

To: Brazos G Regional Water Planning Group	
From: David Dunn, PE	Project: Brazos G 2011 Regional Water Plan
CC: Trey Buzbee, Brazos River Authority	
Date: April 7, 2009	Job No: 00044257-001

RE: Suggested responses to TWDB comments regarding the five Phase I Reports

On December 29, 2008, HDR submitted to the Texas Water Development Board (TWDB) draft copies of the reports summarizing the five Phase I studies completed pursuant to the 2011 Brazos G Regional Water Plan. On February 20, 2009, the TWDB provided review comments on each draft report. Those review comments are repeated in this memorandum, followed by HDR's suggested response to each comment.

HDR recommends that the Brazos G RWPG accept these suggested responses to the TWDB comments, and direct HDR and the Brazos River Authority to incorporate the responses into the final versions of the reports, and submit the final reports to the TWDB prior to the report submission deadline of April 30, 2009. A copy of the TWDB review comments and the planning group's responses will be included as an appendix to each report.

Region-Specific Study 1: Updated Drought of Record and Water Quality Implications for Reservoirs Upstream of Possum Kingdom Reservoir

1. Report does not present newly developed model input datasets developed under Task 1, for example, the raw numerical naturalized flow dataset (including from 1998) through June 2008 as used in the model. Please present these data as appendices in report.

Suggested Response: The newly developed data sets have been printed and included as an appendix to the report.

2. Page 8, Table 2.1: Please clarify where the rating curves came from for elevation-content calculations.

Suggested Response: The reservoir elevation-area-capacity relations were obtained from the most recent bathymetric survey available for each reservoir. The last paragraph on page 7 has been updated to make the source of the data more clear.

Region-Specific Study 2: Groundwater Availability Model of the Edwards-Trinity (Plateau) and Dockum Aquifer in Western Nolan and Eastern Mitchell Counties, Texas

1. The data discussed on page 12 does not appear to match the data referred to in Appendix A. In the second to last paragraph, the report refers to the data showing 4,300 acre-feet of

municipal pumpage in year 2005. The data in Appendix A do not appear to support this total. Please correct or clarify the basis of the 4,300 reference in the report.

Suggested Response: The data shown in Table A-3 of Appendix A have been corrected.

2. Page 12, last paragraph discusses data in Appendix A and states that the total pumping in 2003 was 4,600 acre-feet. The value for 2003 in the Appendix A table however, appears to be 3,823 acre-feet. This paragraph also states the average is 3,240 acft/year, although the data as presented in the Appendix averages 2,851 acre-feet/year. Please correct reference or clarify how numbers referred to in text were derived. Also, it appears that the totals for years 2001-2004 and 2007 are off by 1 acre-foot.

Suggested Response: The numbers in the text have been corrected.

3. According to Task 1, subtask C in the contract Scope of Work, the report was to “estimate long-term supplies available from the well field.” The report does not appear to directly provide estimates of long-term supplies. Please provide information regarding estimated long-term supplies in the report.

Suggested Response: The following text has been added to the report as a final paragraph in Section 7 Water Management Strategy for Sweetwater:

“If a groundwater only strategy is considered, the performance of the current Champion Well Field from 2001-2007 and the groundwater modeling suggests that the Edwards-Trinity and Dockum Aquifers could meet this average demand, which was about 2,850 acft/yr. If the well field was substantially expanded to the south-southwest, the modeling analysis suggests that it could meet the projected demand of 3,900 acft/yr for the planning period.”

And the following text has been added to Section 9 Conclusions:

“If a groundwater only strategy is considered, the analysis suggests that the aquifers could meet 2001-2007 average demand of about 2,850 acft/yr. If the well field was substantially expanded to the south-southwest, the analysis suggests that the projected demand of 3,900 acft/yr for the planning period could be met.”

Region-Specific Study 3: Regionalization Strategies to Assist Small Water Systems in Meeting New SDWA Requirements

1. Page 58, paragraph 3 states that "the TWDB Regional Water Supply and Wastewater Facilities Planning Program could be used to provide up to 50 % of the cost of a detailed analysis of regionalization opportunities to encourage small water systems to actively consider and begin implementation of a regionalization strategy". Please clarify in the report that "TWDB can pay up to 50% of the study costs (75% in areas which have unemployment rates exceeding the state average by 50% or more and per-capita income is 65% or less than the state average for the last reporting period available)..."

Suggested Response: The following text has been added as the second sentence of paragraph 3 on page 58:

“In some instances, the TWDB can pay for more than 50% of the study costs (75% in areas which have unemployment rates exceeding the state average by 50% or more and per-capita income is 65% or less than the state average for the last reporting period available).”

Region-Specific Study 4: Brazos G Activities in Support of Region C’s Water Supply Study for Ellis, Johnson, Southern Dallas, and Southern Tarrant Counties

1. Task 1 of the contract Scope of Work refers to reviewing recent studies. Please provide a general summary of findings regarding recent supply studies and activities in the area since the 2006 Brazos G Regional Water Plan was adopted.

