAN	WEST BRAZOS WSC	2,442	2,598	2,692	2,740	2,862	2,982	-12.20%	-374
FISHER	COUNTY-OTHER, FISHER	655	655	655	655	655	655	-33.77%	-334
FISHER	ROBY	666	666	666	666	666	666	2.78%	18
FISHER	ROTAN	1,667	1,667	1,667	1,667	1,667	1,667	9.74%	148
GRIMES	COUNTY-OTHER, GRIMES	8,833	9,035	9,064	9,032	8,873	8,604	-33.82%	-4,632
GRIMES	DOBBIN-PLANTERSVILLE WSC	1,794	2,078	2,294	2,522	2,710	2,875	-24.06%	-727
GRIMES	G & W WSC	3,528	4,723	5,629	6,587	7,381	8,075	-6.17%	-370
GRIMES	NAVASOTA	7,529	7,771	7,955	8,149	8,310	8,450	3.27%	252
GRIMES	TDCJ LUTHER UNITS	1,478	1,615	1,720	1,830	1,922	2,001	New WUG	
GRIMES	TDCJ W PACK UNIT	1,687	1,845	1,964	2,089	2,194	2,285	New WUG	
HAMILTON	COUNTY-OTHER, HAMILTON	3,609	3,658	3,658	3,658	3,658	3,658	6.62%	227
HAMILTON	HAMILTON	2,991	3,047	3,047	3,047	3,047	3,047	-3.94%	-125
HAMILTON	HICO	1,387	1,406	1,406	1,406	1,406	1,406	0.14%	2
HASKELL	COUNTY-OTHER, HASKELL	2,640	2,667	2,680	2,708	2,746	2,805	38.14%	740
HASKELL	HASKELL	3,239	3,272	3,290	3,322	3,372	3,444	-2.72%	-92
HILL	BRANDON-IRENE WSC	1,750	1,863	1,940	2,018	2,080	2,126	-9.64%	-207
HILL	CHATT WSC	726	772	805	837	862	882	New WUG	
HILL	COUNTY-OTHER, HILL	1,982	2,167	2,138	2,093	1,919	1,854	-77.82%	-7,501
HILL	FILES VALLEY WSC	2,538	2,702	2,812	2,928	3,014	3,065	-3.93%	-115
HILL	HILCO UNITED SERVICES	4,039	4,352	4,579	4,819	5,048	5,201	New WUG	
HILL	HILL COUNTY WSC	3,446	3,669	3,820	3,976	4,093	4,189	9.71%	338
HILL	HILLSBORO	9,313	9,916	10,324	10,744	11,063	11,226	2.16%	218
HILL	HUBBARD	1,585	1,687	1,756	1,827	1,882	1,912	3.23%	55
HILL	ITASCA	1,727	1,839	1,914	1,991	2,051	2,099	-2.60%	-51
HILL	WHITNEY	2,570	2,624	2,732	2,843	2,928	2,997	9.50%	237
HILL	WOODROW-OSCEOLA WSC	3,406	3,626	3,775	3,929	4,046	4,141	-19.01%	-886
HILL, JOHNSON	DOUBLE DIAMOND UTILITIES	1,985	2,066	2,150	2,214	2,265	2,462	New WUG	
HILL, LIMESTONE	POST OAK SUD	1,050	1,126	1,193	1,297	1,438	1,582	New WUG	
HILL, MCLENNAN, LIMESTONE	BIROME WSC	1,310	1,396	1,453	1,511	1,558	1,592	New WUG	
HOOD	COUNTY-OTHER, HOOD	25,280	19,711	16,411	16,208	14,682	11,981	-14.90%	-2,874
HOOD	GRANBURY	14,656	17,791	20,037	21,972	23,458	24,596	43.00%	6,025
HOOD	LIPAN	946	1,098	1,206	1,299	1,370	1,425	New WUG	
HOOD	TOLAR	1,026	1,230	1,377	1,502	1,599	1,673	19.53%	225
HOOD, JOHNSON	ACTON MUD	19,608	31,620	39,531	43,668	48,233	53,282	-2.48%	-1,007
JOHNSON	ALVARADO	4,174	4,715	5,273	5,884	6,544	7,250	-1.93%	-104
JOHNSON	BETHANY WSC	3,879	4,392	4,921	5,501	6,127	6,797	-0.77%	-38

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JOHNSON	BETHESDA WSC	18,180	20,976	23,861	27,024	30,437	34,090	16.98%	3,464
JOHNSON	BURLESON	34,351	41,851	48,862	53,368	59,303	66,588	-2.32%	-1,160
JOHNSON	CLEBURNE	38,220	42,564	47,045	51,960	57,261	62,934	17.59%	7,039
JOHNSON	COUNTY-OTHER, JOHNSON	11,470	10,919	11,145	9,624	9,334	9,209	-26.79%	-4,079
JOHNSON	CROWLEY	61	96	132	170	212	257	0.00%	0
JOHNSON	FORT WORTH CRU	-	-	-	5,036	8,057	10,072	No pop until 2050	
JOHNSON	GODLEY	1,009	1,139	1,271	1,418	1,574	1,743	-10.93%	-156
JOHNSON	GRANDVIEW	1,755	1,981	2,214	2,470	2,745	3,039	0.05%	1
JOHNSON	KEENE	7,307	8,557	9,846	11,260	12,785	14,416	2.15%	207
JOHNSON	MANSFIELD	2,576	3,695	4,849	6,115	7,481	8,942	-2.04%	-101
JOHNSON	MOUNTAIN PEAK SUD	3,579	4,362	5,170	6,056	7,012	8,035	83.40%	2,351
JOHNSON	RIO VISTA	1,117	1,366	1,623	1,906	2,210	2,535	3.38%	53
JOHNSON	VENUS	3,335	3,848	4,377	4,957	5,583	6,253	0.00%	0
JOHNSON, HILL	JOHNSON COUNTY SUD	39,564	45,958	52,549	59,753	67,512	75,801	6.71%	3,306
JOHNSON, HILL	PARKER WSC	3,293	4,066	4,860	5,727	6,658	7,652	-4.16%	-211
JONES	ANSON	2,565	2,716	2,821	2,912	2,986	3,047	-0.46%	-13
JONES	COUNTY-OTHER, JONES	2,853	3,026	3,154	3,260	3,354	3,428	29.16%	712
JONES	HAMLIN	2,254	2,386	2,478	2,559	2,623	2,678	0.04%	1
JONES, HASKELL	STAMFORD	3,339	3,533	3,669	3,785	3,883	3,962	0.82%	30
JONES, SHACKELFORD, TAYLOR, CALLAHAN	HAMBY WSC	1,318	1,382	1,417	1,447	1,467	1,485	New WUG	
JONES, TAYLOR	HAWLEY WSC	5,419	5,730	5,952	6,140	6,295	6,421	-1.16%	-70
KENT	COUNTY-OTHER, KENT	116	134	134	134	134	134	-51.45%	-142
KENT	JAYTON	682	682	682	682	682	682	26.30%	142
KNOX	COUNTY-OTHER, KNOX	1,255	1,297	1,326	1,358	1,385	1,407	-6.29%	-89
KNOX	KNOX CITY	1,147	1,194	1,218	1,247	1,270	1,290	-1.93%	-24
KNOX	MUNDAY	1,327	1,381	1,410	1,443	1,470	1,492	-1.33%	-19
KNOX	RED RIVER AUTHORITY OF TEXAS	111	124	125	128	128	129	New WUG	
LAMPASAS	CORIX UTILITIES TEXAS INC	2,226	2,280	2,417	2,562	2,664	2,770	New WUG	
LAMPASAS	COUNTY-OTHER, LAMPASAS	1,119	1,167	1,028	882	780	672	-50.36%	-1,043
LAMPASAS	LAMPASAS	7,852	8,680	9,320	9,973	10,551	11,072	6.08%	534
LAMPASAS, CORYELL, BELL	KEMPNER WSC	15,005	16,716	18,114	19,504	20,774	21,939	5.85%	1,001
LEE	AQUA WSC	2,832	3,184	3,386	3,460	3,509	3,536	-0.03%	-1
LEE	COUNTY-OTHER, LEE	1,286	1,445	1,538	1,568	1,593	1,606	-31.28%	-700
LEE	GIDDINGS	5,792	6,512	6,927	7,078	7,179	7,233	3.07%	206
LEE	LEE COUNTY WSC	7,557	8,497	9,036	9,233	9,365	9,435	5.61%	480
LEE	LEXINGTON	1,373	1,545	1,642	1,679	1,702	1,715	1.36%	22
LIMESTONE	BISTONE MWSD	-	-	-	-	-	-	New WUG	
LIMESTONE	COOLIDGE	1,074	1,190	1,285	1,389	1,474	1,534	-2.06%	-27

