

AECOM

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Memorandum

Date April 2, 2009

To Region K Planning Group Members

From Population and Water Demand Committee

Subject Public Comments received on the Initially Prepared Region K Population and Water Demand Projections

The population and water demand committee has held two meetings to hear public comments on the initially prepared Region K population and water demand projections for the 2011 Region K Plan, one on March 19, 2009, and the second on April 2, 2009. A period of time has also been given to receive written comments on the projections.

Letters were sent to each individual water user group (WUG) with their initially prepared population and water demand projections and a request for feedback if the WUG had data that suggested alternative projections.

The attached documents are a summary of the oral comments received at the two meetings as well as the written comments received from the WUGs. The public has until April 16, 2009, to submit comments, so we may receive additional feedback, but this is what we have received to date.

The summary of the March 19, 2009, meeting is broken down by category into Questions, Comments regarding the population and water demand projections, and Comments regarding the water supply analysis and water management strategies. Although the last category is not necessarily applicable to the task at hand, the comments are acknowledged and will be considered when reviewing the Initially Prepared Plan.

Region K Population and Water Demand Committee Meeting to Hear Public Comments on the Initially Prepared Population and Water Demand Projections

Questions Received from the Public on the Population and Water Demand Projections:

1. What is the Gallon Per Capita per Day number for Region K?

There are different numbers for each WUG. Look at the 2006 Plan for the numbers used.

2. Are you incorporating information from the Groundwater Conservation Districts in regards to water availability?

Determining supply is the next step. We use information received from the GCDs in the Plan.

- 3a. If an entity disagrees with the population or water demand projections, what is the process for arguing against the numbers?

Offer us comments and data. TWDB requires data and information. Provide written comments to us with data backup. Submit the information as soon as possible.

- 3b. If the entity is unable to convince the Planning Group, what are the consequences (such as to the entity's contract with a water provider)?

The Committee takes the information, considers it, and presents it to the RWPG for final decision. All comments go to the TWDB which gives the final blessing on the numbers. This process is done every five years. Contracts with a water provider will not be reduced based on the population projections estimated in this process.

4. What other alternative sources for water usage could Region K have looked at using?

The individual WUGs could be looked at individually for their water use. There is not enough time in this round of planning to perform that analysis.

**Comments Received from the Public on the Population and Water Demand
Projections:**

1. David Gavenda, Lake Travis resident, retired UT Physics Professor

The methodology used to create the population projections does not take into account the declining availability of water resources, therefore is not accurate. Reservoir firm yield should be tied to a sophisticated and powerful climatological model such as the ones used to analyze the Southwestern U.S. region, making the projections more meaningful and valid. The projections would be better since they would take into consideration the impact limited resources will have on growth. Once the resources are used up, growth will stop. If you don't assume that the future is like the past, models show that water availability decreases. The future trend for the Southwestern U.S. region, shown by the models, is towards hotter, drier climates. This is not being taken into consideration when determining water availability.

2. Richard Bowers, Central Texas Groundwater Conservation District

The largest use in Burnet County is domestic. The large difference in Gallon per Capita per Day (GPCD) numbers for the different cities in Burnet County doesn't make sense. City of Bertram is 156 GPCD. Meadowlakes is 336 GPCD. Meadowlakes is likely not using that much water. The odd GPCD numbers should be relooked at.

**Comments Received from the Public on Water Supply Analysis and Water
Management Strategies:**

1. Donald Oren, Cottonwood Shores, Burnet County

The ban on discharging wastewater effluent into the Highland Lakes causes the effluent to be used for watering golf courses and cedar trees. Technology exists for converting wastewater into drinking water. What is Region K's stance on the ban? It is ridiculous to water cedar trees because that water can never be recaptured as groundwater. We should take advantage of the technology available.

2. Connie Ripley, President of DELTA (Don't Empty Lake Travis Association)

Concerned that Region K is using the Drought of Record for determining firm yields, but LCRA is using the Simulated Drought of Record for determining what elevation new intake pipes should be placed at around the lake.

3. Judy Graci, DELTA (Don't Empty Lake Travis Association)

Drought of Record Lake Travis Elevation is 614 feet.
Simulated Drought of Record Lake Travis Elevation is 578 feet.
For determining firm water yield, which should we be using? When LCRA is telling water users to put intakes at the bottom of Lake Travis, what does that say? What amount of water used to meet firm contracts comes from Lake Buchanan? What percentage of water contracts are used in the summer? When determining a water management strategy, a water right permit should be obtained before the strategy can be included in the Plan.

4. Ralph Hendricks, Assistant City Manager of Marble Falls, TX

The ban on wastewater effluent discharge to the Highland Lakes is bypassing valuable conservation by not using the effluent effectively.

