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To: "Bill Roberts" <Bill.Roberts@twdb.state.tx.us>
Date: 10/5/2006 12:46:25 PM
Subject: Comments on the draft 2007 State Water Plan

Bill-

On behalf of Freese and Nichols, Inc., I am submitting comments on the draft State Water Plan. These comments focus on Volumes I and II of the State plan, with a more detailed review for the regions that we participated as consultants. A hard copy of the comment letter also has been sent to the TWDB for Friday delivery.

If you have any questions on our comments or suggestions, please contact me at 817-735-7446 or Tom Gooch at 817-735-7314.

Sincerely,

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October 5, 2006

Bill Roberts
Water Resources Planning Division
Texas Water Development Board
1700 North Congress
P. O. Box 13231
Austin, Texas 78711-3231

RE: Comments on 2007 State Water Plan

Dear Mr. Roberts,

Thank you for allowing us the opportunity to comment on the draft 2007 State of Texas Water Plan. We believe the development of this plan represents a significant accomplishment in its careful assembling of local and regional interests, concerns and plans to a statewide document.

Freese and Nichols, Inc. has been involved with the regional water planning process since its inception in 1997, working as a consultant with eight regional water planning groups. As such, we are familiar with the regional water planning process and recommendations in the 2006 Regional Water Plans. Our review of the draft 2007 State of Texas Water Plan focuses on Volumes I and II, with limited reviews of Volume III.

The draft State Water Plan is a well-written document that captures the major issues of the future water needs of the state and the specific issues unique to the different regions. We recognize that the regional water plans include considerable amounts of detailed information and data that cannot be fully described in the text of the State Water Plan, and we offer the following review comments in an effort to improve the information and guidance contained in the 2007 State Water Plan: Our review comments are organized into three parts: 1) organizational and general comments, 2) specific comments by volume and chapter, and 3) editorial comments. The editorial comments were sent under separate cover to the Texas Water Development Board staff.

ORGANIZATIONAL AND GENERAL COMMENTS

VOLUME I

The synopsis of the State Water Plan is presented in easy to read and understand sections. The sections on existing water supply and water management strategies could benefit from additional discussion of the fact that there are existing water sources that currently cannot be fully used due to the limitations identified. The amount of new supply associated with connecting existing water sources should be distinguished from the supply provided by developing new water sources. This distinction is important for regions that have developed adequate sources, but are limited by infrastructure, agreements or permits.

This clarification of water supply amounts and how the supply amounts are presented is important throughout the State Water Plan (including Volume II). The availabilities of water supplies are reported in the regional water plans by source, by water user group, and by wholesale water provider. There are tables and sections in the draft State Water Plan where this distinction is not clear. Several suggestions regarding this issue are discussed under specific comments below.

VOLUME II

The organization of the draft State Water Plan includes the essential components of the planning process and places appropriate emphasis on important issues. Chapter 8, Water Reuse, highlights the importance of water reuse in water supply planning. This source is an important water supply for many areas across the state, especially in Region C. This chapter, as currently presented, discusses only existing water reuse supplies. Future water reuse, as recommended by the regions, will provide considerable additional supply over the next 50 years. We suggest that Chapter 8 include a brief synopsis of the recommended future water reuse with a reference to further discussion in Chapter 10. This will present a complete assessment of water reuse in Texas.

We are pleased to see that Chapter 12 is part of the draft State Water Plan. This chapter provides a necessary perspective for the public on issues specific to long-term water planning, and captures many of the concerns expressed by the regions as they developed the regional water plans.

SPECIFIC COMMENTS BY VOLUME AND CHAPTER

VOLUME I

On page 4, clarify under “How much water do we have now?” that the water supplies are existing supplies to water user groups. This does not represent the total supply available from existing water supply sources.

The statement on page 5, “...we do not have enough water to meet demands,” should read: “...we do not have enough available water supplies to meet demands.”