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LIMESTONE	COUNTY-OTHER, LIMESTONE	3,270	3,161	3,143	3,196	3,120	3,313	-68.31%	-6,774
LIMESTONE	GROESBECK	4,377	4,419	4,453	4,490	4,520	4,502	0.00%	0
LIMESTONE	MEXIA	8,458	9,432	10,223	11,092	11,797	12,296	-2.08%	-217
LIMESTONE	POINT ENTERPRISE WSC	782	825	858	889	916	935	New WUG	
LIMESTONE	SLC WSC	1,229	1,302	1,361	1,426	1,478	1,509	New WUG	
LIMESTONE	TRI-COUNTY SUD	2,128	2,236	2,259	2,206	2,273	2,319	-58.99%	-3,250
LIMESTONE	WHITE ROCK WSC	2,131	2,256	2,357	2,469	2,560	2,614	New WUG	
LIMESTONE, MCLENNAN	PRAIRIE HILL WSC	1,457	1,555	1,638	1,725	1,804	1,866	New WUG	
MCLENNAN	AXTELL WSC	1,378	1,487	1,584	1,681	1,778	1,873	New WUG	
MCLENNAN	BELLMEAD	10,398	11,037	11,602	12,170	12,736	13,292	-0.57%	-66
MCLENNAN	CENTRAL BOSQUE WSC	856	925	985	1,045	1,105	1,164	New WUG	
MCLENNAN	CHALK BLUFF WSC	2,646	2,646	2,646	2,646	2,646	2,646	0.00%	0
MCLENNAN	COUNTY-OTHER, MCLENNAN	9,914	8,377	7,334	6,003	4,688	3,404	-73.39%	-20,224
MCLENNAN	CRAWFORD	727	739	749	759	769	779	0.00%	0
MCLENNAN	EAST CRAWFORD WSC	967	1,044	1,111	1,179	1,247	1,314	New WUG	
MCLENNAN	EOL WSC	1,894	2,044	2,177	2,311	2,443	2,574	New WUG	
MCLENNAN	H & H WSC	1,607	1,734	1,846	1,961	2,073	2,182	New WUG	
MCLENNAN	HEWITT	17,373	19,949	22,225	24,514	26,795	29,034	11.77%	2,341
MCLENNAN	HILLTOP WSC	819	885	941	999	1,057	1,113	New WUG	
MCLENNAN	LACY-LAKEVIEW	6,831	7,487	8,064	8,647	9,227	9,797	-3.47%	-290
MCLENNAN	LEROY TOURS GERALD WSC	1,371	1,480	1,576	1,673	1,769	1,863	New WUG	
MCLENNAN	LEVI WSC	912	984	1,047	1,112	1,176	1,239	New WUG	
MCLENNAN	LORENA	1,968	2,218	2,440	2,662	2,884	3,101	3.57%	84
MCLENNAN	MCGREGOR	5,234	5,480	5,696	5,915	6,132	6,346	0.69%	39
MCLENNAN	MCLENNAN COUNTY WCID 2	1,762	1,902	2,025	2,149	2,273	2,395	New WUG	
MCLENNAN	MOODY	1,566	1,690	1,800	1,911	2,020	2,129	6.38%	108
MCLENNAN	NORTH BOSQUE WSC	2,229	2,743	3,197	3,653	4,108	4,554	-8.50%	-297
MCLENNAN	RIESEL	1,241	1,279	1,314	1,348	1,383	1,417	19.89%	218
MCLENNAN	ROBINSON	12,851	15,380	17,613	19,859	22,099	24,296	1.47%	255
MCLENNAN	ROSS WSC	2,336	2,521	2,684	2,849	3,013	3,175	New WUG	
MCLENNAN	SPRING VALLEY WSC	1,934	2,088	2,223	2,359	2,495	2,628	New WUG	
MCLENNAN	TEXAS STATE TECHNICAL COLLEGE	579	624	664	704	743	783	New WUG	
MCLENNAN	WACO	132,512	142,778	151,846	160,966	170,055	178,976	-0.94%	-1,440
MCLENNAN	WEST	2,706	2,807	2,896	2,986	3,075	3,163	-6.73%	-209
MCLENNAN	WINDSOR WATER	636	687	731	776	821	864	New WUG	
MCLENNAN	WOODWAY	9,045	9,762	10,396	11,033	11,669	12,292	-0.34%	-35
MCLENNAN, BOSQUE	CROSS COUNTRY WSC	3,259	3,365	3,431	3,486	3,533	3,572	2.63%	88
MCLENNAN, FALLS	BRUCEVILLE-EDDY	5,583	6,023	6,414	6,806	7,197	7,581	252.42%	4,594
MCLENNAN, HILL	BOLD SPRINGS WSC	1,935	2,087	2,218	2,350	2,481	2,608	New WUG	

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MCLENNAN, HILL	GHOLSON WSC	2,437	2,708	2,947	3,187	3,428	3,662	107.54%	1,527
MCLENNAN, LIMESTONE	MART	2,375	2,566	2,734	2,903	3,071	3,237	0.00%	0
MILAM	CAMERON	5,904	6,254	6,504	6,820	7,089	7,343	0.35%	23
MILAM	COUNTY-OTHER, MILAM	1,050	1,111	1,156	1,212	1,262	1,306	-56.95%	-1,529
MILAM	ROCKDALE	6,004	6,362	6,613	6,934	7,210	7,468	1.26%	82
MILAM	SALEM ELM RIDGE WSC	842	892	927	973	1,011	1,047	New WUG	
MILAM, BURLESON	MILANO WSC	3,615	3,859	4,021	4,206	4,356	4,493	-4.99%	-211
MILAM, FALLS	NORTH MILAM WSC	1,427	1,511	1,572	1,649	1,713	1,774	New WUG	
MILAM, WILLIAMSON, BURLESON, LEE	SOUTHWEST MILAM WSC	9,155	10,090	10,991	11,996	13,026	14,055	-1.81%	-203
MILAM, WILLIAMSON	THORNDALE	1,418	1,502	1,563	1,639	1,706	1,768	0.06%	1
NOLAN	COUNTY-OTHER, NOLAN	1,074	1,135	1,175	1,220	1,257	1,286	-44.86%	-956
NOLAN	ROSCOE	1,402	1,481	1,535	1,593	1,639	1,679	0.00%	0
NOLAN	SWEETWATER	12,196	12,880	13,347	13,852	14,258	14,609	5.46%	691
NOLAN, FISHER	BITTER CREEK WSC	2,475	2,556	2,613	2,673	2,722	2,764	19.86%	433
PALO PINTO	COUNTY-OTHER, PALO PINTO	3,021	3,185	3,284	3,334	3,310	3,224	-74.41%	-9,550
PALO PINTO	LAKE PALO PINTO AREA WSC	1,004	1,077	1,127	1,173	1,208	1,235	New WUG	
PALO PINTO	MINERAL WELLS	15,820	16,978	17,760	18,483	19,034	19,470	-0.55%	-98
PALO PINTO	NORTH RURAL WSC	1,631	1,750	1,831	1,905	1,962	2,006	New WUG	
PALO PINTO	PALO PINTO WSC	864	928	971	1,010	1,040	1,064	New WUG	
PALO PINTO	PARKER COUNTY SUD	60	80	102	128	158	193	New WUG	
PALO PINTO	SPORTSMANS WORLD MUD	123	132	138	144	148	152	New WUG	
PALO PINTO	STRAWN	753	808	845	879	906	926	6.02%	48
PALO PINTO	STURDIVANT PROGRESS WSC	2,606	2,807	2,942	3,079	3,196	3,305	New WUG	
PALO PINTO, ERATH	GORDON	667	717	752	783	808	828	New WUG	
PALO PINTO, HOOD	SANTO SUD	2,083	2,268	2,393	2,537	2,684	2,843	New WUG	
PALO PINTO, STEPHENS	POSSUM KINGDOM WSC	2,026	2,171	2,269	2,358	2,426	2,480	7.28%	154
ROBERTSON	BETHANY HEARNE WSC	323	354	384	414	443	471	New WUG	
ROBERTSON	BREMOND	989	1,085	1,174	1,266	1,355	1,442	-3.69%	-45
ROBERTSON	CALVERT	1,193	1,193	1,193	1,193	1,193	1,193	0.08%	1
ROBERTSON	COUNTY-OTHER, ROBERTSON	1,353	2,007	2,564	3,075	3,509	3,860	-53.31%	-2,927
ROBERTSON	FRANKLIN	1,851	2,031	2,199	2,373	2,539	2,699	7.16%	147
ROBERTSON	HEARNE	4,474	4,474	4,474	4,474	4,474	4,474	0.34%	15
ROBERTSON	ROBERTSON COUNTY WSC	2,957	3,245	3,510	3,789	4,054	4,311	-3.04%	-110
ROBERTSON	TWIN CREEK WSC	1,496	1,643	1,776	1,918	2,052	2,183	New WUG	
SHACKELFORD	ALBANY	2,174	2,327	2,314	2,329	2,329	2,329	-5.55%	-136
SHACKELFORD	COUNTY-OTHER, SHACKELFORD	247	158	145	127	116	107	-87.85%	-1,048
SOMERVELL	COUNTY-OTHER, SOMERVELL	5,289	5,909	6,355	6,700	6,995	7,227	-21.68%	-1,759