Region K Population and Water Demand Committee Meeting to Hear Public Comments
on the Initially Prepared Population and Water Demand Projections

**Comments Received from the Public on the Population and Water Demand
Projections:**

1. David Fowler, CAPCOG

The water demand projections seem conservative. Is there no expectation of future conservation efficiency gains?



1218 Fisher St. – P. O. Box 450 - Goldthwaite, TX 76844
325/648-3186 FAX: 325/648-2570 city@centex.net

April 1, 2009

Sent Via Email

Mr. James Kowis
Region K Population and Water Demand Committee Chair
Lower Colorado River Authority
PO Box 220, Mail Stop R325
Austin, Texas 78676

Re: Comments on Population and Water Demand

Dear Mr. Kowis,

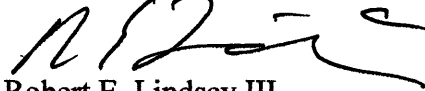
We appreciate your work with Region K with respect to the regional water planning process. The purpose of this letter is to provide our comments and thoughts regarding the future population and demand forecasts for our City and County. We expect both population and demand to exceed the proposed plan numbers currently forecasted. Our basis for our projection of greater demand and population is predicated upon our current water use demand for both surface and ground water.

While the past census and the coming census count will define current full time residents it does not take into account our weekend and recreational user population. With over half the land owned in the County being secured by non-resident land owners we see a significant increase in both population and water demand during weekends and holidays or hunting season. We also experience a significant increase in non-landowner visitors and sportsmen during peak recreational use periods. In addition, the types of homes being built, both in the City and County, individually use more water.

The City provides municipal water service to a fairly limited portion of the County, mostly within the City limits. With the construction of the City's new micro filter water treatment plant we have made a significant capital investment to serve the City users primarily with surface water. Our access to ground water is limited and the ground water resources in our County are marginal at best. Our dependence on the Colorado River to supply the needs of City and County will be critical to meeting the populations, both full-time and part-time, demand for water.

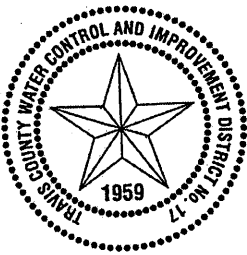
The prior legislation naming the Goldthwaite in-channel dam as a priority project continues to be a key opportunity for our City in securing reliable access to water for the City river pump station. We also believe that the over health and availability of water in the upper portions of the basin will not only benefit the City but will also provide additional water supply and security for the downstream water user operations as well. We hope Region K will take both our comments regarding demand and potential surface water solutions into account when developing the updated regional water plan. If you have any questions or wish to discuss our comments please contact me.

Respectfully,

A handwritten signature in black ink, appearing to read 'R. Lindsey III', written over a horizontal line.

Robert E. Lindsey III
City Manager

Cc: Mayor Mike McMahan
Judge Kirkland T. Fulk



TRAVIS COUNTY WATER CONTROL & IMPROVEMENT DISTRICT 17

3812 ECK LANE • AUSTIN, TEXAS 78734
PHONE (512) 266-1111 • FAX (512) 266-2790

March 26, 2009

James Kowis
Population and Water Demand Committee Chair
Lower Colorado River Authority
P O Box 220, Mail Stop R325
Austin Texas 78767

Re: LCRA Regional Water Plan (Region K) Revisions to Population and
Water Demand Projections for the 2011 Regional Water Plan;
Travis County WC & ID 17

Dear Mr. Kowis,

I have reviewed the initial revisions to the population and water demand figures for Travis County WC & ID 17. District 17 serves some customers in the cities of Lakeway, Austin and Bee Cave as well as in the ETJ's of these cities and in the unincorporated areas of Travis County.

The attached sheet shows actual figures for WCID 17 for 2008 population as well as my projections for 2010 through 2060. Population is estimated by multiplying the number of accounts by 3.

Please feel free to contact me at (512) 266-1111 ext. 13 or debbiegernes@wcid17.org if I can be of further assistance.

Sincerely,

Deborah S. Gernes
General Manager

Attachment

Travis County Water Control and Improvement District No. 17

Year	Estimated Accounts	Estimated Population*	Estimated LUE's	Estimated Water Pumped
2008**	8,612	25,836	11,615	6,193 Ac Ft
2010	9,332	28,000	12,130	6,700 Ac Ft
2020	12,332	37,000	16,030	8,850 Ac Ft
2030	15,300	46,000	19,800	11,000 Ac Ft
2040	18,300	54,900	23,700	13,000 Ac Ft
2050	18,500	55,500	24,050	13,200 Ac Ft
2060	18,900	56,700	24,570	13,500 Ac Ft

