

Exhibit A
Scope of Work

TASK 1. PLANNING AREA DESCRIPTION

The current description of the planning area is considered to be complete and accurate, but will require some revision to accommodate the following changes in the Brazos G Area to reflect the most up to date information available:

- a. **Update regional background data.** Update background information regarding the Brazos G Regional Water Planning Group (BGRWPG), e.g., membership, dates, etc. shown in Section 1.1. Update regional population, demographic, economic and agricultural data available from the State Data Center, Dept. of Agriculture and other sources shown in Sections 1.2, 1.5 and 1.6, and Appendices A and F;
- b. **Update new sources of supply.** Compile and update water supply data to include new sources of supply in the Brazos G Area, including new water rights and wholesale water supply contracts, as shown in Sections 1.3 and 1.5 and Appendix D;
- c. **Update water use data.** Compile and update water use data through year 2009 for groundwater and surface water use within the Brazos G Area, as described in Sections 1.3 and 1.5 and Appendix D of the 2006 Region G water plan;
- d. **Develop new section describing groundwater regulation.** Develop a new report section describing regulation of groundwater in the region, including subsections that describe: 1. Texas Commission on Environmental Quality (TCEQ) Priority Groundwater Management Areas in the Brazos G Area; 2. the activities and management plans of the 14 pending or confirmed groundwater conservation districts regulating groundwater development in the Brazos G Area; and 3. the HB 1763 activities in the Brazos G Area, including the status of the determination of Desired Future Conditions and Managed Available Groundwater determined by the five Groundwater Management Areas (GMAs) in the region (GMAs 6, 7, 8, 12 and 14).

Identify and list the entities regulating groundwater use in the Brazos G Area. Provide descriptions of and report the status of Priority Groundwater Management Areas (PGMAs), groundwater conservation districts, and Groundwater Management Areas (GMAs) in the Brazos G Area. The status of the determination of Desired Future Conditions and Managed Available Groundwater at the time of preparation of the Initially Prepared 2011 Brazos G Regional Water Plan will also be included.

TASK 2.SELECT REVISIONS OF POPULATION AND WATER DEMAND PROJECTIONS

Population and municipal water demand projections will not be updated for all municipal WUGs during this round of regional planning. Updates are also not planned for manufacturing, mining, irrigation, and livestock WUGs.

The TWDB commissioned a study to project water needed for steam-electric power generation, and the results of this study will be used by the TWDB to revise steam-electric water demands. These new steam-electric demands will be incorporated into the 2011 planning process.

Several WUGs within the Brazos G Area have experienced growth since 2000 that reflects migration rates greatly exceeding those experienced between the 1990 and 2000 Censuses. Several have reported year 2007 populations exceeding the year 2010 or 2020 projections. The BGRWPG will review requests from municipal WUGs to revise the current population and water demand projections, and will compile those and forward to the TWDB for review and approval. It is anticipated that, with approval from TWDB, these WUGs will have updated population and water demand projections for the 2011 Plan.

Two of the five Phase 1 studies are examining water demand projections and recommended water management strategies for Johnson County (Phase I, Study No. 4) and McLennan County (Phase I, Study No. 5). The BGRWPG anticipates that demand revisions arising from these studies will be considered favorably by the TWDB.

a. **Review municipal population and water demand estimates.**

Many counties and metropolitan areas in the Brazos G Area have experienced growth that appears to exceed the 2006 Plan projections. It is anticipated that revisions to population and water demand projections are justified for many WUGs within these areas. There are two categories of population and demand revisions:

1. The Brazos G RWPG will request that the TWDB provide revised population and water demand projections for those WUGs for which the year 2007 population estimate significantly exceeds a 2007 estimate determined as a straight-line interpolation between year 2000 and the 2010 projection utilized in the 2006 Plan (see table below). These revised projections might require revisions to other WUG projections in order to maintain county-wide and regional totals. The BGRWPG will consider these potential population and demand revisions, and will consider requesting the TWDB to adopt revised projections for some or all of those WUGs. If the TWDB concurs, the BGRWPG will update the necessary planning

documents and data and utilize the revised projections in the 2011 Plan.

2. In addition, the joint Phase 1 study with Region C (Four-County Study) indicates that revised population and water demand projections for entities in Johnson County might also be warranted. Region G will prepare proposed population and demand revisions for consideration/comment by TWDB and the BGRWPG. The BGRWPG will then consider these potential population and demand revisions, and will consider requesting the TWDB to adopt the revised projections for some or all of those WUGs (see table below).

