

BELL COUNTY

WATER CONTROL & IMPROVEMENT DISTRICT #1

WATER CONSERVATION PLAN

Revised May 2023



BELL COUNTY WATER CONTROL AND IMPROVEMENT DISTRICT #1
WATER CONSERVATION PLAN

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1. INTRODUCTION

Bell County Water Control & Improvement District No. 1 (the District), a political subdivision of the State of Texas, was created by an Order adopted by the Board of Water Engineers of the State of Texas on March 10, 1952, pursuant to the authority conferred by Chapter 3A, Title 128, Vernon's Texas Civil Statutes. In 1955, the Texas Legislature adopted a special act which enlarged the boundaries of the District and granted certain powers to the District supplementing those originally conferred. In addition to the Order originally creating the District and such special act, the powers, purposes, and operations of the District are governed by the provisions of Chapters 49 and 51 of the Texas Water Code.

The District's Water Conservation Plan was developed in accordance with 30 Texas Administrative Code Section 288.5 "*Water Conservation Plans for Wholesale Providers*". As a municipal water provider in the Brazos River Authority system, steps outlined in the District's plan support measures in the Brazos River Authority Water Conservation Plan. Additionally, the District hosts annual water conservation meetings each February to discuss water conservation efforts with all customers invited to participate. A copy of the adopted Water Conservation Plan will be posted to the District website www.wcid1.org, provided to each wholesale customer as well as the Brazos G Regional Planning Group.

As the Texas population continues to grow, the role of water conservation continues to grow. This is especially true in Central Texas along the Interstate 35 Corridor. Data from the summer of 2022 as compared to 2011 suggests per capita usage is trending down slightly as well as peak day usage. However, it's important that this trend continues.

The water conservation plan objectives are;

- To extend the life of current water supplies
- To extend the life of current water treatment and supply infrastructure
- To reduce the per capita water consumption
- To improve the efficiency in the use of water

Definitions

Conservation – Those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water or increase the recycling and reuse of water so that a supply is conserved and made available for future or alternative uses.

Customer – Any person or entity that purchases water from Bell County Water Control & Improvement District #1.

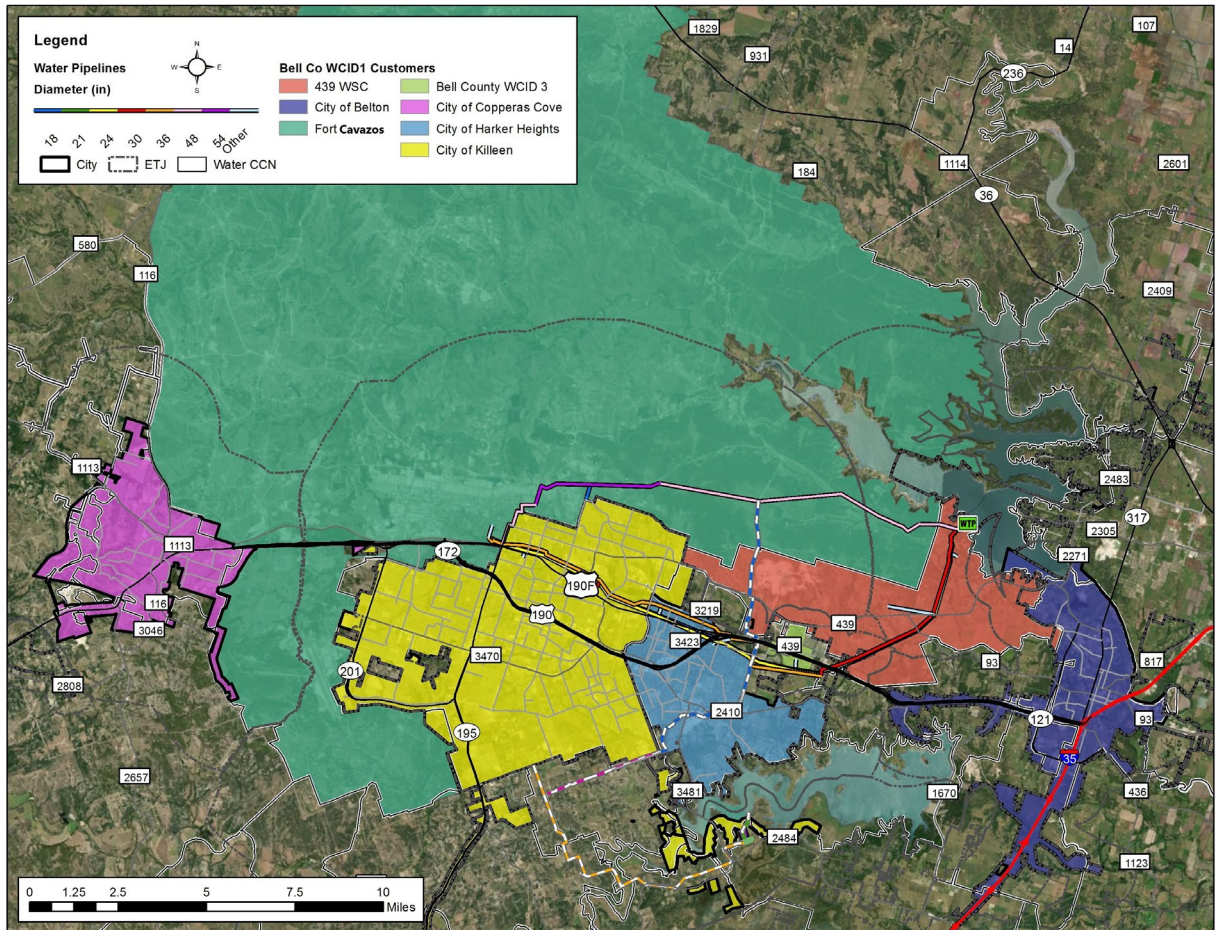
Gallons per Capita per Day (GPCD) – Total Annual Water Use divided by total population divided by 365.

Water Loss – Total gallons sold to customers minus Total gallons diverted to both Water Treatment plants. Usually expressed as a percentage of total water produced.

2. UTILITY PROFILE

Effective September 1, 2019, the territory of Bell County Water Control & Improvement District #1 includes the following areas as those areas are legally described on that date:

(1) the territory inside the corporate boundaries of: the City of Harker Heights; the City of Copperas Cove; the City of Belton; and the City of Killeen; (2) the service area of the 439 Water Supply Corporation; (3) the territory of the Bell County Water Control and Improvement District No.3; and (4) the Bell County portion of the Fort Cavazos Military Reservation.