*Population is estimated by multiplying the number of accounts by 3

**Actual figures for 2008

CWS Region K Response to James Kowis (LCRA)

First, I would like to give some references:

1. The City of Cottonwood Shores (CWS) is located in on of the fastest growing portions of the State of Texas – The Hill Country between Marble Falls (six miles)and Horseshoe Bay (two miles).
2. CWS has recently reached agreements with Marble Falls doubling our “uncontested” ETJ to 900 acres (almost doubling the existing area).
3. Within the city limits, CWS has approximately 2500 lots. Almost 2000 are 50 feet by 100 feet. Our water system presently serves 490 connections; therefore, there is an expansion capability of almost 400 % in internal city limits connections before we reach the limit.
4. CWS is a Low to Moderate Income community (2006 median income of \$56,000) with one of the few affordable housing areas in the Hill country (2006 median house value of \$65,000 and a 2009 average Property Tax roll house value of \$75,000).
5. We have averaged, internal to the city limits of CWS, building 12 to 15 new homes over the last ten years. This number has been on the increase over the last several years.
6. Region K has for some reason skewed the area population growth figures:
 - a. Region K has projected Marble Fall’s population growth at 67.7% from 2010 to 2020 and 95.2% from 2020 and 2030. Region K has projected CWS at 37% and 31% in these respective decades.
 - b. Region K has projected Horseshoe Bay population growth at 94.1% from 2010 to 2020 and 106.3% from 2020 and 2030. Region K has projected CWS at 37% and 31% in these respective decades.
 - c. Region K has projected Marble Fall’s population growth at 67.7% from 2010 to 2020 and 95.2% from 2020 and 2030. Region K has projected CWS at 37% and 31% in these respective decades.
 - d. We don’t understand why Region K doesn’t believe the growth in the Low to Median Income and Affordable Homes community will not grow at similar rates to the more affluent communities we are between? Where are the working families going to live?
- 7.

The data CWS will use for its presently evolving Comprehensive Plan follows:

1. TOTAL population growth to be:
 - a. This is based on the following assumptions:
 - i. Internal growth at 15 houses per year – same as last 10 years – increasing at 5% per year.
 - ii. Adding Houses and annexation in the ETJ at 200 houses/LUEs per decade.
 - iii. Additional household residents at 3.5 per home (which we believe to be low).

Item	Units	Source	2000	2009	2010	2020	2030	2040	2050	2060
Cottonwood Shores	Population	Region K	877	-	1,169	1,599	2,088	2,570	2,817	3,089
10Yr Growth - Internal CWS (3.5/LUE)	Population	CWS	-	-	1,169	1,825	2,646	3,671	4,953	6,555
CWS Annexation Growth Cumulative	Population	CWS	-	-	60	760	1,460	2,160	2,860	3,560
Total estimated CWS Growth	Population	CWS			1,229	2,585	4,105	5,830	7,812	10,114

2. LUE and AC-Ft growth to be:
 - a. Based on the same assumptions as above.
 - b. Based on the additional assumptions – 310 Gal/Day per LUE (approximately 1/3 of the TCEQ new plant requirements).

Item	Units	Source	2000	2009	2010	2020	2030	2040	2050	2060
2009 Region K Water Usage Projection	AC-Ft	Region K	-	-	156	208	266	326	353	387
CWS Cumulative from Internal Growth	LUEs	CWS	-	-	500	688	922	1,215	1,581	2,039
CWS Internal Growth (310 G/LUE/Day)	AC-Ft	CWS	-	-	174	239	320	422	549	708
CWS Annexation & LUE Growth Cumulative	LUEs	CWS	-	-	-	217	417	617	817	1,017
Water Cumulative Annexation	AC-Ft	CWS	-	-	6	75	145	214	284	353
CWS Total Internal & ETJ Cumulative	AC-Ft	CWS	-	-	180	314	465	636	833	1,061

3. The Spread Sheet below (and attached) shows the calculations that derived the above data.

CWS Conclusions:

As can be seen, we believe the Region K data to be significantly short based on what we believe to be reasonable and very conservative facts and assumptions. Our figures indicate that the projection Region K is using is about one third of our projections. CWS would like to recommend that Region K adopt data that is more closely associated with what we believe to be a more accurate projection of our growth and water usage in the future.