The following 39 WUGs have been identified as potentially justifying an increase in population and water demands for the 2011 Region G Water Plan.

| WUG | County | Reason for Increase |
|--|---------------|---|
| KILLEEN | Bell | Greater than 5% in 2007 |
| LAMPASAS | Bell | Greater than 5% in 2007 |
| MORGANS POINT RESORT | Bell | Greater than 5% in 2007 |
| NOLANVILLE | Bell | Greater than 5% in 2007 |
| CLYDE | Callahan | Greater than 5% in 2007 |
| EASTLAND | Eastland | Greater than 5% in 2007 |
| HUBBARD | Hill | Greater than 5% in 2007 |
| ITASCA | Hill | Greater than 5% in 2007 |
| GRANBURY | Hood | Greater than 5% in 2007 |
| TOLAR | Hood | Greater than 5% in 2007 |
| ALVARADO | Johnson | Phase 1 Four-County Study and Greater than 5% in 2007 |
| BETHANY WSC | Johnson | Phase 1 Four-County Study |
| BURLESON | Johnson | Phase 1 Four-County Study and Greater than 5% in 2007 |
| CLEBURNE | Johnson | Phase 1 Four-County Study |
| GRANDVIEW | Johnson | Phase 1 Four-County Study and Greater than 5% in 2007 |
| JCSUD | Johnson | Phase 1 Four-County Study |
| JOHNSON COUNTY MANUFACTURING | Johnson | Phase 1 Four-County Study |
| JOHNSON COUNTY STEAM-ELECTRIC | Johnson | Phase 1 Four-County Study |
| JOHNSON COUNTY MINING | Johnson | Phase 1 Four-County Study |
| JOSHUA | Johnson | Phase 1 Four-County Study and Greater than 5% in 2007 |
| KEENE | Johnson | Greater than 5% in 2007 |
| MANSFIELD | Johnson | Phase 1 Four-County Study |
| MOUNTAIN PEAK SUD | Johnson | Phase 1 Four-County Study |
| PARKER WSC (recommended to have lower population and | Johnson | Phase 1 Four-County Study |

| | | |
|--------------------------------------|------------|---|
| water demands than 2006 projections) | | |
| RIO VISTA | Johnson | Greater than 5% in 2007 |
| VENUS | Johnson | Phase 1 Four-County Study and Greater than 5% in 2007 |
| ROBINSON | McLennan | Greater than 5% in 2007 |
| VALLEY MILLS | McLennan | Greater than 5% in 2007 |
| CAMERON | Milam | Greater than 5% in 2007 |
| GLEN ROSE | Somervell | Greater than 5% in 2007 |
| CEDAR PARK | Williamson | Greater than 5% in 2007 |
| FLORENCE | Williamson | Greater than 5% in 2007 |
| GEORGETOWN | Williamson | Greater than 5% in 2007 |
| GRANGER | Williamson | Greater than 5% in 2007 |
| HUTTO | Williamson | Greater than 5% in 2007 |
| LEANDER | Williamson | Greater than 5% in 2007 |
| ROUND ROCK | Williamson | Greater than 5% in 2007 |
| TAYLOR | Williamson | Greater than 5% in 2007 |
| THRALL | Williamson | Greater than 5% in 2007 |

Upon approval/adoption by the TWDB of population and water demand projections, the appropriate summaries for municipal WUGs and WWPs will be updated. Included in this budget estimate is preparation and presentation of the potential revised population and water demand projections at a regularly scheduled BGRWPG meeting for the BGRWPD to consider the revision request.

- b. **Include population and water demand projections for new municipal WUGs.** Include projections of population and water demands for new WUGs and water demand projections for WWPs. Update WWP contractual obligations to supply water and report along with projected demands for these new WUGs. The TWDB has identified six cities that have grown to a size sufficient to be included as WUGs that now serve populations sufficient to be classified as WUGs. These additional WUGs need to be incorporated into the 2011 Plan using projections provided by TWDB.
- c. **Update WWP contractual information.** Contact each of the approximately 23 WWPs in the Brazos G Area and obtain up-to-date contractual obligation information. Contact WUGs identified as supplying water to others and obtain up-to-date contractual information. Update summaries of contractual obligations for each WWP and WUG, and develop updated, projected water demands for each based upon WUG projections and contractual obligations
- d. **Summarize decadal water demand projections for all WUGs and WWPs.** Update decadal projections of water demands for all WUGs (municipal and other) and WWPs, and summarize by WUG, WWP,

county, and river basin within the Brazos G Area. Coordinate projections with adjacent regions where WUGs are located in multiple regions. Complete and enter revisions of water demand projections into the TWDB Regional Water Planning Data Web Interface. Includes summarizing decadal water demand projections for all WUGs and WWPs identified in the 2006 Plan and summarizing decadal water demands for new WUGs that were not identified in the 2006 Plan.