Service Area Statistics

Entity	Area in Sq. Miles	2020 Population	2021 Population	Estimated 2023 Population
Killeen	54.2	153,095	156,261	162,790
Harker Heights	15.6	33,097	33,560	34,505
Belton	20.2	23,054	23,845	25,509
Nolanville	4.3	5,917	6,249	6,970
Copperas Cove	18	36,670	37,041	37,794
439 Water Supply Corp.	20	7,502	7,923	8,837
Ft. Cavazos	50	25,000	25,000	25,000
Population Totals	182.3	284,335	289,879	301,405

The purposes of the District include, among other things, controlling, storing, preserving, and distributing water, and owning and operating a sewer system which receives, transports, and disposes of waste. Accordingly, the District operates water treatment plants on both Lake Stillhouse and Lake Belton and delivers treated water to the U.S. Army at Fort Cavazos and to six wholesale civilian customers: Cities of Killeen, Copperas Cove, Belton, and Harker Heights, Bell County Water Control and Improvement District No. 3, and 439 Water Corporation. The District owns and operates two wastewater treatment facilities that receive and treats raw sewage from the U.S. Army at Fort Cavazos and the City of Killeen.

Since its inception, the District has taken raw water from Lake Belton for treatment and delivery to its customers through contracts with the Brazos River Authority [BRA]. The District has election/option contract rights which expire in 2042 and system water contract rights through August 2031. In 2021 a 17 million gallon per day water plant began operations on Lake Stillhouse utilizing 10,000 acre-feet of available system water.

Using the United States Census Bureau population percentage change from 2020 and 2021, the following table was generated;

Service Area Population

Entity	2018 Estimated	2019 Estimated	2020 Actual Census	2021 Estimated	2022 Estimated	2023 Estimated
Killeen	146,954	149,993	153,095	156,261	159,492	162,790
Harker Heights	32,190	32,640	33,097	33,560	34,029	34,505
Belton	21,550	22,289	23,054	23,845	24,663	25,509
Nolanville (WCID 3)	5,305	5,603	5,917	6,249	6,600	6,970
Copperas Cove	35,939	36,303	36,670	37,041	37,416	37,794
439 Water Supply Corp.	6,726	7,103	7,502	7,923	8,368	8,837
Ft. Cavazos	25,000	25,000	25,000	25,000	25,000	25,000
Totals	273,664	278,931	284,335	289,879	295,567	301,405

The US Census Bureau was the source for the 2020 and 2021 columns. The difference in population from that 12-month period was used to extrapolate forward and was also used to “back” into the years prior to 2020. Ft. Cavazos has a static number of troops that transition in and out of

deployment. Approximately 60,000 troops call Fort Cavazos home when not deployed. The above table represents the population of our contract wholesale customers. From the Drinking Water Watch website, these customers provide water to approximately 9,000 additional retail customers through West Bell WSC, Topsey WSC, etc.

Customer Water Usage 2018-2022 in Acre-Feet

Entity	2018	2019	2020	2021	2022	
Killeen	16684.6	16355.9	17867.9	16998.2	18863.3	
Harker Heights	4970.3	5018.0	5507.7	5189.2	5888.7	
Belton	3412.8	3400.4	3683.0	3641.1	4214.9	
Nolanville (WCID 3)	802.7	831.2	908.9	855.8	1037.1	
Copperas Cove	4020.3	4105.2	4412.6	4374.4	4938.7	
439 Water Supply Corp.	1018.4	1003.5	1160.8	1104.4	1393.3	
Ft. Cavazos	4536.0	5063.1	4514.3	5073.9	4906.1	
Totals	35445.1	35777.3	38055.2	37237.0	41242.1	

The total population receiving sewer service is estimated to be 187,790 representing Killeen and Ft. Cavazos. Wastewater System Data attached as Appendix A.

Wholesale contracts through Bell County Water Control & Improvement District #1 include a water supply amount expressed in acre feet and a treatment capacity limit expressed in millions of gallons per day. The table below contains the contract limits along with the usage amounts in each category for calendar year 2022.

Entity	Water Supply in Acre-feet	Maximum Day Limit In MGD	Water Usage/Max Day in 2022
Killeen	39,964	42	18,863/31.3mgd
Harker Heights	8,500	16.25	5,889/9.4mgd
Belton	5,966	10	5,000/6.9mgd
Nolanville (WCID 3)	1490	2.25	1,037/1.6mgd
Copperas Cove	8,824	16	4,939/7.3mgd
439 WSC	2,159	4.5	1,394/2.6mgd
Fort Cavazos	12,000	16	4,500/5.0mgd

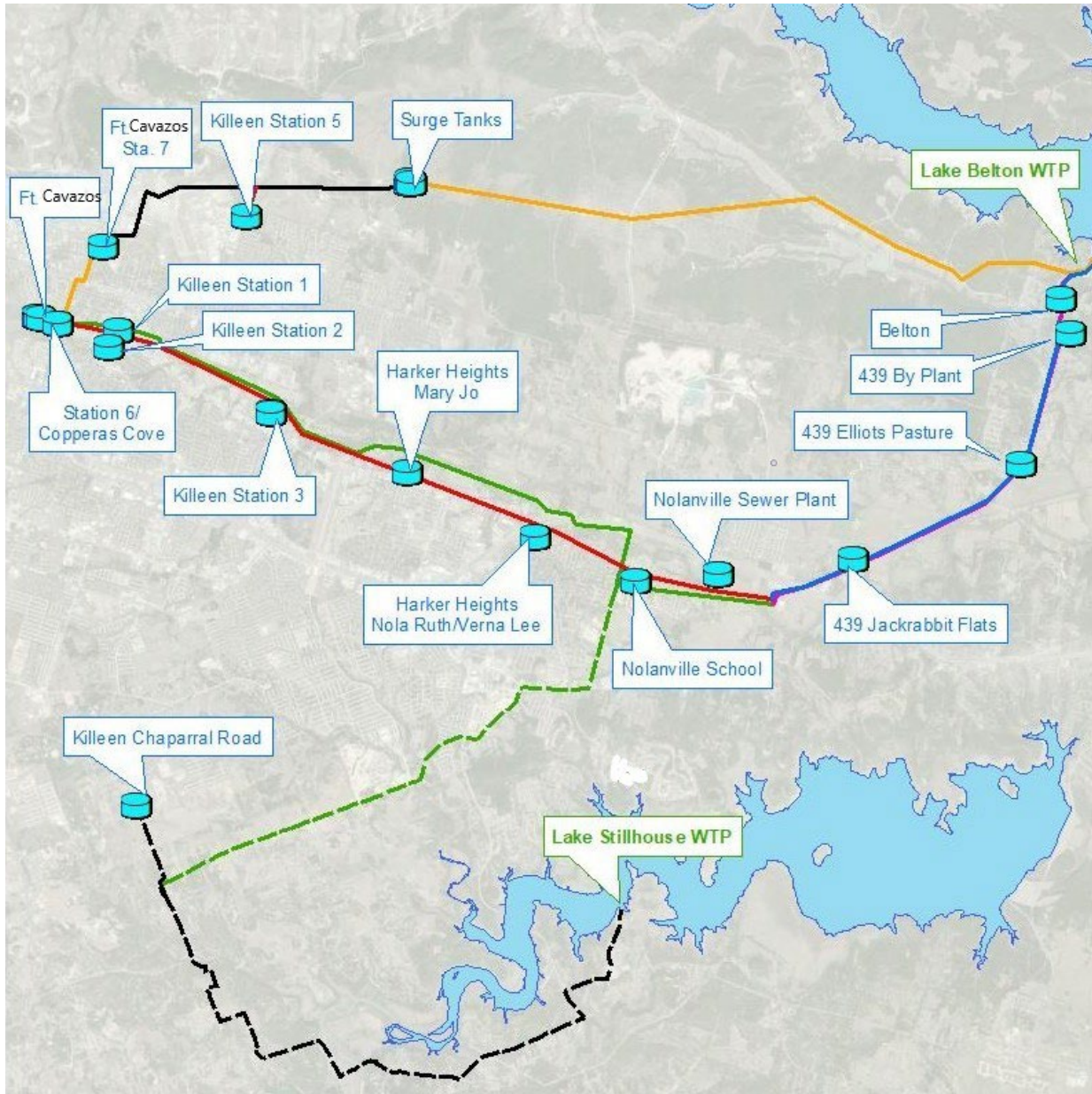
In January 2022, CDM-Smith completed an update to the District Water Master Plan. The 2017 Region G population and demand projections were used as a starting point for the baseline data. Meetings were held with each customer to discuss the Region G data and to get a better understanding of the drivers of their water system growth and projections. After reviewing our observed usage patterns and incorporating customer input, the following table was developed;