Exhibit 1 - Draft Population Projections for the 2021 Brazos G Plan

County(ies)	WUG Name	Population 2020	Population 2030	Population 2040	Population 2050	Population 2060	Population 2070	% Change from 2040 Pop (2016 BGRWP)	Change from 2040 Pop (2016 BGRWP)
SOMERVELL	GLEN ROSE	2,836	3,169	3,409	3,593	3,750	3,876	3.90%	128
SOMERVELL	SOMERVELL COUNTY WATER DISTRICT	1,357	1,516	1,631	1,720	1,794	1,855	New WUG	
STEPHENS	BRECKENRIDGE	5,903	6,130	6,232	6,298	6,315	6,380	-0.70%	-44
STEPHENS	COUNTY-OTHER, STEPHENS	453	465	477	487	526	498	-68.68%	-1,046
STEPHENS, SHACKELFORD, THROCKMORTON, EASTLAND	FORT GRIFFIN SUD	1,454	1,506	1,514	1,524	1,530	1,535	New WUG	
STEPHENS, THROCKMORTON, EASTLAND, PALO PINTO, SHACKELFORD	STEPHENS REGIONAL SUD	2,701	2,794	2,836	2,863	2,882	2,895	-0.42%	-12
STONEWALL	ASPERMONT	925	927	927	927	927	927	-0.11%	-1
STONEWALL	COUNTY-OTHER, STONEWALL	576	577	577	577	577	577	0.17%	1
TAYLOR	COUNTY-OTHER, TAYLOR	5,769	6,034	6,263	6,445	6,582	6,680	1.07%	66
TAYLOR	LAWN	645	674	699	719	733	744	New WUG	
TAYLOR	MERKEL	3,024	3,163	3,279	3,370	3,439	3,491	9.12%	274
TAYLOR	NORTH RUNNELS WSC	326	339	342	344	346	348	New WUG	
TAYLOR	STEAMBOAT MOUNTAIN WSC	4,410	4,615	4,784	4,916	5,016	5,092	-8.07%	-420
TAYLOR	TYE	1,319	1,380	1,430	1,471	1,500	1,522	-0.76%	-11
TAYLOR	VIEW CAPS WSC	1,593	1,666	1,727	1,776	1,811	1,839	New WUG	
TAYLOR, CALLAHAN	POTOSI WSC	5,266	5,511	5,714	5,871	5,990	6,081	5.29%	287
TAYLOR, JONES	ABILENE	122,542	128,274	132,973	136,711	139,517	141,659	-2.11%	-2,864
THROCKMORTON	COUNTY-OTHER, THROCKMORTON	317	312	312	311	310	309	-37.10%	-184
THROCKMORTON	THROCKMORTON	846	846	846	846	846	846	1.81%	15
WASHINGTON	BRENHAM	18,423	20,048	21,155	22,256	23,111	23,810	6.15%	1,226
WASHINGTON	CENTRAL WASHINGTON COUNTY WSC	1,990	2,116	2,203	2,289	2,356	2,412	New WUG	
WASHINGTON	CHAPPELL HILL WSC	922	981	1,022	1,062	1,093	1,119	New WUG	
WASHINGTON	CORIX UTILITIES TEXAS INC	3,690	3,926	4,087	4,247	4,372	4,473	New WUG	
WASHINGTON	COUNTY-OTHER, WASHINGTON	10,687	10,890	11,010	11,124	11,199	11,240	-45.40%	-9,156
WASHINGTON	WEST END WSC	487	555	618	686	753	826	New WUG	
WILLIAMSON	BLOCK HOUSE MUD	6,419	6,419	6,419	6,419	6,419	6,419	0.03%	2
WILLIAMSON	BRUSHY CREEK MUD	25,350	27,595	27,595	27,595	27,595	27,595	43.74%	8,397
WILLIAMSON	CEDAR PARK	81,716	90,641	90,641	90,641	90,641	90,641	14.26%	11,312
WILLIAMSON	COUNTY-OTHER, WILLIAMSON	28,684	37,315	52,198	44,899	69,190	91,040	-53.23%	-59,408
WILLIAMSON	FERN BLUFF MUD	5,793	5,793	5,793	5,793	5,793	5,793	-2.34%	-139
WILLIAMSON	FLORENCE	1,357	1,439	1,542	1,653	1,779	1,909	9.59%	135
WILLIAMSON	GEORGETOWN	78,297	98,358	123,342	150,248	180,757	212,304	7.99%	9,122
WILLIAMSON	GRANGER	1,551	1,659	1,796	1,942	2,108	2,280	-1.10%	-20
WILLIAMSON	HUTTO	31,492	43,919	59,394	76,060	94,959	114,500	0.00%	0

Exhibit 1 - Draft Population Projections for the 2021 Brazos G Plan

County(ies)	WUG Name	Population 2020	Population 2030	Population 2040	Population 2050	Population 2060	Population 2070	% Change from 2040 Pop (2016 BGRWP)	Change from 2040 Pop (2016 BGRWP)
WILLIAMSON	JONAH WATER SUD	15,254	19,163	24,031	29,273	35,217	41,364	17.48%	3,575
WILLIAMSON	LEANDER	41,071	69,551	115,635	188,502	238,648	293,630	0.00%	0
WILLIAMSON	LIBERTY HILL	2,063	2,592	3,250	3,959	4,763	5,595	39.48%	920
WILLIAMSON	MANVILLE WSC	10,728	13,476	16,900	20,586	24,767	29,089	15.11%	2,218
WILLIAMSON	PALOMA LAKE MUD 1	1,468	1,846	2,293	2,776	3,322	3,891	New WUG	
WILLIAMSON	PALOMA LAKE MUD 2	1,647	2,067	2,570	3,110	3,723	4,360	New WUG	
WILLIAMSON	PFLUGERVILLE	373	469	588	717	862	1,013	-18.56%	-134
WILLIAMSON	ROUND ROCK	157,819	198,258	248,614	302,845	364,345	427,932	4.72%	11,197
WILLIAMSON	SONTERRA MUD	2,450	3,829	4,811	5,979	7,237	8,664	New WUG	
WILLIAMSON	TAYLOR	17,233	18,728	20,589	22,594	24,868	27,220	0.14%	28
WILLIAMSON	WALSH RANCH MUD	1,073	1,348	1,676	2,028	2,428	2,844	New WUG	
WILLIAMSON	WILLIAMSON COUNTY MUD #10	4,487	5,638	7,070	8,612	10,361	12,169	-3.70%	-272
WILLIAMSON	WILLIAMSON COUNTY MUD #11	2,809	3,530	4,426	5,392	6,486	7,619	-1.86%	-84
WILLIAMSON	WILLIAMSON COUNTY MUD #9	4,247	5,336	6,691	8,151	9,806	11,518	2.51%	164
WILLIAMSON	WILLIAMSON COUNTY WSID 3	2,323	2,917	3,626	4,389	5,255	6,154	New WUG	
WILLIAMSON	WILLIAMSON TRAVIS COUNTIES MUD 1	4,596	4,596	4,596	4,596	4,596	4,596	0.00%	0
WILLIAMSON, BELL	BARTLETT	1,874	2,091	2,330	2,575	2,828	3,084	1.97%	45
WILLIAMSON, BELL	CHISHOLM TRAIL SUD	27,161	33,880	42,140	50,989	60,940	71,204	1.92%	793
WILLIAMSON, BELL	JARRELL-SCHWERTNER WSC	6,370	7,875	9,690	11,618	13,766	15,975	35.35%	2,531
YOUNG	COUNTY-OTHER, YOUNG	1,718	1,816	1,890	1,961	2,038	2,107	-1.72%	-33
YOUNG	GRAHAM	9,708	10,242	10,626	11,032	11,426	11,809	4.60%	467
YOUNG, THROCKMORTON, KNOX	BAYLOR WSC	145	147	148	150	151	152	New WUG	
YOUNG, THROCKMORTON, STEPHENS	FORT BELKNAPP WSC	4,118	4,335	4,488	4,652	4,810	4,964	2.58%	113

Exhibit 2 - Draft Municipal Water Demand Projections for the 2021 Brazos G Plan (acft/yr)

County	WUG Name	Base GPCD	Municipal Demands 2020	Municipal Demands 2030	Municipal Demands 2040	Municipal Demands 2050	Municipal Demands 2060	Municipal Demands 2070
BELL	439 WSC	133	1,407	1,656	1,917	2,191	2,483	2,785
BELL	ARMSTRONG WSC	168	464	486	507	530	558	586
BELL	BARTLETT	181	158	181	205	230	256	282
BELL	BELL COUNTY WCID 2	131	305	335	367	402	438	474
BELL	BELL COUNTY WCID 3	155	756	867	983	1,105	1,230	1,354
BELL	BELL-MILAM FALLS WSC	142	337	354	371	389	410	432
BELL	BELTON	165	3,791	4,353	4,951	5,568	6,198	6,824
BELL	CENTRAL TEXAS COLLEGE DISTRICT	160	12	12	11	11	11	11
BELL	CHISHOLM TRAIL SUD	174	551	640	734	829	923	1,016
BELL	COUNTY-OTHER, BELL	162	918	751	1,230	2,069	2,864	3,627
BELL	DOG RIDGE WSC	135	724	821	924	1,036	1,152	1,268
BELL	EAST BELL WSC	118	423	482	547	615	686	756
BELL	ELM CREEK WSC	104	241	277	317	358	400	442
BELL	HARKER HEIGHTS	182	6,099	7,043	8,042	9,060	10,087	11,106
BELL	HOLLAND	97	108	106	103	103	104	105
BELL	JARRELL-SCHWERTNER WSC	133	308	372	450	535	633	734
BELL	KEMPNER WSC	164	332	371	405	437	470	501
BELL	KILLEEN	122	18,308	20,913	23,716	26,629	29,619	32,599
BELL	LITTLE ELM VALLEY WSC	171	272	313	356	400	445	490
BELL	MOFFAT WSC	113	469	478	487	499	517	535
BELL	MORGANS POINT RESORT	111	582	681	787	897	1,009	1,121
BELL	PENDLETON WSC	116	270	275	286	299	311	324
BELL	ROGERS	127	177	184	192	201	212	223
BELL	SALADO WSC	292	1,899	2,081	2,265	2,449	2,636	2,822
BELL	SOUTH FORT HOOD	215	3,874	3,850	3,815	3,809	3,804	3,804
BELL	TEMPLE	229	20,095	23,231	26,532	29,903	33,301	36,666
BELL	THE GROVE WSC	139	177	184	209	235	261	288
BELL	TROY	90	185	199	215	233	254	275
BELL	WEST BELL COUNTY WSC	149	758	795	784	782	781	780
BOSQUE	CHILDRESS CREEK WSC	147	343	365	373	379	384	388
BOSQUE	CLIFTON	173	704	748	766	779	790	797
BOSQUE	COUNTY-OTHER, BOSQUE	132	782	838	860	869	873	899
BOSQUE	CROSS COUNTRY WSC	158	127	135	138	141	143	144
BOSQUE	HIGHLAND PARK WSC	264	118	127	132	136	139	142
BOSQUE	HILCO UNITED SERVICES	134	198	207	213	222	232	244
BOSQUE	MERIDIAN	129	235	247	252	255	258	261
BOSQUE	MUSTANG VALLEY WSC	206	464	497	512	521	529	534
BOSQUE	SMITH BEND WSC	127	99	105	107	108	110	85
BOSQUE	VALLEY MILLS	184	267	285	292	297	301	304
BRAZOS	BRYAN	168	15,703	16,250	20,351	23,503	26,938	30,666
BRAZOS	COLLEGE STATION	177	18,877	23,937	25,322	29,154	33,394	38,119
BRAZOS	COUNTY-OTHER, BRAZOS	142	692	424	390	510	686	947
BRAZOS	THE TEXAS A&M UNIVERSITY SYSTEM	487	6,322	6,349	6,308	6,292	6,288	6,288
BRAZOS	WELLBORN SUD	186	2,144	2,443	2,762	3,167	3,610	4,101
BRAZOS	WICKSON CREEK SUD	99	1,138	1,277	1,424	1,610	1,813	2,035
BURLESON	CALDWELL	197	1,027	1,043	1,072	1,072	1,091	1,108
BURLESON	COUNTY-OTHER, BURLESON	114	633	684	705	759	783	798
BURLESON	DEANVILLE WSC	121	411	416	433	430	436	441
BURLESON	MILANO WSC	110	201	209	213	219	225	231
BURLESON	SNOOK	307	288	305	314	327	337	345
BURLESON	SOMERVILLE	170	273	292	315	346	378	412
BURLESON	SOUTHWEST MILAM WSC	152	126	132	135	140	144	148
CALLAHAN	BAIRD	153	257	249	242	241	241	241
CALLAHAN	CALLAHAN COUNTY WSC	86	179	182	180	180	182	183
CALLAHAN	CLYDE	82	309	312	310	308	311	313
CALLAHAN	COLEMAN COUNTY SUD	120	30	31	31	31	31	31