- e. **Compile water demand information for presentation at BGRWPG meetings.** Prepare information and present at one (1) BGRWPG meeting as necessary to convey the information to the BGRWPG and obtain approval of water demands for WUGs and WWPs to be used in the 2011 Plan.

TASK 3 ***WATER SUPPLY ANALYSES***

Estimates of groundwater and surface water supplies will be updated based upon changed conditions. Changed conditions affecting groundwater supplies include updates to groundwater availability information due to new or updated Groundwater Availability Models (GAMs), timely determinations of Managed Available Groundwater from Groundwater Management Areas (GMAs), determination of a Priority Groundwater Management Area by the TCEQ, and development of new groundwater wells for water supply. Changed conditions affecting surface water supplies include updates to TCEQ Water Availability Models (WAMs), issuance of new water rights or water rights amendments, new droughts of record reducing safe or firm yields of reservoirs and minimum annual diversions available to run-of-the-river water rights, new reservoir sedimentation surveys changing the assumed storage capacities of major reservoirs, changes to wastewater effluent discharged to rivers and streams due to direct and indirect reuse, and adoption of revised strategies for management of surface water resources by owners of surface water storage and diversion facilities.

TASK 3A. WATER SUPPLY ANALYSES (GROUND WATER)

- a. **Update groundwater availability estimates pursuant to GMA processes.** Update estimates of groundwater availability by aquifer and county in areas for which the GMA process has provided timely estimates of Managed Available Groundwater (MAG must be provided to the BGRWPG by September 30, 2008), and in areas designated by TCEQ as Priority Groundwater Management Areas
- b. **Update groundwater availability information pursuant to revised or updated GAM information for the Carrizo-Wilcox and**

Trinity GAMs. Advise and assist the BGRWPG in selecting and updating estimates of groundwater availability by aquifer and county in areas with associated with the Carrizo-Wilcox and Trinity GAMs. Advise the BGRWPG if updates to groundwater availability information is warranted using the updated GAM information, considering also the current status regarding selection of Desired Future Conditions and Managed Available Groundwater in GMA areas associated with those aquifers. If the GMA processes have progressed to points where it is reasonable to coordinate updated GAM information with the GMA processes in those areas, GAM modeling will likely be consistent with the most likely Desired Future Conditions to be selected by the respective GMAs. Includes evaluating updated GAM information and the current status of the applicable GMA processes and reporting recommendations to the BGRWPG and utilizing GAMs to update water availability estimates for aquifers and counties aquifers and counties in Brazos G covered by the Trinity and Carrizo-Wilcox GAMs.

- c. **Update groundwater supplies based on constructed well capacities.** Obtain updated lists of groundwater supply wells from the TWDB database and TCEQ database of public water suppliers. Update estimates of current groundwater supply (groundwater availability constrained by constructed well capacities) for WUGs and WWPs. Contact WUGs and WWPs for which groundwater supplies changed more than 10 percent from the 2006 Plan to confirm updated groundwater supply estimates.
- d. **Assist BGRWPG in coordinating groundwater supply estimates with local interests.** Compile groundwater availability and supply information by source, basin, county, and region to obtain estimates of groundwater supply. Prepare summaries to present to the BGRWPG. Assist the BGRWPG in coordinating groundwater supply estimates with local interests, including groundwater conservation districts, GMA process representatives, and WUGs and WWPs utilizing groundwater for supply. Incorporate groundwater availability information from current Phase I, Study No. 2 investigating water supplies in the Nolan County area. Compile information for meetings with BGRWPG and/or other meetings with local interests. Coordinate with interested entities, including TWDB groundwater staff, if needed, and participate in up to four meetings, including up to three meetings with those interests, and one meeting to present the results to the BGRWPG.

TASK 3B. WATER SUPPLY ANALYSES (SURFACE WATER)

- a. **Select hydrologic assumptions and operational practices to be included in the Brazos G WAM.** Provide technical support to the

BGRWPG in the selection of hydrologic assumptions and operational procedures for modeling the Brazos River Basin in a manner appropriate for assessment of current surface water supply and regional water planning purposes, similar to those used for the 2006 Plan. Assist the BGRWPG in obtaining Executive Administrator approval of the WAM modifications.