Customer Name	2020 Population	2030 Population	2040 Population	2050 Population	2060 Population	2070 Population
439 WSC	10,220	12,327	14,490	16,700	18,961	21,285
Bell Co WCID No. 3	6,100	9,460	11,636	14,996	18,356	19,140
Belton	22,850	28,600	36,000	45,100	56,600	71,000
Copperas Cove	35,307	49,804	70,253	99,099	139,790	197,187
Fort Cavazos	16,936	17,196	17,282	17,282	17,282	17,282
Harker Heights	31,372	36,879	42,566	48,218	50,000	50,000
Killeen	144,243	173,431	198,764	221,697	247,195	272,291

To provide the needed water supply to our customer entities the District has surface water contracts with the Brazos River Authority totaling 62,509 acre-ft. Water Supply Agreement #582-01 represents 49,509 acre-feet of option water and System Water Availability Agreement dated May 22, 2006 represents 13,000 acre feet of system water with 10,000 acre-feet of this total available at the Stillhouse Water Treatment Plant. The District also has Water Use Permit 13561 for up to 2,240 acre-feet at Lake Stillhouse. Some of the Districts' customers have direct water right contracts with the Brazos River Authority. The table below summarizes the water rights of the District and its customers.

Entity	Two Tier Water (Option/Election Use)	System Water	Other Water Rights	Total Water Rights
Killeen	29,964	10,000	-	39,964
Copperas Cove	7,824	1,000	-	8,824
Belton	4,966	1,000	2,500	8,466
Harker Heights	5,265	-	3,235	8,500
Nolanville (WCID 3)	740	750	-	1,490
439 Water Supply Corp.	750	-	1,409	2,159
District	-	250	-	250
Totals	49,509	13,000	7,144	69,653

Four water plants at the Lake Belton plant site with a total rated capacity of 90 million gallons per day are available to treat and deliver to customers. All the plants are conventional surface water plants that include disinfection, coagulation, flocculation, sedimentation and filtration. A common intake from Lake Belton will accommodate a flow of 120 million gallons per day. Plans are being made for a plant expansion in the near future at the Belton Plant site. Additionally, the Stillhouse Water Treatment Plant began service July of 2021 and is connected via a 36 inch transmission main from the plant site to the Killeen transmission system at Chaparral Road. The Stillhouse Plant is rated for 17 million gallons per day and also employs conventional surface water treatment. The graphic below illustrates the entire Bell County Water Control & Improvement District #1 Water System.



The District appreciates that a well thought out water conservation plan represents proper stewardship of the most critical finite natural resource. The District is committed to water conservation to avoid waste, save costs, conserve water, and to extend the adequacy of the supply available to it and its customers.

3. 5 & 10-YEAR TARGETS

The conservation targets of the District are to:

- Reduce unaccounted-for water in the District's system below 2% or less.
- The District will collect and disseminate water use data and other utility evaluation data for

each of its customers to assist in water use planning. (Customer Letter Appendix E)

- The District will encourage and support its civilian customers in their conservation planning efforts designed to reduce per capita water usage 6% by 2029. Specifically, the 2029 Target is for a combined 110 gallon per capita per day usage. The 2034 Target is to achieve a combined usage of 104 gallons per capita per day.
- The District will provide leadership and assert a sense of urgency throughout its service area to promote water conservation.
- The District includes in the water supply contracts with its customers stipulations for a Water Conservation and Drought Contingency Plan that reflects the District's goals.
- The District will develop a Drought Contingency Plan that reflects both the supply side from Lake Belton and Lake Stillhouse and also the demand side of its customers.