Exhibit 2 - Draft Municipal Water Demand Projections for the 2021 Brazos G Plan (acft/yr)

County	WUG Name	Base GPCD	Municipal Demands 2020	Municipal Demands 2030	Municipal Demands 2040	Municipal Demands 2050	Municipal Demands 2060	Municipal Demands 2070
CALLAHAN	COUNTY-OTHER, CALLAHAN	80	229	240	243	244	247	250
CALLAHAN	CROSS PLAINS	162	193	200	203	205	208	209
CALLAHAN	EULA WSC	60	168	180	186	190	192	194
CALLAHAN	HAMBY WSC	116	18	18	18	19	19	19
CALLAHAN	POTOSI WSC	146	12	13	13	13	13	14
COMANCHE	COMANCHE	113	520	518	513	521	533	546
COMANCHE	COUNTY-OTHER, COMANCHE	103	809	804	795	804	823	843
COMANCHE	DE LEON	95	219	216	213	215	220	226
CORYELL	CENTRAL TEXAS COLLEGE DISTRICT	160	120	117	115	114	114	114
CORYELL	COPPERAS COVE	116	4,181	4,562	5,030	5,474	5,999	6,533
CORYELL	CORYELL CITY WATER SUPPLY DISTRICT	154	808	898	1,005	1,101	1,207	1,315
CORYELL	COUNTY-OTHER, CORYELL	114	290	562	873	1,139	1,429	1,721
CORYELL	ELM CREEK WSC	104	42	46	52	56	62	67
CORYELL	FLAT WSC	201	100	112	125	137	150	164
CORYELL	FORT GATES WSC	187	380	423	473	519	569	620
CORYELL	GATESVILLE	229	4,301	4,801	5,377	5,897	6,472	7,050
CORYELL	KEMPNER WSC	164	618	681	739	799	858	916
CORYELL	MOUNTAIN WSC	149	257	284	317	347	380	414
CORYELL	MULTI-COUNTY WSC	95	236	257	283	308	337	367
CORYELL	MUSTANG VALLEY WSC	206	6	6	7	7	7	7
CORYELL	OGLESBY	83	53	58	63	69	75	82
CORYELL	SOUTH FORT HOOD	215	3,206	3,138	3,094	3,089	3,085	3,084
CORYELL	THE GROVE WSC	139	26	27	30	34	38	42
EASTLAND	CISCO	168	729	726	711	703	701	701
EASTLAND	COUNTY-OTHER, EASTLAND	90	470	456	438	427	425	425
EASTLAND	EASTLAND	150	622	617	603	595	594	594
EASTLAND	FORT GRIFFIN SUD	144	2	2	2	2	2	2
EASTLAND	GORMAN	88	94	91	87	87	86	86
EASTLAND	RANGER	171	479	476	466	464	463	463
EASTLAND	RISING STAR	112	99	97	94	93	92	92
EASTLAND	STAFF WSC	99	128	124	119	118	117	117
EASTLAND	STEPHENS REGIONAL SUD	107	15	15	15	14	14	14
ERATH	COUNTY-OTHER, ERATH	134	2,605	2,833	3,022	3,269	3,479	3,678
ERATH	DUBLIN	94	418	430	445	436	464	490
ERATH	GORDON	206	7	7	7	8	8	8
ERATH	STEPHENVILLE	134	2,659	2,867	3,047	3,241	3,448	3,645
FALLS	BELL-MILAM FALLS WSC	142	172	176	174	168	173	178
FALLS	BRUCEVILLE-EDDY	174	196	206	267	280	296	312
FALLS	CEGO-DURANGO WSC	159	176	180	178	173	178	183
FALLS	COUNTY-OTHER, FALLS	123	773	776	717	678	690	705
FALLS	EAST BELL WSC	118	39	39	39	37	38	39
FALLS	LITTLE ELM VALLEY WSC	171	14	16	18	20	23	25
FALLS	MARLIN	254	1,849	1,908	1,901	1,850	1,904	1,961
FALLS	NORTH MILAM WSC	167	3	3	3	3	3	4
FALLS	ROSEBUD	111	175	176	171	167	171	176
FALLS	WEST BRAZOS WSC	138	186	189	186	181	186	191
FISHER	COUNTY-OTHER, FISHER	113	76	73	70	70	69	69
FISHER	ROBY	175	124	121	119	117	117	117
FISHER	ROTAN	114	194	185	180	179	179	179
FISHER	BITTER CREEK WSC	128	134	129	125	124	124	124
GRIMES	COUNTY-OTHER, GRIMES	136	1,248	1,230	1,198	1,188	1,164	1,129
GRIMES	DOBBIN-PLANTERSVILLE WSC	76	138	155	169	184	197	209
GRIMES	G & W WSC	112	409	533	627	730	817	893
GRIMES	NAVASOTA	184	1,474	1,486	1,493	1,514	1,541	1,567
GRIMES	TDCJ LUTHER UNITS	183	289	311	329	348	365	380
GRIMES	TDCJ W PACK UNIT	218	397	429	453	480	504	524

Exhibit 2 - Draft Municipal Water Demand Projections for the 2021 Brazos G Plan (acft/yr)

County	WUG Name	Base GPCD	Municipal Demands 2020	Municipal Demands 2030	Municipal Demands 2040	Municipal Demands 2050	Municipal Demands 2060	Municipal Demands 2070
GRIMES	WICKSON CREEK SUD	99	467	503	545	598	658	723
HAMILTON	COUNTY-OTHER, HAMILTON	121	450	437	422	421	420	420
HAMILTON	HAMILTON	162	512	508	497	490	489	489
HAMILTON	HICO	125	180	176	171	168	167	167
HAMILTON	MULTI-COUNTY WSC	95	55	55	53	52	52	52
HASKELL	COUNTY-OTHER, HASKELL	129	351	340	336	338	342	349
HASKELL	HASKELL	148	504	494	484	482	488	499
HASKELL	STAMFORD	237	9	8	8	8	9	9
HILL	BIROME WSC	135	104	107	110	113	116	119
HILL	BOLD SPRINGS WSC	135	22	23	24	25	26	28
HILL	BRANDON-IRENE WSC	128	231	237	239	246	253	259
HILL	CHATT WSC	127	95	98	100	103	106	108
HILL	COUNTY-OTHER, HILL	106	221	237	231	225	205	198
HILL	DOUBLE DIAMOND UTILITIES	215	429	439	451	462	472	491
HILL	FILES VALLEY WSC	146	389	402	410	423	434	441
HILL	GHOLSON WSC	127	89	96	102	109	117	125
HILL	HILCO UNITED SERVICES	134	565	589	607	633	661	681
HILL	HILL COUNTY WSC	128	466	487	501	518	532	544
HILL	HILLSBORO	200	1,987	2,070	2,122	2,189	2,251	2,283
HILL	HUBBARD	98	156	157	157	162	167	169
HILL	ITASCA	88	152	153	153	156	160	163
HILL	JOHNSON COUNTY SUD	124	16	18	21	23	26	29
HILL	PARKER WSC	104	30	31	32	33	33	34
HILL	POST OAK SUD	76	66	67	69	75	83	92
HILL	WHITNEY	180	492	492	504	520	534	547
HILL	WOODROW-OSCEOLA WSC	92	311	311	314	325	333	341
HOOD	ACTON MUD	139	2,808	4,365	5,384	5,915	6,524	7,204
HOOD	COUNTY-OTHER, HOOD	102	2,643	1,952	1,619	1,591	1,435	1,169
HOOD	GRANBURY	115	1,738	2,046	2,267	2,466	2,627	2,753
HOOD	LIPAN	118	115	130	140	150	158	164
HOOD	SANTO SUD	121	7	7	7	8	8	9
HOOD	TOLAR	134	143	166	183	198	210	220
JOHNSON	ACTON MUD	139	37	57	71	78	86	95
JOHNSON	ALVARADO	105	446	483	525	577	639	708
JOHNSON	BETHANY WSC	93	363	392	426	468	520	576
JOHNSON	BETHESDA WSC	197	3,811	4,304	4,826	5,428	6,104	6,833
JOHNSON	BURLESON	143	5,191	6,185	7,128	7,736	8,578	9,626
JOHNSON	CLEBURNE	172	6,969	7,580	8,242	9,028	9,930	10,908
JOHNSON	COUNTY-OTHER, JOHNSON	103	1,222	1,127	1,123	961	928	915
JOHNSON	CROWLEY	141	9	14	19	24	30	36
JOHNSON	DOUBLE DIAMOND UTILITIES	215	28	29	29	30	31	55
JOHNSON	FORT WORTH CRU	185	-	-	-	957	1,530	1,912
JOHNSON	GODLEY	99	102	111	121	134	148	164
JOHNSON	GRANDVIEW	102	182	197	213	234	259	287
JOHNSON	JOHNSON COUNTY SUD	124	5,079	5,720	6,413	7,220	8,136	9,127
JOHNSON	KEENE	70	497	575	662	757	859	969
JOHNSON	MANSFIELD	252	706	1,003	1,310	1,647	2,013	2,405
JOHNSON	MOUNTAIN PEAK SUD	290	1,123	1,351	1,591	1,857	2,149	2,461
JOHNSON	PARKER WSC	104	319	385	455	535	625	721
JOHNSON	RIO VISTA	133	154	183	214	249	288	330
JOHNSON	VENUS	174	623	709	801	903	1,015	1,137
JONES	ABILENE CRU	172	945	975	992	1,012	1,036	1,057
JONES	ANSON	137	365	373	376	386	394	402
JONES	COUNTY-OTHER, JONES	119	358	372	382	392	402	411
JONES	HAMBY WSC	116	54	55	55	55	55	56
JONES	HAMLIN	178	423	435	444	458	468	478