- b. **Update Brazos G Water Availability Model (Brazos G WAM) to reflect new water rights and revised operational practices.** Compare new water rights granted since development of the surface water availability information for the 2006 Plan to the rights included in the existing Brazos G WAM, which is the water availability model used to provide estimates of surface water availability in the Brazos River Basin for the 2006 Plan. Modify the Brazos G WAM to reflect these new water rights in a manner consistent with the needs of water supply planning. Update the modeling of existing water rights to reflect more current water management practices than might be reflected in the 2006 Plan. Include water rights granted or amended up through December 2008. Make the additions to the Brazos G WAM model necessary for use in developing the 2011 Plan.
- c. **Update Brazos G WAM to reflect new estimates of reservoir sedimentation in major reservoirs.** Acquire reservoir sedimentation surveys completed by the TWDB for major reservoirs in the Brazos River Basin since 2005, and revise estimates of reservoir sedimentation for year 2000 and year 2060. Update Brazos G WAM to reflect the updated information.
- d. **Update Brazos G WAM to reflect latest information concerning the BRA's System Operations Permit.** Obtain from the BRA and the TCEQ the latest information (as of December 2008) concerning the BRA's System Operations Permit and incorporate it into the Brazos G WAM, either as a water management strategy or as a current supply, as most appropriate given the status of the permit application process at the time.
- e. **Apply the updated Brazos G WAM to revise estimates of water supply to water rights.** Apply the Brazos G WAM to estimate water supplies available from water rights in the Brazos River Basin. Estimate water available to run-of-the-river rights according to TWDB guidance. Estimate water available to reservoir water rights based upon firm yield or safe yield, according to the historical practices and preferences of the WUGs or WWP's receiving supply from each reservoir. Estimate supplies available to rights in Brazos G that are upstream of Possum Kingdom Reservoir according to the updated drought of record analysis pursuant to Study No. 1.

- f. **Compile surface water supplies to water rights and assign to WUGs and WWPs.** Compile firm yield and diversion information from the Brazos G WAM (as coordinated with adjacent regions) by Source, Water User Group, Wholesale Water Provider, county, river basin, and planning region to obtain decadal estimates of surface water supply throughout the planning period. Water supplies based on contractual agreements will be assumed to renew at the contract termination date.
- g. **Evaluate feasibility of alternative safe yield estimates as a planning concept to account for potential climate variability.** Safe yield concepts are utilized widely in West Texas to provide protection from the effects of a future drought that may be worse than the drought of record. Most concepts assume that a volume equivalent to a one-year supply remains in storage during the critical month of the drought of record analysis. Some entities utilize a 6-month safe yield estimate. The potential for increased climatic variability has been a recent concern; however, little can be predicted accurately that would form a solid basis for changing the hydrologic data contained in current WAMs to account for climatic variability. Any such changes would be speculative at best. An alternative approach is to revise the concept of safe yield to allow for periods longer than one year of supply remaining in storage to provide an additional level of protection. For supplies from reservoirs in the western portion of the region that are more susceptible to drought, and for all WUGs and WWPs solely dependent on supplies from smaller reservoirs (less than 10,000 acft capacity), calculate 2- and 3-year safe yield estimates in addition to firm and/or 1-year safe yields. At the request of local entities, utilize 2- or 3-year safe yields as a basis for supply.
- h. **Coordinate surface water availability analyses with adjacent regions and TWDB staff.** Provide Brazos G WAM results and model data sets to adjacent regions utilizing surface water supplies from the Brazos River Basin. Coordinate supplies to be divided between regions. Provide data sets and summaries of analyses to TWDB modeling staff. Includes compiling and providing Brazos G WAM data sets to Regions O, C, and H, and to TWDB staff with minimal coordination upon completion of surface water availability analyses. Includes coordination with technical representatives from Regions O, C and H, and TWDB staff, through phone calls and email. Coordination of surface water supplies is important, as existing Region H run-of-river rights are in excess of 450,000 acre-feet/year; existing BRA contracts with entities in Region H total approximately 153,000 acre-feet/year and are supplied from sources located in Brazos G; and recommended water management strategies in the 2006 Region H Plan include approximately 175,000 acre-feet/year of additional water to be supplied primarily from sources in Brazos G

TASK 3C. DEVELOP FINAL ESTIMATES OF WATER SUPPLY

1. **Determine infrastructure constraints to utilization of groundwater and surface water supplies.** Compile TCEQ Water System Data Reports for municipal Water User Groups and identify any physical constraints limiting use of available supplies. Includes compiling system capacity constraints, which will be used to determine water availability and to help identify and refine specific water management strategies requiring simple increases in infrastructure capacity.
2. **Determine supplies available from current wastewater reuse systems.** Research and quantify existing supplies available from direct and indirect reuse of treated wastewater effluent in the Brazos G Area. Develop this information as an additional source of supply in the Brazos G Area.
3. **Planning Group Updates.** Prepare information to summarize and present ongoing water supply analyses to the BGRWPG. Prepare for up to a total of four (4) meetings to present water supply information to the BGRWPG, including the Groundwater and Surface Water Committees. Includes compiling all water supply analyses and presenting at one (1) meeting of the BGRWPG and preparing for and presenting interim analyses at up to three (3) additional BGRWPG meetings, including the Groundwater and Surface Water Committees and full BGRWPG meetings
4. **Update TWDB Database.** Complete and update required data elements for the TWDB Regional Water Planning Data Web Interface. Includes entering the data required for the new WUGs not identified in the 2006 Plan.