4. MEASURING AND ACCOUNTING FOR DIVERSIONS

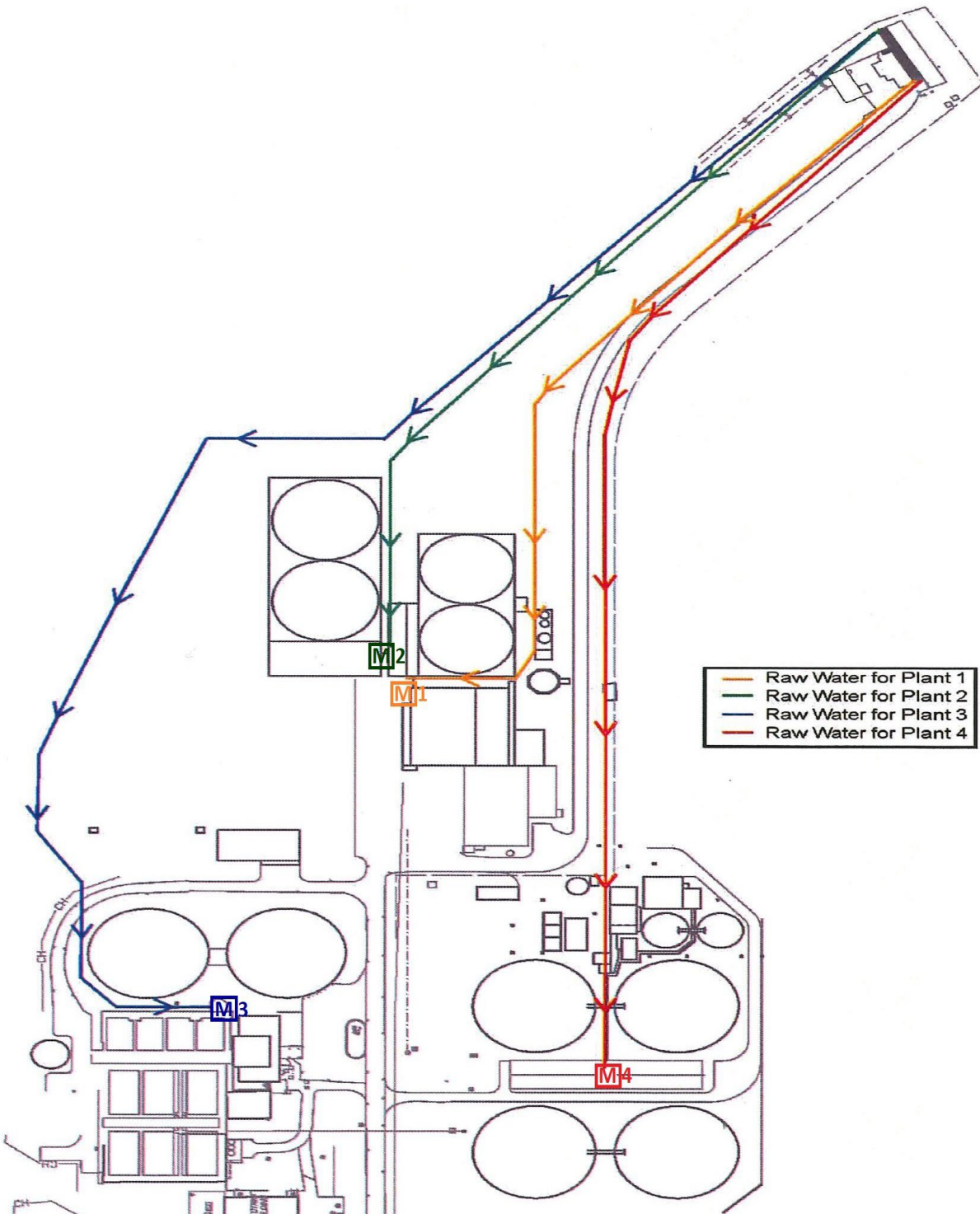
All water customers taking water from the District's treated water system are metered. The purpose of metering is to measure the quantity of water being distributed to civilian customers, to account for all water being produced, and to bill accurately for the quantity of water being delivered to each civilian customer. The District meters 100% of all District uses with the exception of backwash water used to wash filters. District will test and, if necessary repair or replace its meters in accordance with the following schedule:

- Production or master meters: test once per year;
- Meters larger than 1": test annually
- Meters 1" or less: test or replace every 8 years.

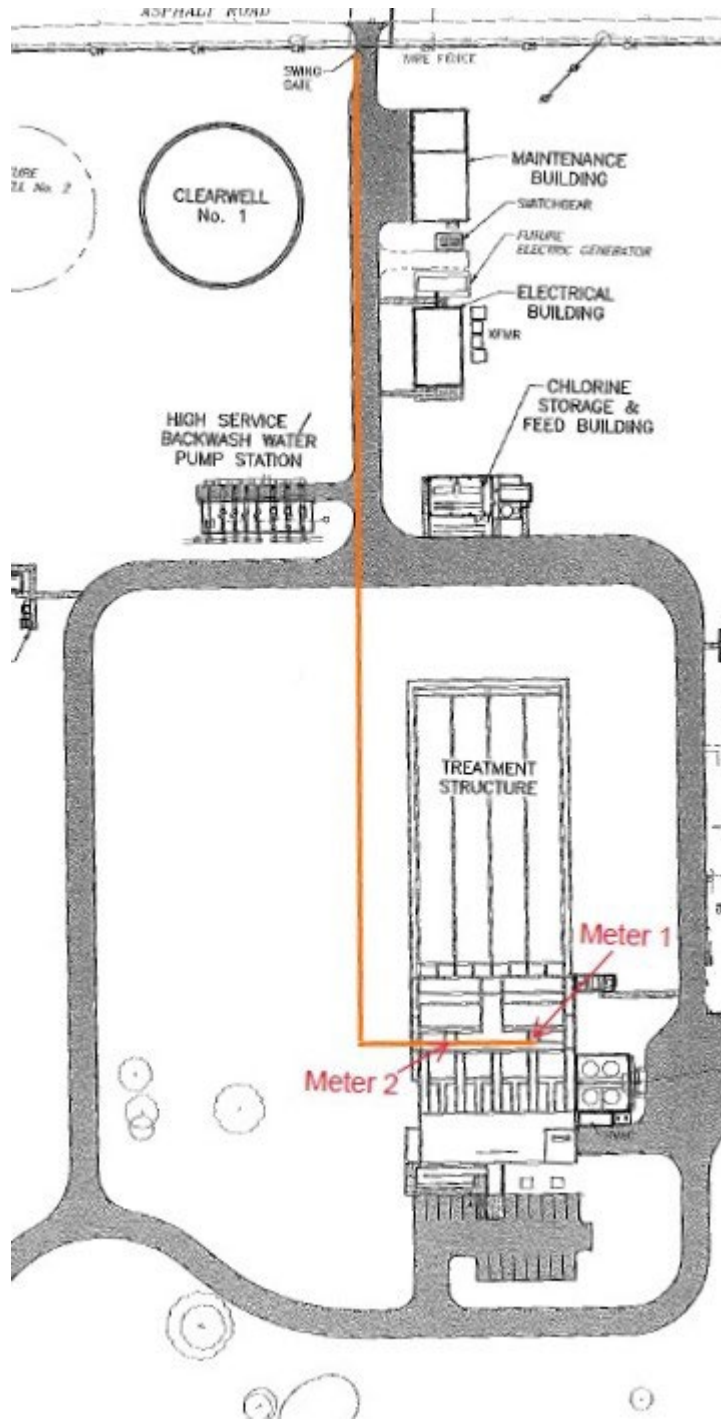
The District is required by the TCEQ and by our contracts with our customers to calibrate and test each meter on an annual basis. This will eliminate errors in reading meters and will reduce repairs significantly. Because the District wholesales to our customers all other meters are changed out and repaired as needed. The district exclusively uses mag meters for raw water diversion as well as potable water leaving the treatment plants and customer metering. These meters are plus or minus 0.5% accurate and are easily checked and calibrated.

The graphics below illustrates the raw water delivery and meter locations for each water treatment plant.