Exhibit 2 - Draft Municipal Water Demand Projections for the 2021 Brazos G Plan (acft/yr)

County	WUG Name	Base GPCD	Municipal Demands 2020	Municipal Demands 2030	Municipal Demands 2040	Municipal Demands 2050	Municipal Demands 2060	Municipal Demands 2070
JONES	HAWLEY WSC	78	369	369	367	369	377	384
JONES	STAMFORD	237	840	872	892	917	939	958
KENT	COUNTY-OTHER, KENT	118	14	15	15	15	15	15
KENT	JAYTON	164	118	115	112	111	111	111
KNOX	BAYLOR WSC	206	2	2	1	1	1	1
KNOX	COUNTY-OTHER, KNOX	102	129	126	125	128	130	132
KNOX	KNOX CITY	195	237	240	242	248	252	256
KNOX	MUNDAY	180	253	255	256	262	266	270
KNOX	RED RIVER AUTHORITY OF TEXAS	229	27	30	30	30	30	30
LAMPASAS	COPPERAS COVE	116	123	160	195	233	268	300
LAMPASAS	CORIX UTILITIES TEXAS INC	149	348	347	362	381	395	411
LAMPASAS	COUNTY-OTHER, LAMPASAS	131	150	155	136	116	102	88
LAMPASAS	KEMPNER WSC	164	1,669	1,809	1,919	2,040	2,155	2,260
LAMPASAS	LAMPASAS	154	1,265	1,356	1,424	1,506	1,590	1,668
LEE	AQUA WSC	156	465	510	535	543	550	554
LEE	COUNTY-OTHER, LEE	104	133	142	149	152	154	155
LEE	GIDDINGS	188	1,154	1,268	1,328	1,347	1,364	1,374
LEE	LEE COUNTY WSC	122	959	1,046	1,093	1,106	1,119	1,127
LEE	LEXINGTON	169	244	268	280	284	288	290
LEE	SOUTHWEST MILAM WSC	152	47	51	53	54	55	55
LIMESTONE	BIROME WSC	135	14	14	15	15	15	16
LIMESTONE	BISTONE MWSD	364	233	241	247	258	267	273
LIMESTONE	COOLIDGE	156	176	191	202	217	230	239
LIMESTONE	COUNTY-OTHER, LIMESTONE	94	311	287	275	273	266	282
LIMESTONE	GROESBECK	149	688	677	667	665	668	665
LIMESTONE	MART	142	1	1	1	2	2	2
LIMESTONE	MEXIA	70	568	634	687	745	793	826
LIMESTONE	POINT ENTERPRISE WSC	107	85	87	87	89	91	93
LIMESTONE	POST OAK SUD	76	11	11	12	12	13	14
LIMESTONE	PRAIRIE HILL WSC	157	140	145	150	156	163	168
LIMESTONE	SLC WSC	87	107	108	108	111	115	117
LIMESTONE	TRI-COUNTY SUD	119	261	264	259	249	256	261
LIMESTONE	WHITE ROCK WSC	101	219	222	225	231	239	244
MCLENNAN	AXTELL WSC	117	166	172	179	187	198	208
MCLENNAN	BELLMEAD	115	1,233	1,261	1,288	1,331	1,388	1,448
MCLENNAN	BIROME WSC	135	66	68	70	72	74	76
MCLENNAN	BOLD SPRINGS WSC	135	252	263	273	287	302	317
MCLENNAN	BRUCEVILLE-EDDY	174	834	878	868	913	963	1,014
MCLENNAN	CENTRAL BOSQUE WSC	143	128	135	140	147	156	164
MCLENNAN	CHALK BLUFF WSC	99	268	258	249	244	243	243
MCLENNAN	CORYELL CITY WATER SUPPLY DISTRICT	154	125	146	166	186	206	227
MCLENNAN	COUNTY-OTHER, MCLENNAN	123	1,268	1,035	880	708	551	400
MCLENNAN	CRAWFORD	191	148	147	146	147	148	150
MCLENNAN	CROSS COUNTRY WSC	158	419	416	414	415	419	424
MCLENNAN	EAST CRAWFORD WSC	312	328	350	369	390	412	434
MCLENNAN	ELM CREEK WSC	104	193	214	233	254	276	299
MCLENNAN	EOL WSC	118	231	240	249	261	276	290
MCLENNAN	GHOLSON WSC	127	232	250	265	284	304	325
MCLENNAN	H & H WSC	113	188	195	202	212	223	235
MCLENNAN	HEWITT	165	3,029	3,393	3,721	4,071	4,442	4,811
MCLENNAN	HIGHLAND PARK WSC	264	48	52	54	56	57	58
MCLENNAN	HILLTOP WSC	116	98	102	106	111	117	123
MCLENNAN	LACY-LAKEVIEW	106	745	788	828	877	932	989
MCLENNAN	LEROY TOURS GERALD WSC	100	139	144	148	155	163	172
MCLENNAN	LEVI WSC	114	107	111	115	121	128	134
MCLENNAN	LORENA	154	319	351	379	410	443	476

Exhibit 2 - Draft Municipal Water Demand Projections for the 2021 Brazos G Plan (acft/yr)

County	WUG Name	Base GPCD	Municipal Demands 2020	Municipal Demands 2030	Municipal Demands 2040	Municipal Demands 2050	Municipal Demands 2060	Municipal Demands 2070
MCLENNAN	MART	142	351	367	382	401	422	445
MCLENNAN	MCGREGOR	146	801	813	825	846	874	905
MCLENNAN	MCLENNAN COUNTY WCID 2	147	273	286	299	314	331	349
MCLENNAN	MOODY	124	200	208	215	224	236	249
MCLENNAN	NORTH BOSQUE WSC	235	566	687	795	905	1,017	1,127
MCLENNAN	PRAIRIE HILL WSC	157	101	105	108	113	118	122
MCLENNAN	RIESEL	126	163	162	162	164	167	172
MCLENNAN	ROBINSON	181	2,472	2,896	3,275	3,671	4,078	4,482
MCLENNAN	ROSS WSC	135	329	344	359	377	397	418
MCLENNAN	SPRING VALLEY WSC	132	265	278	289	303	320	337
MCLENNAN	TEXAS STATE TECHNICAL COLLEGE	1,378	888	954	1,013	1,073	1,132	1,193
MCLENNAN	VALLEY MILLS	184	4	6	8	10	11	13
MCLENNAN	WACO	220	31,279	33,063	34,676	36,494	38,495	40,503
MCLENNAN	WEST	160	457	461	466	474	487	501
MCLENNAN	WEST BRAZOS WSC	138	163	169	176	186	196	207
MCLENNAN	WINDSOR WATER	156	104	110	114	120	127	134
MCLENNAN	WOODWAY	352	3,465	3,690	3,892	4,114	4,347	4,579
MILAM	BELL-MILAM FALLS WSC	142	225	232	237	246	255	264
MILAM	CAMERON	216	1,363	1,413	1,446	1,504	1,561	1,617
MILAM	COUNTY-OTHER, MILAM	122	129	134	139	146	151	156
MILAM	MILANO WSC	110	209	214	216	224	232	240
MILAM	NORTH MILAM WSC	167	249	257	263	273	283	293
MILAM	ROCKDALE	184	1,173	1,213	1,237	1,285	1,333	1,380
MILAM	SALEM ELM RIDGE WSC	148	131	135	137	142	148	153
MILAM	SOUTHWEST MILAM WSC	152	1,002	1,036	1,058	1,100	1,141	1,181
MILAM	THORNDALE	125	183	188	190	196	203	211
NOLAN	COUNTY-OTHER, NOLAN	114	126	127	128	130	134	137
NOLAN	ROSCOE	137	199	203	205	211	216	222
NOLAN	SWEETWATER	153	1,953	1,996	2,017	2,084	2,140	2,192
NOLAN	BITTER CREEK WSC	128	193	196	197	204	209	214
PALO PINTO	COUNTY-OTHER, PALO PINTO	93	281	280	277	277	274	267
PALO PINTO	GORDON	206	140	148	153	158	163	167
PALO PINTO	LAKE PALO PINTO AREA WSC	103	106	109	111	114	117	119
PALO PINTO	MINERAL WELLS	155	2,579	2,692	2,759	2,840	2,919	2,985
PALO PINTO	NORTH RURAL WSC	96	158	163	165	168	173	177
PALO PINTO	PALO PINTO WSC	128	115	120	123	126	129	132
PALO PINTO	PARKER COUNTY SUD	103	6	8	10	13	16	19
PALO PINTO	POSSUM KINGDOM WSC	392	834	886	921	954	982	1,004
PALO PINTO	SANTO SUD	121	254	267	275	288	304	322
PALO PINTO	SPORTSMANS WORLD MUD	898	122	131	136	142	146	150
PALO PINTO	STEPHENS REGIONAL SUD	107	5	5	5	5	5	5
PALO PINTO	STRAWN	182	145	152	156	160	165	169
PALO PINTO	STURDIVANT PROGRESS WSC	91	240	247	250	257	265	274
ROBERTSON	BETHANY HEARNE WSC	127	43	45	48	51	54	58
ROBERTSON	BREMOND	174	181	193	205	220	235	250
ROBERTSON	CALVERT	152	190	183	180	180	179	179
ROBERTSON	COUNTY-OTHER, ROBERTSON	111	152	217	275	328	373	410
ROBERTSON	FRANKLIN	142	274	291	308	329	351	373
ROBERTSON	HEARNE	161	759	736	717	715	713	713
ROBERTSON	ROBERTSON COUNTY WSC	81	238	248	258	273	291	309
ROBERTSON	TWIN CREEK WSC	167	265	284	302	324	345	367
ROBERTSON	WELLBORN SUD	186	651	705	765	842	928	1,023
ROBERTSON	WICKSON CREEK SUD	99	43	48	53	59	66	74
SHACKELFORD	ALBANY	258	604	635	624	625	624	624
SHACKELFORD	CALLAHAN COUNTY WSC	86	5	5	5	5	5	5
SHACKELFORD	COUNTY-OTHER, SHACKELFORD	99	25	15	13	11	10	10