The discussion of the economic impacts on page 6 should clarify that the economic losses are associated with a one-year drought. Droughts lasting longer than one year will have greater economic impacts. Presently written, it is unclear whether the losses are per year or total losses.

On page 21, the statement on WaterIQ should be clarified that it was the North Texas Municipal Water District that participated in the funding assistance for the program, not “Authority”.

VOLUME II

Chapter 1:

Chapter 2:

General: It is unclear why County-Other demand has been classified separately from municipal demands. In many cases these demands are met by water supplied by municipalities. This appears to be a break with previous plans, which have included County Other in the Municipal category. If County-Other is combined with the Municipal category in the final plan, then appropriate corrections will be needed to the text under Population and Water Demands.

The second table for each region presents the existing water supply to water user groups within the region. We suggest that the title of the table be changed to reflect this. For example, the title of Table C.2 should be reworded as follows: “Existing water supply sources available to Region C users for 2010 and 2060”.

Under Regional Water Planning Group Members, “current voting member” list would include members that were elected in 2006, but did not participate in the preparation of the 2006 regional water plans. If this is the intent of this information, then additional voting members may need to be added for each region as appropriate. If not, then we suggest that the title be modified to reflect that the list represents members that were active and eligible to vote on the 2006 regional water plans.

Also, the TWDB may wish to consider including the names of non-voting members in the regional water planning process. Many of these state employees and liaisons were integral participants in the development of the plans and should be recognized.

Region A. Text on page 13 should read: “...the region adopted a management policy that limits annual withdrawals to NO MORE THAN 1.25 percent of the current saturated thickness of the aquifer.”

Region C. “Conservation Recommendations” should include some text acknowledging the non-municipal conservation included in the Region C plan.

Page 30, third bullet under Major Strategies: The implementation of Phase I of the Tarrant Region Water District Third Pipeline and Reuse will occur by 2010 and Phase II will occur by 2020. Please correct.

Page 30, seventh bullet under Major Strategies: Add that an additional 200,000 acre-feet of water from Toledo Bend is recommended for implementation after 2060.

Under Region C Water Planning Group Members, “Former voting members” category, William Meadows and Carl Reihn should be removed. They were not part of the Region C Water Planning Group during the 2001-2006 planning cycle. Also, “water districts” should be added behind George Shannon’s name. If new members are added to the current list, please add Jack Stevens, water districts.

Region E. The graphics in Figures E.3 through E.5 are the same as for Region B and should be corrected with data for Region E. Table E.2 shows the same values of supply from current sources for 2010 and 2060. Reuse in Region E is expected to increase by nearly 50% in 2060

Region F. The graphic for Figure F.5 shows data for Region B and not for Region F. Please include correct data and graphic for Region F. On page 44, Steam Electric demands are projected to grow by 98% for Region F and should be mentioned as a category with significant growth in the Population and Water Demands discussion. In Table F.2, Lake Brownwood supply should be listed as 29,712 ac-ft/yr. The District can physically deliver that amount to customers.

Also on page 46, the drinking water standards referred to under “Ongoing Issues” are not new standards. They have been in place for several years. The region is concerned that workable policies need to be developed to meet those standards.

On page 46, the third bullet under Select Policy Recommendations is unclear. Region F has requested that TCEQ allow use of bottled water programs to meet radionuclide standards for small rural communities.

On page 48, the subordination total is incorrect. A corrected version was sent to Kevin Kluge of TWDB staff on September 28, 2006. Also, subordination was approached as a single strategy with multiple participants agreeing on a consensus total. It is referred to in the State Water Plan as fifty-one strategies. This should be revised to accurately reflect the regional approach and intent as a single strategy.

Chapter 3: No comments.

Chapter 4: No comments.

Chapter 5: No comments.

Chapter 6:

In Chapter 6, the Reservoir Yield tables should be revised to address the following concerns.