Belton Water Plant Site



Stillhouse Water Plant Site



5. RECORD MANAGEMENT PROGRAM

The District has a record management system which records the following:

- Water pumped – The District treats raw water from Lake Belton. The intake structure is located adjacent to the water treatment facilities. The raw water pump station consist of 10 pumps which pump raw water into the Districts four (4) plants. Mag meters are installed on each influent line coming into the four (4) different plants. These meters are monitored continuously and records gallons delivered as long as flow is being received. Meters are continuously monitored by on duty operators 7 days a week, 24 hours a day.
- Water deliveries – The District delivers to our member entities through a variety of transmission lines. The District records water pumped out of the clearwells through mag meters. This is how the District monitors water loss ratio in the plant (water delivered / raw water pumped). The water is then pumped to the member entities point of entry (POE). At each POE there is a meter to record water delivered to the customers. This is how the District monitors water loss ratio in the distribution system (water pumped to member entities / water pumped from clearwells).
- Operators use standard operating procedures on a daily basis to identify if any problems exist that might indicate leaks or abnormal usage.
- Backwash water is measured by metering the water storage tanks when filters are backwashed.
- All pump stations are visually checked on a weekly basis for any leaks or any other abnormalities.
- All plant influent meters and effluent meters are monitored daily via digital readouts and SCADA trends.
- Master meters are read on weekly basis throughout the entire service area to ensure proper accounting of water. Water loss ratio is figured on a monthly basis.

6. METERING/LEAK DETECTION PROGRAM

The District is aware of the potential for reducing unaccounted for water from leak detection and water audits. As previously stated, the District utilizes magnetic flow meters at the source of supply and at the customer take points. Based on a review of operating practices it seems a thorough leak detection and inspections of each portion of our transmission system would be the most effective way forward.

An ongoing leak detection survey is conducted annually for a different portion of the transmission system. A contractor recently completed the last phase of survey for our entire network of transmission piping. Our plan is to repeat the rotation which results in a complete system check on a 4-year basis.

7. CONTRACT REQUIREMENT FOR SUCCESSIVE CUSTOMER CONSERVATION

Section 20. of our standard wholesale water contract states “The Purchaser agrees to adopt a water conservation plan within 270 days from the date of this Agreement.” Additionally, Section 16. of our standard wholesale contract requires our wholesale customers to gain approval of the District prior to selling any water to another entity. Approval by the District will be contingent on subsequent purchaser providing a current Water Conservation Plan that meets all the criteria from 30 TAC section 288.5.

8. ENFORCEMENT PROCEDURE AND OFFICIAL ADOPTION

Adopted Board Resolution attached as Appendix B.

The District wholesales water to our member entities. The wholesale contracts include a maximum day rate with penalty provisions for exceedances. Rates are calculated based on an annual budget. The various entities we serve have various rate structures that encourage the wise and efficient usage of water. This section does not apply to the District.

9. COORDINATION WITH REGIONAL WATER PLANNING GROUP

The service area of the Bell County Water Control and Improvement District #1 is located within Region G of the Brazos River Basin and the District has provided a copy of this water conservation plan to the President of the Region G board. (See Appendix C)

10. PLAN REVIEW AND UPDATE

The District Water Conservation Plan was updated and submitted October 2021. This update includes updated water usage and targets. The plan will be reviewed and updated again to coincide with the regional water planning group in 2024.

11. WHOLESALE CONTRACTS

The District serves seven (7) wholesale customers. The customers are Fort Cavazos, City of Killeen, City of Belton, City of Harker Heights, City of Copperas Cove, Bell County Water Control and Improvement District No.3, and 439 Water Supply Corporation. The water supply contracts and agreements were executed in September, 1997, and the contract states the agreements shall be governed and constructed in accordance with the law of the State of Texas and that the purchaser agree to adopt a water conservation plan within 270 days from the date of the agreement. All plans shall meet the requirements of Texas Administrative Code Section 363.15.

The District will implement this water conservation plan and drought contingency plan by Resolution of the Board of Directors. In the Resolution, responsible officials will be designated. Plans with the civilian customers will be implemented and enforced according to the provisions of their contract with the District. See Penalty section I. under “Drought Contingency Plan”.

APPENDIX A

Wastewater System Data

Wastewater System Data

Bell County Water Control & Improvement District owns and operates three wastewater treatment plants totaling 30 million gallons per day annual average treatment capacity. For more than 50 years Killeen and Fort Cavazos (formerly Ft. Hood) have been the only two wastewater wholesale customers

WWTP 1, WQ 1035002, located at 201 S. 38th Street is a conventional activated sludge plant with a permitted daily average flow limit of 18 million gallons. Nolan Creek is the receiving stream.

WWTP 2, WQ 1035003, is located adjacent to WWTP1 at 38th Street and is also a conventional activated sludge wastewater plant rated at 6 million gallons per day. Nolan Creek is the receiving stream.

WWTP 3, WQ 14387001, is located at 8290 Chaparral Road on the southeast end of Killeen. This plant is a Sequence Batch Reactor (SBR) plant rated at 6 million gallons per day. Nolan Creek and Trimmier Creek are authorized outfalls. Although to date, only the Nolan Creek discharge has been used.

	Ft. Cavazos	Killeen	Total Flow
December-18	94,473,307	519,367,925	613,841,232
November-18	82,403,258	457,530,930	539,934,188
October-18	126,917,479	616,422,660	743,340,139
September-18	72,198,463	331,409,876	403,608,339
August-18	68,702,014	302,064,769	370,766,783
July-18	64,889,573	295,505,680	360,395,253
June-18	59,480,633	288,039,602	347,520,235
May-18	71,390,763	343,550,827	414,941,590
April-18	72,611,402	342,286,873	414,898,275
March-18	67,683,282	317,273,921	384,957,203
February-18	56,412,566	289,946,424	346,358,990
January-18	71,607,788	330,247,572	401,855,360
Total	<u>908,770,528</u>	<u>4,433,647,059</u>	<u>5,342,417,587</u>

December-19	80,508,460	266,344,320	346,852,780
November-19	82,037,959	327,225,966	409,263,925
October-19	95,132,189	314,103,600	409,235,789
September-19	81,663,600	260,567,550	342,231,150
August-19	88,204,170	294,048,159	382,252,329
July-19	111,710,372	395,609,250	507,319,622
June-19	97,720,378	261,357,183	359,077,561
May-19	133,902,072	567,321,724	701,223,796
April-19	95,073,226	405,490,645	500,563,871
March-19	74,035,447	349,782,403	423,817,850

February-19	64,620,427	388,979,659	453,600,086
January-19	123,913,228	576,801,708	700,714,936
Total	1,128,521,528	4,407,632,167	5,536,153,695

December-20	79,724,422	307,696,566	387,420,988
November-20	87,106,280	308,013,670	395,119,950
October-20	92,804,490	301,678,180	394,482,670
September-20	111,768,340	363,642,070	475,410,410
August-20	90,597,823	293,447,400	384,045,223
July-20	90,784,340	294,422,050	385,206,390
June-20	93,375,020	327,368,050	420,743,070
May-20	91,769,920	333,951,540	425,721,460
April-20	116,119,793	432,574,628	548,694,421
March-20	109,027,500	381,356,970	490,384,470
February-20	92,353,503	305,398,960	397,752,463
January-20	90,064,480	296,027,260	386,091,740
Total	1,145,495,911	3,945,577,344	5,091,073,255