Exhibit 2 - Draft Municipal Water Demand Projections for the 2021 Brazos G Plan (acft/yr)

County	WUG Name	Base GPCD	Municipal Demands 2020	Municipal Demands 2030	Municipal Demands 2040	Municipal Demands 2050	Municipal Demands 2060	Municipal Demands 2070
SHACKELFORD	FORT GRIFFIN SUD	144	96	95	94	93	93	93
SHACKELFORD	HAMBY WSC	116	52	52	52	53	53	54
SHACKELFORD	STEPHENS REGIONAL SUD	107	2	2	2	2	2	2
SOMERVELL	COUNTY-OTHER, SOMERVELL	117	644	698	736	769	800	827
SOMERVELL	GLEN ROSE	200	605	663	703	736	767	792
SOMERVELL	SOMERVELL COUNTY WATER DISTRICT	120	168	181	190	198	206	213
STEPHENS	BRECKENRIDGE	161	1,002	1,012	1,006	1,004	1,005	1,015
STEPHENS	COUNTY-OTHER, STEPHENS	105	49	48	48	48	51	49
STEPHENS	FORT BELKNAPP WSC	107	6	6	6	5	6	6
STEPHENS	FORT GRIFFIN SUD	144	102	103	101	101	101	101
STEPHENS	POSSUM KINGDOM WSC	392	34	35	35	36	36	36
STEPHENS	STAFF WSC	99	42	41	39	39	38	38
STEPHENS	STEPHENS REGIONAL SUD	107	257	254	250	247	248	249
STONEWALL	ASPERMONT	250	249	245	241	241	240	240
STONEWALL	COUNTY-OTHER, STONEWALL	116	68	65	64	64	64	64
TAYLOR	ABILENE	172	21,316	21,723	22,058	22,428	22,838	23,181
TAYLOR	COLEMAN COUNTY SUD	120	19	19	19	19	20	20
TAYLOR	COUNTY-OTHER, TAYLOR	113	666	666	669	686	698	708
TAYLOR	HAMBY WSC	116	34	35	35	35	35	36
TAYLOR	HAWLEY WSC	78	48	48	48	48	49	50
TAYLOR	LAWN	186	128	131	133	136	138	140
TAYLOR	MERKEL	120	373	376	378	382	388	394
TAYLOR	NORTH RUNNELS WSC	104	34	34	33	33	33	33
TAYLOR	POTOSI WSC	146	801	819	836	851	866	879
TAYLOR	STEAMBOAT MOUNTAIN WSC	84	376	379	383	387	393	399
TAYLOR	TYE	134	184	186	188	191	195	197
TAYLOR	VIEW CAPS WSC	118	195	197	199	202	205	208
THROCKMORTO	BAYLOR WSC	206	3	3	3	3	3	3
THROCKMORTO	COUNTY-OTHER, THROCKMORTON	96	30	28	28	28	28	27
THROCKMORTO	FORT BELKNAPP WSC	107	20	20	19	19	19	19
THROCKMORTO	FORT GRIFFIN SUD	144	19	19	19	19	19	19
THROCKMORTO	STEPHENS REGIONAL SUD	107	17	16	16	15	15	15
THROCKMORTO	THROCKMORTON	205	185	181	177	177	177	177
WASHINGTON	BRENNHAM	219	4,329	4,627	4,821	5,038	5,225	5,382
WASHINGTON	CENTRAL WASHINGTON COUNTY WSC	123	254	262	268	275	283	289
WASHINGTON	CHAPPELL HILL WSC	146	141	147	150	155	159	163
WASHINGTON	CORIX UTILITIES TEXAS INC	149	577	598	612	631	648	663
WASHINGTON	COUNTY-OTHER, WASHINGTON	124	1,374	1,352	1,330	1,324	1,329	1,333
WASHINGTON	WEST END WSC	107	53	58	62	68	74	82
WILLIAMSON	BARTLETT	181	200	208	221	236	255	275
WILLIAMSON	BELL-MILAM FALLS WSC	142	43	53	65	78	94	110
WILLIAMSON	BLOCK HOUSE MUD	126	846	828	818	814	812	811
WILLIAMSON	BRUSHY CREEK MUD	231	6,274	6,745	6,696	6,668	6,661	6,660
WILLIAMSON	CEDAR PARK	193	16,857	18,582	18,490	18,457	18,441	18,434
WILLIAMSON	CHISHOLM TRAIL SUD	174	4,496	5,575	6,948	8,438	10,138	11,901
WILLIAMSON	COUNTY-OTHER, WILLIAMSON	148	4,452	5,657	7,831	6,705	10,310	13,555
WILLIAMSON	FERN BLUFF MUD	190	1,187	1,175	1,168	1,163	1,161	1,161
WILLIAMSON	FLORENCE	95	130	132	137	144	154	166
WILLIAMSON	GEORGETOWN	205	17,217	21,366	26,635	32,352	38,881	45,648
WILLIAMSON	GRANGER	130	209	217	229	244	264	286
WILLIAMSON	HUTTO	113	3,767	5,188	6,992	8,936	11,143	13,427
WILLIAMSON	JARRELL-SCHWERTNER WSC	133	558	664	801	952	1,126	1,305
WILLIAMSON	JONAH WATER SUD	137	2,150	2,630	3,251	3,935	4,726	5,547
WILLIAMSON	LEANDER	114	4,904	8,144	13,470	21,913	27,724	34,098
WILLIAMSON	LIBERTY HILL	106	220	267	329	398	478	560
WILLIAMSON	MANVILLE WSC	148	1,671	2,058	2,555	3,097	3,720	4,367

Exhibit 2 - Draft Municipal Water Demand Projections for the 2021 Brazos G Plan (acft/yr)

County	WUG Name	Base GPCD	Municipal Demands 2020	Municipal Demands 2030	Municipal Demands 2040	Municipal Demands 2050	Municipal Demands 2060	Municipal Demands 2070
WILLIAMSON	PALOMA LAKE MUD 1	125	191	234	287	345	411	482
WILLIAMSON	PALOMA LAKE MUD 2	115	196	239	293	351	420	491
WILLIAMSON	PFLUGERVILLE	155	62	77	96	117	140	165
WILLIAMSON	ROUND ROCK	152	25,287	31,213	38,796	47,061	56,537	66,365
WILLIAMSON	SONTERRA MUD	76	186	278	341	418	505	603
WILLIAMSON	SOUTHWEST MILAM WSC	152	291	356	439	530	637	747
WILLIAMSON	TAYLOR	157	2,844	3,010	3,245	3,527	3,873	4,237
WILLIAMSON	THORNDALE	125	-	-	-	1	1	1
WILLIAMSON	WALSH RANCH MUD	257	299	371	459	553	661	775
WILLIAMSON	WILLIAMSON COUNTY MUD #10	196	959	1,197	1,497	1,821	2,189	2,570
WILLIAMSON	WILLIAMSON COUNTY MUD #11	185	565	706	883	1,074	1,290	1,515
WILLIAMSON	WILLIAMSON COUNTY MUD #9	188	854	1,060	1,321	1,605	1,929	2,265
WILLIAMSON	WILLIAMSON COUNTY WSID 3	126	307	376	461	554	662	775
WILLIAMSON	WILLIAMSON TRAVIS COUNTIES MUD 1	126	598	584	576	572	571	570
YOUNG	BAYLOR WSC	206	27	27	27	27	27	27
YOUNG	COUNTY-OTHER, YOUNG	119	209	211	215	222	230	238
YOUNG	FORT BELKNAPP WSC	107	430	440	445	457	471	487
YOUNG	GRAHAM	266	2,788	2,891	2,959	3,052	3,157	3,262

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Exhibit C

First Amended General Guidelines for Fifth Cycle of Regional Water Plan Development

November 2016

***This document is tentative guidance pending approval of proposed revisions to 31 TAC 357.
This document is subject to future revision based upon any future Legislative actions.***

Note that boxed text includes significant revisions or additions or reorganization of previous content. Of particular note is the addition of Section 3.6 in response to input received from technical stakeholders.