TASK 4

IDENTIFICATION, EVALUATION AND SELECTION OF WATER MANAGEMENT STRATEGIES BASED ON NEEDS

Task 4 involves the quantification of projected needs for additional water supply; identification, technical evaluation, and selection of recommended and alternative water management strategies to meet projected needs; and assessment of the cumulative effects of implementation of the 2011 Plan. Technical evaluations of water management strategies in the 2011 Plan will be at the same level of detail and follow a similar pattern to evaluations completed in the 2006 Plan. For water management strategies being continued from the 2006 Plan to the 2011 Plan, only costs and developed supply (using updated Brazos G

WAM and/or groundwater availability information, as appropriate), will be updated, in addition to review and revision to ensure that plan elements necessary to qualify for funding under the TWDB's Water Infrastructure Funding program are included in the 2011 Plan. No additional analysis of existing water management strategies will be completed, except as described herein.

TASK 4A.

IDENTIFY WATER MANAGEMENT STRATEGIES, UPDATE WATER NEEDS, AND COMPILE INFORMATION ON PLANNED WATER MANAGEMENT STRATEGIES.

- a. **Identify potentially feasible water management strategies.** Document the process for how potentially feasible strategies were identified, mostly during the development of the 2006 Plan, and during the development of the scopes of work for Phases 1 and 2 of the 2011 Plan.
- b. **Update water needs for Water User Groups and Wholesale Water Providers.** Based on updated supplies and demands (Tasks 2 and 3), update water needs (shortages) for all WUGs, and WWPs, and compile on a decadal basis. Develop summaries of needs (shortages) presented by WUG, WWP, county, river basin and region. Includes all WUGs and WWPs identified in the 2006 Plan and approximately 6 additional municipal WUGs formerly aggregated in the County-Other category.
- c. **Solicit and compile information on water management strategies planned by WUGs and WWPs.** Based on updated needs, solicit information from each of the WUGs and WWPs regarding future water supply plans to meet the projected needs. Include request for information concerning conservation programs and their effectiveness. Select recommended and alternative water management strategies based upon feedback received. Compile and report the information to the BGRWPG.
- d. **Update information concerning existing recommended and alternative water management strategies evaluated in the 2006 Plan.** For each water management strategy selected as a recommended or alternative strategy, for which a full evaluation was performed for the 2006 Plan, update costs and supplies developed, and other information that may change as a result of new WAM or GAM information. Review each water management strategy for each municipal WUG and WWP to identify project elements that may not be included in the evaluation performed in 2006, e.g., specific mention and costing of intakes, treatment plants, pipelines and pump stations that may be eligible for TWDB Water Infrastructure Fund participation. Add those elements to the evaluations. For strategies involving purchase of new or additional water supplies from

existing sources, develop a separate report section in Volume II of the Plan describing pipeline, pump station, treatment and other miscellaneous infrastructure capital costs necessary to physically deliver the water supplies. There are approximately 40 cases in the 2006 Plan where capital costs for specific infrastructure elements were not included. Base funds will be used to Includes updating supplies and costs for approximately 61 strategies identified in the 2006 Plan

Some additional infrastructure elements may also need to be identified and cost estimates updated. Includes identifying and costing specific infrastructure elements not called out in the existing plan for approximately 40 WUGs and WWPs, where the 2006 Plan identifies only an estimated annual cost for treated water and does not identify specific capital cost elements. WUGs and WWPs will be contacted to determine new infrastructure needs as a part of this task. Includes developing an additional report section in Volume II summarizing the capital cost elements for the individual strategies.

TASK 4B.

UPDATE WATER MANAGEMENT STRATEGIES

Update additional water management strategies. The following potential water management strategies have been identified since the completion of the 2006 Plan, or are mentioned as alternative strategies in the 2006 Plan without having full evaluations completed:

- a. **Coryell County Reservoir.** The Department of the Army has been expanding operations on Fort Hood, which traditionally has impacted the Bell County area. However, the facility extends into Coryell County and significant growth is expected in the vicinity of Fort Hood in Coryell County as the base expands operations in that sector. Current water supplies in Coryell are limited, as recently stated by the TCEQ, which has recommended that Coryell County be included in a Priority Groundwater Management Area: "...the delivery of alternative surface supplies is not projected to be economically feasible." The Court has requested that Brazos G evaluate a new water supply reservoir that at one time was recommended by the US Army Corps of Engineers on Cowhouse Creek in either Coryell or Hamilton Counties. This task would perform a full water management strategy evaluation of the propose reservoir as a potential source of supply to meet needs in the Coryell County area. Includes evaluating this water management strategy to meet the needs that are anticipated to be identified in the 2011 Plan for Coryell County entities.
- b. **Stonewall, Garza and Kent County Chloride Control Project.** Representatives from Stonewall, Kent and Garza Counties, operating under

the name of the Salt Fork Water Quality Corporation, with cooperation of the Brazos River Authority, are studying the feasibility of installing shallow recovery wells that would intercept chloride-laden groundwater before it discharges to major salt water-producing seeps and springs, and would lower the artesian pressure of the underlying saline aquifer so that the seeps and springs cease to flow. It is estimated that brine control at the site proposed in Stonewall County would reduce chloride concentration in the Brazos River above Possum Kingdom Reservoir by 45 percent. Similar recovery wells installed in Kent County would reduce chloride concentrations in the Brazos River by an additional 10 – 15 percent. The brine would then be transferred to a solar salt evaporation facility near Post, Texas where the salt would be produced for commercial use. This strategy is an expansion of Chloride Control Option 3, which was studied for the 2001 Brazos G Regional Water Plan. It is a water management strategy recommended for the Brazos River Authority in both the 2001 and 2006 Plans. The tasks will be completed for the water management strategy evaluation:

- i. Identify and quantify current sources of elevated chlorides in the Brazos River.
 - ii. Prepare a basin-wide salinity mass balance using recently-implemented features in WRAP to model salinity under the Brazos G assumptions and implementation of the recommended water plan. Estimate and include the effects of brine disposal from existing desalination facilities. If feasible, estimate and include the effects of secondary recovery by oilfields, such as has been attributed to salt seeps observed in Hubbard Creek Reservoir.
 - iii. Summarize and characterize the effects of salinity on water supplies for municipal, irrigation, and some industrial uses in the Brazos River Basin.
 - iv. Evaluate the upper basin chloride control project, based on the project's projected salinity removal rates, and determine its overall impacts using the salinity balance feature in WRAP.
 - v. Complete environmental evaluation of the project, including consideration of the impacts of chloride reduction on endangered/threatened species dependant on saline surface water.
- c. **Reallocation of storage in Federal Reservoirs.** The BRA and the US Army Corps of Engineers have completed Phase 1 of a study to investigate the feasibility of reallocating a portion of flood storage to water supply in certain Federal reservoirs. The agencies have identified Lake Aquilla as the current preferred alternative, and are proceeding with additional studies. This task will coordinate with the BRA and the Corps and incorporate the results of that study into a water management strategy evaluation. The BGRWPG will obtain the latest information resulting from the study, including potential increases in reservoir yield, impacts to downstream streamflows, and impacts to cultural and environmental resources in the elevated conservation pool. The BGRWPG will also obtain updated cost information regarding the proposed

project and develop cost estimates that are consistent with regional water planning guidelines. The BGRWPG will prepare a water management strategy section to be included in Volume II. Evaluation of Water Management Strategies.

- d. **Update Lake Granger Conjunctive Use Project.** The BRA is pursuing the Lake Granger Conjunctive Use Project. In the 2006 Plan, evaluation of this water management strategy considered commingling groundwater with surface water in Lake Granger. Consideration should also be given to a non-commingled storage component. This task will update the strategy (supplies developed, costs and infrastructure) to expand the analysis by evaluating the project without commingling, and has decided that commingling of groundwater and surface water is not the preferred configuration for the project. This task will update the strategy (supplies developed, costs and infrastructure) to expand the analysis by evaluating the project without commingling. The analysis will be based upon updated analyses to be provided by the BRA.
- e. **BRA Main-Stem Supplies to tributary areas.** Much of the growth in water demands in Brazos G is occurring in tributary areas, away from the main stem of the Brazos River. This task will evaluate up to five projects to supply water needs in tributary areas with BRA System supply piped from the main stem of the Brazos River. Potential areas could include Comanche, Limestone, Hill and Johnson Counties as described below, as well as others that will be identified through further consultation with BRA and identification of changed needs.
 - i. Johnson/Hill County Area – 5,000 acre-feet/year for municipal use, delivered to and treated near Lake Aquilla. This will provide an alternative for comparison to the Lake Aquilla Storage Reallocation Study currently being performed by the BRA and the U.S. Army Corps of Engineers.
 - ii. Limestone County – 25,000 acre-feet/year for steam-electric use.
 - iii. Comanche County – 6,000 acre-feet/year to restore yield lost due to new drought of record.
- f. **Update Advanced Conservation Strategies.** Utilize the existing strategy information developed for the 2006 Plan to update the supplies developed from advanced conservation to match updated water demands and needs. Utilize the updated results as water management strategies for municipal WUGs.
- g. **Update Brushy Creek Reservoir Evaluation.** Brushy Creek Reservoir is identified as a recommended water management strategy for the City of Marlin. A full evaluation was performed for the 2001 Plan, but not the 2006 Plan. Implementation of the project has been continuing. This task will update information based on the most current level of development of the

project, and complete a full water management strategy evaluation of the propose reservoir. Project yield and infrastructure costs will be updated. Cost estimates will include information regarding existing land acquisition expenses already incurred during project development, and will account for Federal (NRCS) participation in the project related to flood control benefits, including the necessary inclusion of upstream flood retarding structures on Big Creek.