December-21	77,382,520	297,232,480	374,615,000
November-21	91,006,906	350,801,094	441,808,000
October-21	88,353,180	310,774,820	399,128,000
September-21	89,165,050	292,793,950	381,959,000
August-21	104,337,590	338,012,470	442,350,060
July-21	98,059,030	388,601,140	486,660,170
June-21	146,226,640	581,211,220	727,437,860
May-21	117,296,740	470,344,640	587,641,380
April-21	92,708,720	331,147,835	423,856,555
March-21	106,859,120	360,290,040	467,149,160
February-21	98,967,950	325,313,260	424,281,210
January-21	85,468,580	341,345,800	426,814,380
Total	1,195,832,026	4,387,868,749	5,583,700,775

December-22	93,655,892	315,510,108	409,166,000
November-22	92,762,930	333,262,070	426,025,000
October-22	84,535,420	298,062,580	382,598,000
September-22	93,536,840	299,755,160	393,292,000
August-22	99,460,350	327,076,650	426,537,000
July-22	83,747,890	282,914,110	366,662,000
June-22	84,141,530	289,383,470	373,525,000
May-22	92,937,690	323,861,310	416,799,000

April-22	81,798,547	292,255,453	374,054,000
March-22	85,995,935	303,608,065	389,604,000
February-22	82,474,299	299,624,701	382,099,000
January-22	83,761,140	318,663,860	402,425,000
Total	<u>1,058,808,463</u>	<u>3,683,977,537</u>	<u>4,742,786,000</u>

APPENDIX B

Resolution Adopting Water Conservation Plan

**RESOLUTION 052423 ADOPTING THE WATER
CONSERVATION PLAN & DROUGHT CONTINGENCY PLAN**

WHEREAS, the Board of Directors of the Bell County Water Control and Improvement District No. 1 (the "District") consider it to be necessary and desirable for the district to adopt the Water Conservation Plan and Water Drought Contingency Plan;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors that:

WHEREAS, the Water Conservation Plan and the Drought Contingency Plan attached hereto as Exhibit "A" is adopted and

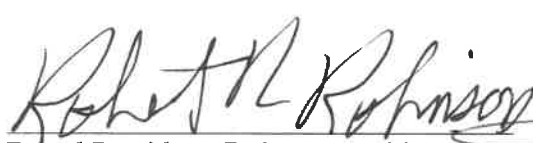
WHEREAS, The General Manager of the District is authorized to take such action as may be necessary or desirable to implement the Water Conservation Plan and Drought Contingency Plan and

WHEREAS, it is the policy of the Board of Directors to promote conservation of such water resources, and

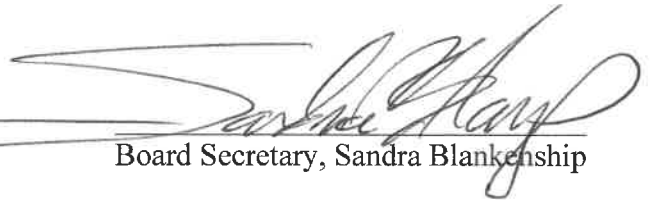
WHEREAS, the plans are required to be updated every five years, and must comply with the Texas Administrative Code; 30TAC, Chapter 288 and Texas Administrative Code; 31 TAC, Chapters 355, 363, 371, 375, 382, and 384.

WHEREAS, this resolution shall take effect immediately upon approval by the Board of Directors of the Bell County Water Control and Improvement District No. 1.

PASSED AND APPROVED this 24th day of May 2023.



Board President, Robert R. Robinson



Board Secretary, Sandra Blankenship

W.C.I.D. NO. 1



APPENDIX C

Transmittal letter to Brazos G Regional Planning Group

BELL COUNTY WATER CONTROL & IMPROVEMENT DISTRICT No. 1



May 24, 2023

P.O. Box 43
201 S. 38TH ST.
KILLEEN, TX 76540-0043
(254) 501-9243
(254) 519-4261 FAX
WWW.WCID1.ORG

Wayne Wilson, Chair – Brazos G RWPG
CIO
Pamela Hanneman
Brazos River Authority
P.O. Box 7555
Waco, TX 76714

Mr. Wilson,

Please accept the attached Water Conservation and Drought Contingency Plans. Both plans were recently updated and incorporate the required elements from 30 TAC Ch 288.5 for Wholesale Water Suppliers.

If any additional information is needed for the Planning Group, please contact my office at 254-501-9243 or directly by email at r.garrett@wcid1.org.

Sincerely,

A handwritten signature in blue ink that reads "Ricky Garrett".

Ricky Garrett P.E.
General Manager

attachments

APPENDIX D

Drought Contingency Plan

Drought Contingency Plan

For Bell County Water Control and Improvement District No.1

To conserve water supply and/or protect the Bell County Water Control & Improvement District #1 (BCWCID 1) water supply system, the following Drought Contingency Measures have been developed. This plan was drafted in accordance with Texas Administrative Code Title 30 ch. 288.22 *Drought Contingency Plans for Wholesale Water Suppliers*. As a municipal water provider in the Brazos River Authority system, steps outlined in the BCWCID 1 plan support measures in the Brazos River Authority Drought Contingency Plan dated April 2019. This plan was provided to each of the BCWCID 1 wholesale water customers in draft form for review and comment. Additionally, a meeting was held on February 8th, 2023 to discuss the plan with all customers invited to participate. A copy of the BCWCID 1 Board Adopted plan will be posted to the BCWCID 1 website www.wcid1.org, provided to each wholesale customer as well as the Brazos G Regional Planning Group.

Definitions

Conservation – Those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water or increase the recycling and reuse of water so that a supply is conserved and made available for future or alternative uses.

Customer – Any person or entity that purchases water from Bell County Water Control & Improvement District #1.

Drought Contingency Plan – A plan which prescribes short-term measures to cause a temporary but significant reduction in water use during drought or periods of extended high temperatures.

Trigger Conditions – conditions that indicate when certain drought or emergency response measures will be implemented. These conditions are mild, moderate, severe, and emergency.

1. Stage 1– *Mild* when any of the following conditions occur;

a. Average daily water consumption reaches 80% of water treatment plant capacity for five consecutive days.

b. Weather conditions are to be a factor in determining water availability. Drought conditions, lake level and history of consumption during periods of long dry spells will also be considered as to when emergency response measures will be implemented.

Under Stage 1, there is target reduction goal of five (5) percent of the use (as measured through metered flows) that would have occurred in the absence of drought contingency measures. Each customer is to prescribe the necessary reduction measures to reach the 5% goal.