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1.0 Planning Area Description³

Chapter 1 is a summary of the regional water planning area (RWPA) that addresses items described in 31 TAC §357.30, including the new 'utility-based' WUGs and the new category *major water providers* (MWP), as well as any other significant aspects of the RWPA that are considered relevant to the RWP update. The MWPs for the RWPA are a subset of WUGs and / or wholesale water providers as identified by the RWPG. Data analysis and evaluations described throughout this document are relevant to the WUGs and WWP of the RWPA. This WUG and WWP data will support compiling results to describe the MWPs of the RWPA.

RWPGs shall describe their RWPA including the following:

1. social and economic aspects of a region such as information on current population, economic activity and economic sectors heavily dependent on water resources;
2. current water use and major water demand centers;
3. current groundwater, surface water, and reuse supplies including major springs that are important for water supply or protection of natural resources;
4. major water providers (MWP);
5. agricultural and natural resources;
6. identified water quality problems;
7. identified threats to agricultural and natural resources due to water quantity problems or water quality problems related to water supply;
8. summary of existing local and regional water plans;
9. the identified historic drought(s) of record within the RWPA;
10. current preparations for drought within the RWPA;
11. information compiled by the Board from water loss audits performed by Retail Public Utilities pursuant to 31 TAC §358.6 (relating to water loss audits); and,
12. an identification of each threat to agricultural and natural resources and a discussion of how that threat shall be addressed or affected by the WMSs evaluated in the plan.

Information compiled by the TWDB from water loss audits may be presented, for example, as a summary in tabular form along with a description of the information and how the RWPG considered the information in developing the RWP.

When presenting historic drought(s) of record, the RWPG may identify other relevant (e.g., basin-level) droughts of record that impact RWPA water supplies in addition to identifying the overall historic drought of record in the RWPA.

2.0 - Population and Water Demand Projections

TWDB staff will prepare draft population and municipal water demand projections for 2020-2070 for all population-related water user groups using data based on the population projections in the 2017 State Water Plan as reassembled by utility service areas. Because there will not be new decennial census data available in time to be used in the 2021 Regional Water Plans, the emphasis of this work will be on the transition of the 2017 State Water Plan population projections and the associated water demand projections from political boundaries to utility service area boundaries and to making limited modifications based on relevant changed conditions that have occurred since the development of the projections used in the 2017 State Water Plan.

³ Primarily related to 31 TAC §357.30

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The definition of water user groups to be used in the 2021 Regional Water Plans and the 2022 State Water Plan can be found in 31 TAC Chapter 357.10(41).

2.1 Criteria and Required Data For Requested Changes To Draft Projections and Revisions Of Approved Projections

The initial list of water user groups was established with the input of each RWPG and TWDB staff will prepare draft population and water demand projections for each region. RWPGs shall then review the draft projections and may provide input to TWDB or request specific changes to the projections from TWDB. All requests to adjust draft population or water demand projections shall be submitted along with associated data in an electronic format determined by TWDB (e.g., **fixed format spreadsheets**). If adequate justification is provided by the RWPGs to TWDB, population and/or water demand projections may be adjusted by the TWDB in consultation with Texas Department of Agriculture, Texas Commission on Environmental Quality, and Texas Parks and Wildlife Department. TWDB staff will then incorporate approved adjustments to the projections prior to the Board's consideration of adoption of the population and municipal demand projections.

Prior to the draft projections being released, TWDB staff will analyze the most recent population estimates and projections from the Texas State Data Center in comparison to the 2017 State Water Plan projections to determine the maximum region-wide population changes that may be considered.

Once RWPG input and requested changes are considered, final population and associated water demand projections will be considered for Board adoption. RWPGs must use the Board-adopted projections when preparing their regional water plans. TWDB will directly populate DB22 with all Board-adopted WUG-level projections and make any changes to DB22 if subsequent revisions are approved by the Board.

2.1.1 Population Projections

2.1.1.1 Water User Group Population Projections

Any adjustments to a water user group population projection must involve a justifiable redistribution of projected populations within the relevant county so that the county total remains the same unless an adjustment to the county total is also justified and approved.

Criteria for Adjustment: One or more of the following criteria must be verified by the RWPG and the EA for consideration in adjusting the WUG population projections:

1. The most recent census place population estimate by the Texas Demographic Center (TDC)⁴ is significantly different than a corresponding interpolation of the water user group's population projection in the 2017 State Water Plan. Planning groups should compare the 2015 TDC census place estimate to the trend line between the 2010 and 2020 projections in the 2017 State Water Plan.
2. The population growth rate for a city, utility, or county-other over the most recent five years (2011-2015) is substantially different than the growth rate between 2000 and 2010.
3. Identification of growth limitations or build-out conditions for a water utility that would result in an expected maximum population that is less than the draft projection.

⁴ Formerly known as the Texas State Data Center / Office of State Demographer, <http://osd.texas.gov/>

DRAFT

Data Requirements: The RWPG must provide the following data associated with the identified criteria to the EA for justifying any adjustment to the WUG-level population projections:

1. Population estimates for cities developed and published by the TDC or by a regional council of governments will be considered for utilities serving these respective cities.
2. The verified number of residential connections and permanent population served, to be used to verify criteria 1 or 2 for WUG.
3. Documentation from an official of a city or utility that describes the conditions expected to limit population growth and estimates the maximum expected population will be used to verify criteria 3.
4. Other data that the RWPG believes is important to justify any changes to the WUG-level population projections.

2.1.1.2 County-Level Population Projections

Any adjustments to a county-total population must involve a justifiable increase or decrease in county population and a justifiable redistribution of water user group population projections within the county.

Criteria for Adjustment: One or more of the following criteria must be verified by the RWPG and the EA for consideration of revising the county population projections:

1. The most recent county population **estimate** by the TDC is significantly different than a corresponding interpolation of the county's population projections in the 2017 State Water Plan. Planning groups should compare the 2015 TDC county estimate to the trend line between the 2010 and 2020 projections in the 2017 State Water Plan.
2. The most recent county population **projection** by the TDC (half-migration scenario) is significantly different than the county population projections in the 2017 State Water Plan.

Data Requirements: The RWPG must provide the following data associated with the identified criteria to the EA for justifying any adjustments to the county-level population projections:

1. Population estimates and/or projections from the TDC.
2. Other data that the RWPG believes is important to justify any changes to the population projections.

2.1.2 Water Demand Projections

2.1.2.1 Municipal Water Demand Projections

Dry Year Designation

Municipal water demand projections will be based upon dry-year demand conditions. The default base year that will be used to develop the draft water demand projections for the utility service area GPCD (gallons per capita per day) in the 2022 State Water Plan will be 2011. If a different dry-year, or a combination of dry years, was approved for use in the 2017 State Water Plan, that value will be carried forward as the default GPCD for the fifth cycle unless otherwise specifically requested. Additionally, regions may make a request to use a GPCD value from a more recent dry-year (e.g., 2012-2015) as the basis for the demand projections of certain water providers. TWDB will consider an alternative base year only if the RWPG provides sufficient evidence that the alternative year is more representative of demands expected under dry-year conditions.

DRAFT

Municipal Water Use

Municipal water use includes both residential and non-residential water use. Residential use includes single and multi-family residential household water use. Non-residential use includes water used by commercial establishments, public offices, and institutions, and light industrial facilities, but does not include significant industrial water users, such as large manufacturing or power generation facilities. Residential and non-residential water uses are categorized together because they are similar types of use; both use water primarily for drinking, cleaning, sanitation, cooling, and landscape watering. Reported municipal water use data through the TWDB Water Use Survey for the designated dry year will be used to calculate the base per capita water use rate for each utility.

The municipal water demand projections shall incorporate anticipated future water savings due to the transition to more water-efficient plumbing fixtures and appliances, as detailed in relevant legislation and provided to the RWPGs by the TWDB. Any additional anticipated future water savings due to conservation programs undertaken by utilities or county-other WUGs should be considered as water management strategies by the RWPG.

An adjustment of the dry-year population estimate will require adjustment of the utility's annual per capita water use. Any changes to the population projections for an entity will require adjustments to the municipal water demand projections.

Criteria for Adjustment: One or more of the following criteria must be verified by the RWPG and the EA for consideration of revising the municipal water demand projections:

1. Evidence that per capita water use from a different year between 2012-2015 would be more appropriate because that year was more representative of dry-year conditions.
2. Errors identified in the reporting of municipal water use for an entity.
3. Evidence that the dry year water use was abnormal due to temporary infrastructure constraints.
4. Trends indicating that per capita water use for a utility or rural area of a county have changed substantially since 2011 and evidence that these trends will continue to rise in the short-term future.
5. Evidence that the number of installations of water-efficient fixtures and appliances between 2010 and 2015 is substantially different than the TWDB estimate.

Data Requirements: The RWPG must provide the following data associated with the identified criteria to the TWDB EA to justify any adjustments to the municipal water demand projections:

1. Annual municipal water production (total surface water diversions and/or groundwater pumpage and water purchased from other entities) for an entity measured in acre-feet, between 2010 - 2014.
2. The volume of water sales by an entity to other water users (city utilities, industries, water districts, water supply corporations, etc.) measured in acre-feet.
3. Net annual municipal water use, defined as total water production less sales to other water users (city utilities, industries, water districts, water supply corporations, etc.) measured in acre-feet.
4. Documentation of temporary infrastructure or other water supply constraints that were in place during 2011.
5. Drought index or growing season rainfall data to document a year different than the designated dry year as a more appropriate base year for projections.
6. Documentation of the number of water-efficient fixtures replaced between 1990 and 2015.