EVALUATION OF COTTONWOOD SHORES GROWTH IN POPULATION, LUES AND WATER USAGE

Item	Units	Source	2000	2009	2010	2020	2030	2040	2050	2060
Cottonwood Shores	Population	Region K	877		1,169	1,599	2,088	2,570	2,817	3,089
10Yr Growth - Region K	Population	CWS			33%	37%	31%	23%	10%	10%
10Yr Growth - Internal CWS (3.5/LUE)	Population	CWS			1,169	1,825	2,646	3,671	4,953	6,555
CWS Cumulative from Internal Growth	LUEs	CWS			500	688	922	1,215	1,581	2,039
CWS Internal Growth (310 G/LUE/Day)	AC-Ft	CWS			174	239	320	422	549	708
CWS Internal Growth by Decade	Population	CWS				656	820	1,025	1,282	1,602
CWS Internal Growth by Decade	LUEs	CWS			17	188	234	293	366	458
CWS Annexation & LUE Growth	LUEs	CWS			17	200	200	200	200	200
CWS Annexation & LUE Growth Cumulative	LUEs	CWS				217	417	617	817	1,017
Water requirements @310 Gal/Day	Gal/Day	CWS			5,270	62,000	62,000	62,000	62,000	62,000
CWS Annexation Growth by Decade	Population	CWS			60	700	700	700	700	700
CWS Annexation Growth Cumulative	Population	CWS			60	760	1,460	2,160	2,860	3,560
CWS Water requirements Annexation	AC-Ft	CWS			6	69	69	69	69	69
CWS Water Cumulative Annexation	AC-Ft	CWS			6	75	145	214	284	353
CWS Total Internal & ETJ Cumulative	AC-Ft	CWS			180	314	465	636	833	1,061
% Change		CWS				75%	48%	37%	31%	27%
2009 Region K Water Usage Projection	AC-Ft	Region K			156	208	266	326	353	387
% Change		Region K			6.3%	17.4%	28.1%	36.3%	30.2%	24.1%
CWS Population Internal & ETJ Cumulative	Population	CWS			1,229	2,585	4,105	5,830	7,812	10,114
% Change		CWS				110%	59%	42%	34%	29%
Marble Falls	Population	Region K	4,959		7,796	10,664	13,927	17,141	18,789	20,602
10Yr Growth - Region K		CWS			57%	37%	31%	23%	10%	10%
2009 Region K Water Usage Projection	AC-Ft	Region K			2,497	3,380	4,368	5,338	5,829	6,393
% Change		Region K			39.1%	67.6%	95.2%	117.7%	116.5%	114.2%
Meadowlakes	Population	Region K			2,331	3,188	4,164	5,125	5,618	6,160
10Yr Growth - Region K		CWS				37%	31%	23%	10%	10%
2009 Region K Water Usage Projection	AC-Ft	Region K			879	1,197	1,558	1,912	2,096	2,297
% Change		Region K			28.0%	30.7%	35.5%	39.3%	29.5%	20.7%
Horseshoe Bay	Population	Region K			7,168	9,352	9,942	10,527	11,112	11,696
10Yr Growth - Region K		CWS				30%	6%	6%	6%	5%
2009 Region K Water Usage Projection	AC-Ft	Region K			1,992	2,577	2,707	2,831	2,974	3,131
% Change		Region K			48.7%	94.1%	106.3%	118.4%	130.6%	142.7%

Cottonwood Shores 2010 to 2020 growth Case
City-Data Statistical Data

Low to moderate income = 2006 median income is \$56,000

Affordable Housing = 2006 median house value is \$65,000 - 2009 tax roll date = \$75,000 house value.

City-Data listed the 2006 population at 1130, the US Census listed 2006 population at 1156.

CWS has built an average of 15 houses per year over the last ten years. That growth alone will account for the projected growth WITHOUT any other developments. We presently have about 900 acres in our ETJ which will be developed over the next 15 to 20 years. These will completely build out at least 1200 to 1500 LUEs and require over 1200 Acre-Feet per year.

DATA Sheet

	LUE =	620 Gal/Day	250,000 Gal/Day	250	156			
			30					
			7,500,000 Gal/Mo	G/D to A-F	1.10	141,202 Gal/Day		
1 Acre-Feet =		325,851 Gal/Ac-Ft	23.02 Ac-Ft/Mo		LCRA Cont	2000	2,210 Ac-Ft	
			276.20 Ac-Ft/Yr					
	2008	2009	2010	2020	2030	2040	2050	2060
Cottonwood Shores								
LCRA Projected AF			156	208	266	326	353	387
% Change			6.3%	17.4%	28.1%	36.3%	30.2%	24.1%
CWS Annexation & LUE Growth			17	200	200	200	200	200
Water requirements @310 Gal/Day			5270	62000	62000	62000	62000	62000
CWS Water requirements Annexation	AC-Ft / Yr		5.90	69.45	69.45	69.45	69.45	69.45
CWS Proposed requirements			162	283	711	1,037	1,390	1,777
CWS New House Population		3.5						
New House Internal		15	187.5	234.4	293.0	366.2	457.8	
Growth in House building		5%	18.8	23.4	29.3	36.6	45.8	