2. Stage 2 – *Moderate* when any of the following conditions occur;

- a. Average daily water consumption reaches 85% of water treatment plant capacity for five consecutive days.
- b. Electrical or mechanical failure during Stage 1 conditions compromises production or delivery capacities.
- c. Storage capacity (water level in District tanks) is not being maintained during Stage 1 conditions.
- d. Existence of any one listed condition for duration of 36 hours. Increased water demand causes significant water pressure and volume problems within the transmission lines.
- e. Water surface elevations in Lake Belton or Lake Stillhouse fall below a predetermined level [as determined and published in cooperation with the Brazos River Authority] such that there is no immediate expectation of restoring normal lake levels [i.e. extended periods of area-wide drought are forecast].

Under Stage 2, the goal for water use reduction is a ten (10) percent reduction of the use (as measured through metered flows) that would have occurred in the absence of drought contingency measures. Each customer is to prescribe the necessary reduction measures to reach the 10% goal.

3. Stage 3 - *Severe*- when any of the following conditions occur;

- a. Average daily water consumption reaches 90% of rated production capacity for 36 consecutive hours.
- b. Average daily water consumption will not allow storage levels to be maintained in District's clearwells and ground storage tanks.
- c. System demand exceeds high service capacity.
- d. Any two conditions, listed in Stage 2 occur at the same time for a 24-hour period;
- e. Water surface elevations in Lake Belton or Lake Stillhouse fall below a predetermined level [as determined and published in cooperation with the Brazos River Authority] such that water supply to the intake structures is endangered.

Under Stage 3, the goal for water use reduction is a total reduction of twenty (20) percent in the use that would have occurred in the absence of any drought contingency measures.

4. Stage 4 – *Emergency* – when any of the following conditions occur;

- a. Water system is contaminated. Stage 4 is reached immediately upon detection.
- b. Water system fails from acts of God or man. Stage 4 condition is reached immediately upon detection.

B. Emergency Water Demand Management Measures

Upon any District trigger condition occurring or upon notice from the Brazos River Authority concerning water levels in Lake Belton and or Lake Stillhouse Hollow or both, the following measures will be taken or in conjunction with the Brazos River Authority measures whichever are more stringent. As appropriate, the General Manager and/or his designee shall initiate a pro rata allocation of water supplies in accordance with Texas Water Code Section 11.039. Every wholesale contract entered into by Bell County Water Control and Improvement District #1 shall include the provision that in case of a shortage of water resulting from drought, the water to be distributed shall be divided in accordance with Texas Water Code Section 11.039.

STAGE 1 CONDITION

1. These measures are related to Stage 1 trigger conditions and will cause the following actions to be initiated;
 - a. Inform the District Board Members and general public of the initiation of Stage 1 measures. Disseminate information to the public and media.
 - b. Inform the District's members and Fort Hood that the District has implemented Stage 1 measures and request them to do the same.
 - c. The BCWCID 1 General Manager or his or her designee will manage the various stages of emergency water demand management and disseminate information to the public and the media.
 - d. Advise public of condition by written notice within 24 hours of onset of trigger conditions. Encourage voluntary reduction education in water use by all participants;
 - e. Assist participants in contacting any large commercial or industrial users and discuss need for initiation of conservation measures; Assist members in contacting large commercial and industrial users and inform user to implement conservation measures to at least the same degree of level the District has implemented.
 - f. Review system operational condition and capabilities. Complete any repairs to District facilities, which have not been completed to date.
 - g. Initiate appropriate Brazos River Authority measures according to the "Brazos River Authority" drought contingency policy.
 - h. Requirements for termination. Stage 4 of the plan may be rescinded when all the conditions listed as triggering events have ceased to exist for a period of seven (7) consecutive days or when the General Manager or designee declares termination.

STAGE 2 CONDITIONS

1. These measures are related to Stage 2 trigger conditions and will cause the following actions to be initiated;

- a. Inform the District Board Members and general public of the initiation of Stage 2 measures. Disseminate information to the public and media.
- b. Inform the District's members and Fort Hood that the District has implemented Stage 2 measures and request them to do the same.
- c. The BCWCID 1 General Manager or his or her designee will manage the various stages of emergency water demand management and disseminate information to the public and the media.
- d. Advise public of condition by written notice within 24 hours of onset of trigger conditions. Implement mandatory reduction levels based on existing pumping capabilities and available water.
- e. Assist participants in contacting any large commercial or industrial users and discuss need for initiation of conservation measures; Assist members in contacting large commercial and industrial users and inform user to implement conservation measures to at least the same degree of level the District has implemented.
- f. Review system operational condition and capabilities. Complete any repairs to District facilities, which have not been completed to date.
- g. Initiate appropriate Brazos River Authority measures according to the "Brazos River Authority" drought contingency plan.
- h. Requirements for termination. Stage 2 of the plan may be rescinded when all the conditions listed as triggering events have ceased to exist for a period of seven (7) consecutive days or when the General Manager or designee declares termination. Upon termination of stage 2, stage 1 becomes operative unless otherwise determined by the General Manager or designee.

STAGE 3 CONDITIONS

1. These measures are related to Stage 3 trigger conditions and will cause the following actions to be initiated;
 - a. Inform the District Board Members and general public of the initiation of Stage 3 measures. Disseminate information to the public and media.
 - b. Inform the District's members and Fort Hood that the District has implemented Stage 3 measures and request them to do the same.
 - c. The BCWCID 1 General Manager or his or her designee will manage the various stages of emergency water demand management and disseminate information to the public and the media.

d. Advise public of condition by written notice within 24 hours of onset of trigger conditions. Enforce mandatory reduction as appropriate to a level based on existing pump capabilities and available water. Encourage voluntary education in water use by all participants;

e. Assist participants in contacting any large commercial or industrial users and discuss need for initiation of conservation measures; Assist members in contacting large commercial and industrial users and inform user to implement conservation measures to at least the same degree of level the District has implemented.

f. Review system operational condition and capabilities. Complete any repairs to District facilities, which have not been completed to date.

g. Initiate appropriate Brazos River Authority measures according to the “Brazos River Authority” drought contingency plan.

h. Requirements for termination. Stage 3 of the plan may be rescinded when all the conditions listed as triggering events have ceased to exist for a period of seven (7) consecutive days or when the General Manager or designee declares termination. Upon termination of stage 3, stage 2 becomes operative unless otherwise determined by the General Manager or designee.