- h. **Abilene Water Supply from Possum Kingdom Reservoir.** Coordinate with the BRA and the City of Abilene to obtain current costs and configurations for this project, which is listed as an alternative strategy but was not evaluated fully in the 2006 Plan.

TASK 4C.

EVALUATE ADDITIONAL WATER MANAGEMENT STRATEGIES

- a. **Evaluate additional water management strategies that are identified as potentially feasible in Task 4A.** Assume that three such strategies have not yet been identified, but that will require full evaluation for consideration as recommended or alternative water management strategies due to changed conditions for WUGs or WWP. These water management strategies will be “larger” projects that could be recommended for multiple WUGs, and are likely regional in nature as opposed to the more local projects identified in subtask b (below).
- b. **Identify and Evaluate Water Management Strategies for New WUGs with Needs.** The 2011 Plan will identify an additional 6 WUGs that were formerly aggregated in the County-Other category. This task will identify and recommend water management strategies for these WUGs that have needs. The budget assumes that these new WUGs will have needs and require identification and selection of water management strategies.

TASK 4D.

ADDITIONAL WMS AND PLAN UPDATES

- a. **Compile and include water management strategies arising from Phase 1 studies.** The Phase 1 studies are evaluating water management strategies in the Nolan, Johnson, and McLennan county areas, as well as identifying two potential regional partnerships of small systems. Compile and include the information from these studies into the 2011 Plan, as needed.
- b. **Summarize and present results to BGRWPG.** Summarize and present the results of water needs assessments and water management

strategy evaluations at meetings of the BGRWPG, and provide technical support as the BGRWPG selects recommended and alternative strategies to meet needs. Includes preparation and participation in three (3) meetings of the BGRWPG to 1; Present needs assessments; 2. Present evaluations of water management strategies; and 3. Select appropriate water management strategies to meet projected needs.

c. **Revise and/or update water supply plans for each WUG and WWP.**

Update plans for existing WUGs identified in the 2006 Plan and include new WUGs (and possibly WWPs) not included in the 2006 Plan.

d. **Socio-economic Impacts of not Meeting Needs.** Using technical information provided by the TWDB, update and summarize the potential social and economic effects of not meeting the projected water needs.

e. **TWDB Database Update.** Complete and update required data elements in the TWDB Regional Water Planning Data Web Interface regarding needs and recommended water management strategies. Including: updating the database for existing WUGs identified in the 2006 Plan; and for new WUGs (and possibly WWPs) not included in the 2006 Plan.

TASK 5.

IMPACTS OF SELECTED WATER MANAGEMENT STRATEGIES ON KEY PARAMETERS OF WATER QUALITY AND IMPACTS OF MOVING WATER FROM RURAL AND AGRICULTURAL AREAS.

a. **Impacts on Key Parameters of Water Quality.** Provide technical assistance to the BGRWPG to update the list of key water quality parameters identified in the 2006 Plan. Describe the potential effects of implementation of the 2011 RWP on selected key parameters of water quality in the 2006 RWP, in response to changed conditions and new recommended water management strategies. Includes assisting the BGRWPG with revising this list of parameters at a BGRWPG meeting.

b. **Impacts of Moving Water from Rural and Agricultural Areas.** None of the strategies in the 2006 Plan involved transferring water from agricultural users. Review new recommended strategies in the 2011 Plan and reassess this determination. Utilize optional funds to address this issue if it arises for the 2011 Plan.

TASK 6.
WATER CONSERVATION AND DROUGHT MANAGEMENT
RECOMMENDATIONS.

- a. **Water Conservation and Drought Management Recommendations.** Update the summary of water conservation and drought management recommendations in the 2006 Plan for inclusion in the 2011 Plan.
- b. **Water Conservation and Drought Contingency Plans.** Solicit example water conservation and drought contingency plans for inclusion as an appendix in the 2011 Plan report. Obtain and select one plan of each and prepare appendix.

TASK 7.
DESCRIPTION OF HOW THE REGIONAL WATER PLAN IS CONSISTENT
WITH LONG-TERM PROTECTION OF THE STATE'S WATER,
AGRICULTURAL, AND NATURAL RESOURCES.