DRAFT

7. To verify increasing per capita water use trends for a utility or rural area of a county and therefore revising projections of per capita water use to reflect this increasing trend, the following data should be provided with the request from the RWPG:
 - a. Historical per capita water use estimates based on net annual municipal water use for the city, utility or rural area of a county, beginning in 2010. A trend analysis which takes into account the variation in annual rainfall.
 - b. Revised projections of per capita water use for a utility or rural area of a county, that demonstrate an increasing trend of per capita water use.
 - c. Growth data in the residential, commercial and/or public sectors that would justify an increase in per capita water use.
 - d. Documentation of planned future growth.
8. Other data that the RWPG considers adequate to justify an adjustment to the municipal water use projections will be considered.

2.1.2.2 Manufacturing Water Demand Projections

Manufacturing water use is defined as water used for the production of manufactured goods. Manufacturing facilities report their water use to TWDB annually through the Water Use Survey. Different manufacturing sectors are denoted by North American Industrial Classification System (NAICS) codes.

Criteria for Adjustment: One or more of the following criteria must be verified by the RWPG and the EA for consideration of revising the manufacturing water use projections:

1. A new or existing facility that has not been included in the TWDB water use survey.
2. An industrial facility has recently closed its operation in a county.
3. Plans for the construction of an industrial facility in a county at some future date.
4. The RWPG can provide documentation to support a long-term projected water demand of a facility or industry within a county that is substantially different than the draft projections.

Data Requirements: The RWPG must provide the following data associated with the identified criteria for justifying any adjustments to the manufacturing water use projections.

1. Historical water use data and NAICS code of a manufacturing facility.
2. Documentation and analysis must be provided that justify that the new industrial facility not included in the Water Use Survey database will increase the future manufacturing water use for the county above the draft water use projections.
3. The NAICS code of the industrial facility that has recently located in a county.
4. Documentation of plans for a manufacturing facility to locate in a county at some future date will include the following data:
 - a. The quantity of water required by the planned facility on an annual basis.
 - b. The proposed construction schedule for the facility including the date the facility will become operational.
 - c. The NAICS code for the planned facility.
5. Other data that the RWPG considers adequate to justify an adjustment to the manufacturing water use projections will be considered.

2.1.2.3 Steam-Electric Power Generation Water Demand Projections

Water use for steam-electric power generation is reported to the TWDB through the annual Water Use Survey. Steam-electric power water demand projections do not include water used in cogeneration facilities (included in manufacturing projections), facilities not dependent upon water for production (wind, solar, dry-cooled generation), or hydro-electric generation facilities.

DRAFT

Criteria for Adjustment: One or more of the following criteria must be verified by RWPG and the EA for consideration of revising the power generation water use projections:

1. Documentation that TWDB draft projections have not included a facility that warrants inclusion.
2. Any local information related to new facilities or facility closures that may not have been included in Electrical Reliability Council of Texas's Capacity, Demand, and Reserves (CDR) report.
3. The planning group can provide documentation to support a long-term projected water demand of a facility or in a county that is substantially different than the draft projections.

Data Requirements: The RWPG must provide the following data associated with the identified criteria for justifying any adjustments to the steam-electric water use projections.

1. Historical (2010 – 2014) water use data and description of a surveyed or future facility, including the fuel type, cooling process, capacity, average percent of time operating, and any other information necessary to estimate water use.
2. Reports describing alternative trends or anticipated water use for steam-electric power generation.
3. Other data that the RWPG considers adequate to justify an adjustment to the steam electric power water use projections will be considered.

2.1.2.4 Mining Water Demand Projections

Mining water demand includes water use for oil and gas development, as well as coal and lignite, sand aggregate, and other resource extraction. Projections do not include water use required for the transportation or refining of materials. TWDB's mining annual water use estimates are comprised of both surveyed and non-surveyed entities.

Criteria for Adjustment: One or more of the following criteria must be verified by RWPG and the EA for consideration of revising the power generation water use projections:

1. Evidence that mining water use in a county is substantially different than the draft projections. This could include trends in water use data from FracFocus national online registry⁵, the Texas Railroad Commission, or other sources.
2. Evidence of new facilities coming online, reported closures in surveyed facilities that may impact county projections

Data Requirements: The RWPG must provide the following data associated with the identified criteria for justifying any adjustments to the mining water use projections.

1. Historical (2010 – 2014) water use data and description of a surveyed or future facility, and any other information necessary to estimate water use.
2. Reports describing alternative trends or anticipated water use for mining.
3. Other data that the RWPG considers adequate to justify an adjustment to the mining water use projections will be considered.

2.1.2.5 Irrigation Water Demand Projections

Irrigation water demand projections include the future water necessary for irrigation activities, primarily field crops, but also include orchards, pasture, turf grass, vineyards, self-supplied golf courses, and limited aquaculture operations. Note that for the purposes of regional water planning,

⁵ <https://fracfocus.org/>

DRAFT

irrigation demands account for the amount of water pumped for irrigation of crops, not the water needed or used by the crop or associated with dry-land farming.

Criteria: One or more of the following criteria must be verified by the RWPG and the EA for consideration of revising the irrigation water use projections:

1. Evidence that irrigation water use estimates for a county from another source are more accurate than those used by TWDB.
2. Evidence that recent (10 years or less) irrigation trends are more indicative of future trends than the draft groundwater resource-constrained water demand projections.
3. Evidence that the baseline projection is likely as a future demand than the draft groundwater resource-constrained water demand projections.
4. Region or county-specific studies that have developed water demand projections or demand trends for the planning period, or part of the planning period, and are deemed more accurate than the draft water demand projections.

Data Requirements: The RWPG must provide the EA the following data associated with the identified criteria for justifying any adjustments to the irrigation water demand projections:

1. Historical water use, diversion, or pumpage volumes for irrigation.
2. Available economic, technical, and/or water supply-related evidence that may provide basis for adjustments in the default baseline projection and/or the future rate of change in irrigation water use.
3. Alternative projected water availability volumes that may constrain water demand projections.
4. Other data that the RWPG considers adequate to justify an adjustment to the irrigation water use projections will be considered.

2.1.2.6 Livestock Water Demand Projections

Livestock water use is defined as water used in the production of livestock, both for their consumption and for cleaning and environmental purposes. TWDB staff produce annual water use estimates for livestock, based on daily water demands per head assumptions for cattle (beef and dairy), hogs, poultry, horses, sheep, and goats.

Criteria for Adjustment: One or more of the following criteria must be verified by the RWPG and the EA of the TWDB for consideration of revising the livestock water use projections:

1. Plans for the construction of a confined livestock feeding operation in a county at some future date.
2. Documentation of an existing confined livestock feeding operation in a county not included in the TWDB-generated projections.
3. Other evidence of change in livestock inventory or water requirements that would justify an adjustment in the projected future rate of change in livestock water use.

Data Requirements: The RWPG must provide the following data associated with the identified criteria for justifying any adjustments to the livestock water demand projections:

1. Documentation of plans for the construction of a confined livestock feeding facility in a county at some future date will include the following:
 - a. Confirmation of land purchase or lease arrangements for the facility.
 - b. The construction schedule including the date the livestock feeding facility will become operational.
 - c. The daily water requirements of the planned livestock feeding facility.

DRAFT

2. Other evidence that would document an expected increase or decrease in the livestock inventory in the county.
3. Other data that the RWPG considers adequate to justify an adjustment to the livestock water use projections will be considered.

2.2 The Sub-WUG Planning Option

At the discretion of each RWPG, certain WUGs may be subdivided into 'sub-WUG' level units for purposes of doing more detailed analysis and accounting. If a RWPG chooses to do this more refined analysis, please discuss with TWDB staff early on to ensure compatibility with DB22 and guidance. DB22 is capable of incorporating sub-WUG data with some limited parameters (e.g., the sum of all WUG splits including sub-WUGs should equal the original full WUG demand provided). Although it may require additional effort, this flexibility to include higher resolution in water needs analyses may allow some RWPGs to better account for and present water supplies and water needs within, for example, county-other WUGs of particular interest. In order to accommodate the time necessary to create identified sub-WUGs in DB22, the anticipated deadline for identifying sub-WUGs for data reporting purposes is **September 1, 2017**. This request should be accompanied by the sub-WUGs share of population and water demand developed by the region and based on the associated WUG total following the data template provided by TWDB.

Criteria for Adjustment: A proposed sub-WUG must meet the following criteria to be included in the 2022 State Water Plan:

1. The sub-WUG must be an existing utility or a distinct area or facility within the existing WUG.
2. The RWPGs requesting the sub-WUG will submit the projections, existing, supply, needs, and water management strategy(s), all of which must be less than the total volumes for the WUG. The sum of all WUG splits, including sub-WUGs, should equal the total volumes for the WUG as a whole.
3. For municipal sub-WUGs, the projected GPCD for the sub-WUG must be the same as for the larger WUG due to database constraints.
4. The sub-WUG must be approved by the RWPG.

Data Requirements:

1. Population projections (if applicable), water demand projections, available supply, needs, and water management strategy values presented by region, county, and basin splits where applicable.
2. The remaining values for the WUG after considering the sub-WUG must be submitted for consideration with the sub-WUG information.

3.0 Water Availability and Existing Water Supplies⁶

3.1 Introduction

Estimating how much water there is to meet their water demands is a two-step process that examines both water availability and existing water supply. Those two terms have very specific, and not necessarily intuitive, meanings in the water planning process.

Water *availability* refers to the maximum volume of raw water that could be withdrawn annually from each source (such as a reservoir or aquifer) during a repeat of the drought of record. Availability does not account for whether the supply is connected to or legally authorized for use by

⁶ Primarily related to 31 TAC §357.32