STAGE 4 CONDITIONS

1. These measures are related to Stage 4 trigger conditions and will cause the following actions to be initiated;

a. Inform the District Board Members and general public of the initiation of Stage 2 measures. Disseminate information to the public and media.

b. Inform the District’s members and Fort Hood that the District has implemented Stage 4 measures and request them to do the same.

c. The BCWCID 1 General Manager or his or her designee will manage the various stages of emergency water demand management and disseminate information to the public and the media.

d. Advise public of condition by written notice within 24 hours of onset of trigger conditions. Implement mandatory reduction levels based on existing pumping capabilities and available water.

e. Assist participants in contacting any large commercial or industrial users and discuss need for initiation of conservation measures; Assist members in contacting large commercial and industrial users and inform user to implement conservation measures to at least the same degree of level the District has implemented.

f. Review system operational condition and capabilities. Complete any repairs to District facilities, which have not been completed to date.

g. Initiate appropriate Brazos River Authority measures according to the “Brazos River Authority” drought contingency plan.

h. Requirements for termination. Stage 4 of the plan may be rescinded when all the conditions listed as triggering events have ceased to exist for a period of seven (7) consecutive days or when the General Manager or designee declares termination. Upon termination of stage 4, stage 3 becomes operative unless otherwise determined by the General Manager or designee.

C. Information and Education

The civilian customers will be made aware of emergency water demand management trigger conditions and measures by information released by the District designated person. If trigger conditions require initiation of moderate or severe measures, participants will be notified by telephone within two hours of the determination that moderate or severe measures are required, and with written notice hand delivered to each civilian customer within 24 hours of onset of the trigger conditions.

A meeting will be held annually to discuss the District's Water Conservation and Drought Contingency plan with all Wholesale Customers. Water conservation strategies as well as trends in state programs will be included with the meeting discussion.

D. Initiation Procedures

Initiation of emergency water demand management measures will require issuance of a written notice containing the date of initiation of those measures and shall be posted in any required public locations.

E. Termination Notification

The District will monitor all existing conditions during the period of water demand management measures and evaluate them with respect to their severity and need for continuance. When the trigger conditions which initiated the emergency water demand management measures have subsided or have been abated sufficiently that the District believes it is prudent to relieve the measures, a written termination notice will be issued and will contain the date of the end of the particular measures and the status of measures still in effect, i.e. "Stage 3 emergency water demand management measures have ended and Stage 2 measures are in effect."

F. Procedures for granting variance

The General Manager, or his designee, may, in writing, grant a temporary variance to the pro rata water allocation policies provided by this Plan if it is determined that failure to grant such variance would cause an emergency condition adversely affecting the public health, welfare, or safety and if one or more of the following conditions are met:

(a) Compliance with this Plan cannot be technically accomplished during the duration of the water supply shortage or other condition for which the Plan is in effect.

(b) Alternative methods can be implemented which will achieve the same level of reduction in water use.

Persons requesting an exemption from the provisions of this Plan shall file a petition for variance with the General Manager within 5 days after pro rata allocation has been invoked. All petitions for variances shall be reviewed by the Bell County Water Control and Improvement District #1 General Manager, and shall include the following:

- (a) Name and address of the petitioner(s).
- (b) Detailed statement with supporting data and information as to how the pro rata allocation of water under the policies and procedures established in the Plan adversely affects the petitioner or what damage or harm will occur to the petitioner or others if petitioner complies with this Ordinance.
- (c) Description of the relief requested.
- (d) Period of time for which the variance is sought.
- (e) Alternative measures the petitioner is taking or proposes to take to meet the intent of this Plan and the compliance date.
- (f) Other pertinent information.

Variations granted by the BCWCID 1 General Manager shall be subject to the following conditions, unless waived or modified by the BCWCID 1 General Manager or his designee:

- (a) Variations granted shall include a timetable for compliance.
- (b) Variations granted shall expire when the Plan is no longer in effect, unless the petitioner has failed to meet specified requirements.

No variance shall be retroactive or otherwise justify any violation of this Plan occurring prior to the issuance of the variance.

G. Amendment of Emergency Water Management Plan.

Under emergency conditions, the District's General Manager can amend this plan as needed and shall advise the District Board of such amendments at its next regular or called meeting.

H. Means of Implementation

The District will adopt this plan with an appropriate resolution to implement and carry out this plan in an effective and workable manner.

The District has required by contractual agreement current civilian customers to adopt a water conservation and emergency water demand management plan. District will also require any political subdivision or other entity which contracts for wholesale water from the District in the future to adopt a water conservation and emergency water demand management plan acceptable to the Texas Water Development Board. A copy of such future contract will be sent to the Board. Additionally, all contracts entered into by the District will contain the provision, that in case of a shortage of water resulting from drought, the water to be distributed shall be divided in accordance with Texas Water Code Section 11.039.

I. Enforcement

During any period when pro rata allocation of available water supplies is in effect, the district in its sole discretion, may charge a reasonable surcharge, in an amount not to exceed \$20,000 per occurrence, to any civilian resale customer determined by the District to be in violation of its agreement not to exceed its allocated daily capacity.

J. Drought Contingency Plan Preparation

Opportunity for the public and wholesale water customers to provide input into the preparation of the Plan was provided by Bell County WCID No. 1 by means of electronic media.

K. Brazos River Authority Regional Planning Group

The water service area of Bell County WCID No. 1 is located within the “Brazos River Authority” Region “G” Planning area. Bell County WCID No. 1 has provided a copy of the Plan to the “Brazos River Authority” and the Region G Water Planning Group.

L. Alternative Water Services and or delivery mechanisms.

Bell County WCID No.1 has a water contract with the Brazos River Authority, which has several different sources of water for its customers.

M. Adoption of Plan

This Drought Contingency Plan was presented to and approved by the Board of Directors of Bell County WCID No. 1 on April 24, 2019.

APPENDIX E


Customer Usage Correspondence

BELL COUNTY WATER CONTROL & IMPROVEMENT DISTRICT NO. 1



P.O. Box 43
201 S. 38TH ST.
KILLEEN, TX 76540-0043
(254) 501-9243
(254) 519-4261 FAX
WWW.WCID1.ORG

TO: Mr. David Mitchell – Harker Heights City Manager

FROM:  Ricky Garrett

SUBJECT: 2022 Water Summary Report

DATE: February 8, 2023

Mr. Mitchell,

As you know our water service contracts have two capacity components: 1) maximum flow in millions of gallons per day and 2) water rights under contract for your annual usage. Our records indicate that your maximum day during the brutal summer of 2022 occurred in August at 9.4 million gallons. This compares to your contract maximum of 16.25 million gallons and tracks with our recent planning updates which projects reaching that capacity around 2050 but not surpassing the 85% mark in the planning period through 2070. Your annual usage in acre feet totaled about 5889 acre feet of 8500 acre feet available. With the current projection, it appears Harker Heights will need additional water supply in the 2040 to 2045 time frame.

There are two Killeen transmission system projects in design; the 48-inch parallel project and a surge tank replacement which is part of the 48 inch delivery system. I'll be recommending moving forward with those projects in the coming months to enhance reliability and support additional capacity when needed.

I hope you find this information helpful. As always, please don't hesitate to contact the District should you have any questions or need additional information.