Assess Plan's Effects. Apply surface water availability models (WAMs and GAMs) to simulate hydrologic conditions representative of full implementation of the 2011 Plan. Illustrate expected changes in streamflows. Prepare and present summaries to the BGRWPG. Document analysis within the context of the 2006 Plan with comparisons to the 2006 Plan's effects.

TASK 8.
RECOMMENDATIONS REGARDING UNIQUE STREAM SEGMENTS AND/OR
RESERVOIR SITES AND LEGISLATIVE & REGIONAL POLICY ISSUES.

- a. **Recommendations regarding policy issues.** Assist the BGRWPG with consideration of regional policy issues and development of recommendations for legislative, administrative, and regulatory rule changes. Base funding allows for attendance and participation in two BGRWPG meetings.
- b. **Designation of unique stream segments and reservoir sites.** Assist the BGRWPG with selecting and documenting any unique stream segments and/or unique reservoir sites ultimately adopted for inclusion in the 2011 Plan. Base funds allow for development of a summary of the issues and a presentation at a BGRWPG meeting.

TASK 9.
REPORT TO LEGISLATURE ON WATER INFRASTRUCTURE FUNDING RECOMMENDATIONS.

Perform survey and develop funding recommendations. Assist the BGRWPG in the performance of an infrastructure funding survey based on the Water Management Strategies included in the 2011 Plan, follow-up on responses, summarize the responses, and document in accordance with TWDB guidance. Assist the BGRWPG with the development of recommendations regarding the proposed role of the State in financing projects identified in the 2011 Plan at a single BGRWPG meeting.

TASK 10
PLAN ADOPTION AND RELATED ITEMS.

TASK 10A.
DEVELOP INITIALLY PREPARED PLAN

- a. **Draft Initially Prepared 2011 Plan (IPP).** Assemble a Draft Initially Prepared 2011 Plan in early 2010 for review and comment by the public and regional interests.
- b. **Present Draft IPP at Subregional Meetings.** Prior to formal adoption of the IPP by the BGRWPG, prepare summaries and present the Draft IPP at three subregional meetings, located in the Upper, Middle and Lower portions of the Brazos G Area. Obtain input from the public and other interested parties and assist the BGRWPG in revising the IPP as necessary to reflect the comments received. The geographic extent of the Brazos G Area (37 counties) often precludes direct, in-person contact and feedback from many who find it problematic to travel the great distance to Waco, where the BGRWPG meeting are typically held.
- c. **Resolve internal and inter-regional conflicts.** Assist the BGRWPG and TWDB in inter-regional cooperation efforts, timely resolution of any internal or inter-regional conflicts, and/or resolution of conflicts regarding water management strategies or groundwater availability estimates for the IPP.
- d. **Finalize TWDB database entry.** Complete and update required data elements in the TWDB Regional Water Planning Data Web Interface. Resolve database conflicts with adjacent regions sharing water supply sources, WUGs and WWPs.

- e. **Finalize IPP and submit to TWDB.** Pursuant to TWDB rules and guidance, assemble and complete the Initially Prepared 2011 Plan in early 2010 for review and comment by the public, TWDB, and other local, regional, State, and Federal interests. Present the IPP at a public hearing held by the BGRWPG.

TASK 10B.

ADOPTION OF PLAN

- a. **Finalize 2011 Plan.** Coordinate revision of the IPP in response to review comments received from the TWDB, resource agencies, water purveyors, interested organizations, and the public. Finalize the 2011 Plan for adoption by the BGRWPG and approval by the TWDB. Present review comments and suggested responses at up to two BGRWPG meetings, in addition to the final meeting when the 2011 Plan is adopted.
- b. **Meetings.** The budgets associated with the previous Tasks are sufficient to provide for consultant attendance at, and participation in, a maximum of 12 BGRWPG meetings as well as all other meetings required to complete the tasks.
- c. **Website maintenance.** Maintain the Brazos G Regional Water Planning Group website (brazosgwater.org). Assist with posting and formatting information on the website.

TASK 10C.

SCOPE OF WORK DEVELOPMENT

The technical consultant will advise and assist the BGRWPG in developing the scope of work for Phase 2 of the 2011 regional water planning cycle. Activities include preparation for and attendance at Scope of Work Committee meetings (a minimum of two), preparation for and attendance at BGRWPG meetings to present and discuss the scope of work, coordination with BRA, TWDB, and interested parties regarding Base, Required, and Optional elements to be included in the scope of work..

TASK 10D.

ADMINISTRATION EXPENSES

- ◆ Other administrative expenses by the Brazos River Authority.
- ◆ Travel costs for regional water planning group members.