Suggested Response: The following text will be added to Section 1.0:

“A review was conducted of recent water supply studies in the four-county area, with a primary emphasis on Johnson County entities. The overall message from the studies indicates that population and water demand projections are increasing at a faster pace than the Texas Water Development Board (TWDB) projections from the 2006 Plan. The City of Cleburne conducted a study¹ in May 2007 that showed that new industrial development and oil and gas exploration in the area have increased rapidly, which has led to increased water requirements. A study conducted by Johnson County Special Utility District (JCSUD)² showed substantially higher projected population and water demands in Year 2030 than TWDB estimates. The JCSUD study was used as a basis for recommending population and water demand updates, which show a 37% increase in projected population in Year 2030 and nearly 40% increase in projected Year 2030 water demands as compared to TWDB projections used in the 2006 Brazos G Plan. Since the 2006 Brazos G Plan, Johnson County Fresh Water Supply District No. 1 has merged with JCSUD and is shown accordingly in the Four County Study report. Additional studies in the area were reviewed and considered including: information from the City of Arlington regarding their wholesale water rate study, and a report developed jointly by the Brazos River Authority and Tarrant Regional Water District in April 2004 entitled “Regional Water Supply and Wastewater Service Study for Johnson and Parker County.”

2. Tasks 1 and 4 of the contract Scope of Work refer to reviews of studies and reviews of population projection estimates. While Section 1.0 of the report summarizes the associated activities performed by date, it does not provide a general summary of the findings of these reviews or copies of or summaries of the comments that were provided by Region G consultant as a result of these reviews. Please provide a summary of findings or copies of written comments resulting from this work, for example, as an appendix in the report.

¹ *City of Cleburne and Freese and Nichols, “Cleburne Long-Range Water Supply Study- Draft,” May 2007.*

² *Johnson County Special Utility District and HDR Engineering, Inc, “Evaluation of Additional Water Supplies from the Trinity and Brazos River Basins,” December 2006.*

Suggested Response: Copies of selected email correspondence with comments provided by Brazos G consultants have been added as Attachment B-1. An interim progress report update with proposed population and water demand projections was provided to the Brazos G RWPG on October 28, 2008 (as described in Section 1.0). A copy of this presentation has been added as Attachment B-2.

In addition, the following text will be added to Section 1:0:

“The population and water demand recommendations were reviewed for consistency with information provided by each of the Johnson County entities. In some cases, historical population and water use information was provided which was used to assess the reasonableness of extrapolating historical trends to future population and water demands projections. Due to the large number of entities over the study area, there were numerous review processes required to ensure that the recommended population and water demand projections used in the study were consistent with current trends that Johnson County entities are experiencing and their local plans. A copy of selected email correspondence from Brazos G consultants with comments and results of their reviews of Region C’s interim analyses and reported results is presented in Attachment B-1.”

3. The report does not include or make specific reference to the raw population/water demand projections that were provided from individual water providers in the regional study area (e.g. Alvarado, Burleson, JCSUD, Mansfield, and Venus). Please provide copies of these water planning projections that are generally greater than TWDB population and/or water demand projections. If this raw data was included in another available report, please provide a reference.

Suggested Response: The raw population and water demand projections provided by Johnson County water entities will be provided as Attachment A. Text will be added to Section 1.0 to reference Attachment A. For more information regarding how raw population and water demand projections were used to develop recommended projections, please consult Region C’s report entitled “Water Supply Study for Ellis County, Johnson County, Southern Dallas County, and Southern Tarrant County.”

4. Please consider adding clarifying language to the Executive Summary that more clearly sets forth the purpose and content of this specific report and that explains the need for a reader to also review the “Region C Water Supply Study for Johnson, Southern Dallas, and Southern Tarrant Counties”. Consider including a copy of the associated Region C study Table of Contents for reference, for example, in an appendix.

Suggested Response: The purpose and content of the specific report was included in the draft report in the executive summary as follows:

“The purpose of this study is to review recent growth in the study area, make adjustments to population and demand projections to account for the growth, and update the current and future water plans of the water user groups and wholesale water providers in the study area. This study included conducting meetings and compiling survey data provided by water suppliers regarding their current and future water plans, determining revisions to population and demand projections, and developing a water supply plan for the study area. This report describes the

assistance provided by Brazos G to the study effort, and summarizes the information resulting from the study that is pertinent to the Brazos G Area.”

The following additional text will be added to the Executive Summary:

“Those reading this summary should also consult the ‘Region C Water Supply Study for Ellis County, Johnson County, Southern Dallas County, and Southern Tarrant County,’ which provides the full report and results of the Four County study.”

5. Page B-3: Table B-2 is missing from report. Please include in final report.

Suggested Response: Table B-2 (which has been relabeled as Table D-2 in response to renumbering attachments) will be included in the final report.

Region-Specific Study 5: Updated Water Management Strategies for Water User Groups in McLennan County

1. Task 3 of the contract scope of work states that the following sections will be included in the draft and final report: “... purpose of study including how the study supports regional water planning, methodology, results, and recommendations, if applicable.” These sections are not present in the draft report. Please include them in the final report.

Suggested Response: The organization of the report has been restructured as follows:

Section 1.0 Introduction has been subdivided into Section 1.1 Purpose of Study and Section 1.2 Methodology. The text states how the study supports regional water planning. Sections 2.0 through 5.0 have been made subdivisions 2.1 through 2.4 of a new Section 2.0 Results, while retaining their original text and organization. Section 5.0 Summary has been titled Section 3.0 Summary and Recommendations with two new subdivisions 3.1 Summary and 3.2 Recommendations, while retaining its original text.