General comments:

For reservoirs that are limited by permit amounts, a note should be added to clarify – “limited to permitted diversion”. This affects Sam Rayburn Reservoir, Toledo Bend, Lake Texoma, Wright Patman, and Cedar Creek Reservoir. Each of these reservoirs, except Cedar Creek, is seeking or recommended to seek additional water rights to utilize the firm yields of the reservoirs. There may also be reservoirs in other regions not covered under contracts by Freese and Nichols that are also affected.

New reservoirs should be listed with the firm yield of the projects as identified in the regional water plans. The firm yield for Lower Bois d’Arc Creek reservoir is 123,000 ac-ft/yr; for Fastrill, the firm yield reported in the Region C plan is 148,780 ac-ft/yr.

Clarification should be made by adding the Year 2010 to the Yield heading in all the tables.

On page 144, the stated yields for Ivie, Spence, Brownwood and Nasworthy are safe yields, not firm yields. The stated yield for Nasworthy is for the Twin Buttes/Nasworthy System.

On page 171, O.C. Fisher has the right to divert 80,400 acre-feet and has a safe yield of 3,862 in 2010. This yield is based on the subordination analysis. The TCEQ WAM has a yield of 0 acre-feet for O.C. Fisher, which is not reflective of the actual amount of water available from this source.

Chapter 7:

On page 186, Section 7.1.2, the “other” aquifer category is associated with TWDB use records for groundwater with an unspecified aquifer designation. These reported groundwater uses may be from undifferentiated sources or from a recognized aquifer that was not properly reported. The discussion on page 186 implies that the planning groups analyzed the available supply associated with these sources. We suggest that this be clarified by adding, “Based on historical uses reported to the State, the planning groups estimate”

Aquifer Summary Pages. Please verify that the groundwater supplies with implementation of water management strategies accurately represent the total amounts of groundwater from the source. It is our understanding that unless there is a recommended strategy for recharge enhancement, overdrafting or use of brackish water (that was not included in the original supply availability), the total supplies should not exceed the availabilities. Supplies exceed availability for the Edwards (BFZ), Edwards-Trinity and Woodbine aquifers. Transfers of existing groundwater from other users should not be considered new groundwater supplies.

Woodbine Aquifer. Add discussion that this aquifer overlies the Trinity Aquifer and note its connection to the Trinity Aquifer. Please clarify whether the Woodbine has 2 or 3 distinct layers. The Northern Trinity/Woodbine GAM report states that there are two layers.

In Section 7.4.4 on page 229, the nitrate Maximum Contaminate Level (MCL) is stated as 44.3 mg/ liter. This standard is typically reported as 10 mg/liter (as nitrogen), and is usually not reported as nitrate. We suggest that this clarification be added by listing both standards with one in parenthesis.

Chapter 8:

Include a brief synopsis of the recommended future water reuse with a reference to further discussion in Chapter 10. This can be added to the major points on page 240 and at the end of the chapter.

Figure 8.1 should be clarified that the chart represents existing reuse supplies available to water user groups. A new chart should be added that shows existing and recommended reuse supplies from 2010 through 2060.

Chapter 9: No comments.

Chapter 10:

In the Water Management Strategies chapter, the following comments were noted.

Page 256, add a brief bullet point to the highlight box about the amount of supplies associated with connecting existing water sources, including contractual agreements and permit modifications. This is an important note to convey to the public.

Table 10.2, Page 263. Region B: The water saved from placing the irrigation canal laterals into pipe is an agricultural conservation strategy and the water savings shown on Table 10.2 should be 14,607 acre-feet per year. The water saved from the agricultural conservation strategy becomes available to all users of water from the Lake Kemp / Lake Diversion system, including steam electric power. The portion of water associated with replacement of the canal laterals with pipe that is designated for steam electric power is not a steam electric power conservation strategy.

In Table 10.7 on Page 274, there are several major conveyances that are comprised of multiple sections. Since some of these sections include moving water to other water sources, a notation of the source that is being conveyed would help describe the conveyance projects. Specifically, “Toledo Bend water” should be added in parenthesis to conveyance segments 6B and 6C; “Marvin Nichols water” should be added to segments 7B and 7C, and; “Hugo Lake water” should be added to segments 8B and 8C. Consideration should be given in Table 10.7 to adding the quantity of water to each of the listed conveyances.

Chapter 11:

Page 288, Section 11.2.1. The 2007 State Water Plan does include some costs associated with water treatment and facility improvements. Perhaps, the sentence that begins with “These costs are in addition ...” can be reworded to reflect this, such as “Many of these costs are in addition”

Chapter 12:

Section 12.3 on Page 299-300, Drought, makes no mention of drought-of-record conditions in West Texas. For documentation, please see the Region F Plan, Section 3.6, for comparisons of conditions since 1998 to the drought of the 1950s.

Chapter 13: No comments.

Appendices:

Appendix 2.1

b.1 and b.2: This is the same strategy and the total supplies should be combined in Appendix 2.1. The annual average costs shown should be \$390 for the first decade and \$41 for 2060.

b.10: Estimated 2060 average annual cost should be \$1,006.

Region C strategies c.38, c.43, c.51, c.56. The water associated with these strategies are duplicative of water developed from other strategies, however, there are costs per acre-foot assigned to these strategies. We suggest that the supply amounts be shown for these strategies with a note that these supplies are obtained from the development of other strategies. It will provide the reader with information on the quantity of supply that is associated with each strategy.

c.55: Red River diversion. The cost shown for this strategy should be \$355 for both the first decade and 2060.

f.1: Desalination: Desalination has incorrect totals for supply. The total supply should be 6,550 AF in 2020 and 16,050 in 2030. DB07 is incorrect for Andrews (should be 950 instead of 1,121).

f.3: Irrigation conservation – McCulloch County should be 197 acre-feet instead of 1,977 in 2020. Tom Green should be 5,960 acre-feet in 2020. Andrews should be a constant 5,455 acre-feet and Sterling a constant 89 acre-feet from 2030 to 2060. That makes total 36,312 acre-feet in 2020 and 72,244 acre-feet for the remainder of the planning period. Our calculations indicate unit costs of \$51 in first decade and \$52 after that.

f.5: Voluntary Redistribution.

Voluntary redistribution should be as follows:

SS2010	SS2020	SS2030	SS2040	SS2050	SS2060
6179	11,424	21,434	16,567	16,937	16,832

Please clarify the difference is between strategy f.5 and f.11.

f.8: Develop Hickory Aquifer Supplies. Hickory aquifer strategy should be 160 AF in 2010 and 2020; 5,160 in 2030; and 12,160 in subsequent decades.

f.12: Subordination. Subordination totals are incorrect. Please see information sent to Kevin Kluge on September 28, 2006.

f.13: Rehabilitation of Pipelines.

Rehabilitation of Pipeline should be as follows:

SS2010	SS2020	SS2030	SS2040	SS2050	SS2060
2403	2390	2376	2362	2349	2335

Costs should be \$240 in first decade and \$51 in 2060.

f.14: New WTP and Storage. The new WTP strategy has a supply of 300 ac-ft. Unit costs should be adjusted accordingly.

Other Strategies for Region F

Brush control is not mentioned, even though it is a recommended strategy in the Region F water plan. DB07 currently does not have this strategy marked as a recommended strategy, although on April 27, 2006 it was marked as a recommended strategy.

i.9: The database should be corrected to show the full yield of the Lake Columbia project. Costs should be adjusted accordingly in Appendix 2.1

Appendix 6.

Suggest adding permitted amounts to Appendix 6 that lists the existing major reservoirs. This will recognize the legal amount of water that can be diverted from a major reservoir. This was a concern for many water rights holders in our regions.

If you have any further questions regarding these comments, please do not hesitate to contact me at (817) 735-7314 or tcg@freese.com.

Sincerely,

Thomas C. Gooch, P.E.
Vice President
Water Resources Planning