

**Proposed Modifications to the Scope of Work  
for the 2006 Brazos G Regional Water Plan  
to Evaluate Brazos River Authority System Operation**

HDR Engineering, Inc.  
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The Brazos River Authority (BRA) has requested that System Operation be considered as a water management strategy for the 2006 Brazos G Regional Water Plan (2006 Plan). The following describes additional work items and budgets recommended to provide the information necessary for the Brazos G Regional Water Planning Group to fully evaluate BRA System Operation as a water management strategy. System operation could make additional water available for appropriation beyond the supplies already permitted by existing water rights held by the BRA.

**Task 1. Incorporate BRA system modeling strategies into the Brazos G WAM**

**Budget: \$12,000.**

Modify the existing Brazos G WAM by adding system operation components to the Brazos G WAM model so that the assumptions used in analyzing the availability from the potential system operation are equivalent to those used to develop water availability estimates and to evaluate potential water management strategies for the 2006 Plan. This involves adding specific data to the existing Brazos G WAM that describe how the BRA reservoir system is to be operated in order to meet common downstream demands, and how it is to utilize system efficiency gains, return flows and unappropriated flows entering the watershed below the BRA reservoirs to meet anticipated future demands.

**Task 2. Determine water availability from the BRA system and costs necessary to utilize this water as a specific water management strategy for WUGs with needs**

**Budget: \$34,400.**

2.1 – Identify WUGs with needs that could potentially be satisfied by the additional system water available. **In consultation with BRA, identify up to 10 WUGs for which specific strategies are to be developed or regional projects to serve multiple WUGs.**

2.2 – Using the revised Brazos G WAM from Task 1, determine the amount of water that is available at each of the potential diversion locations that could be used to meet the needs.

2.3 – In consultation with the BRA, determine the likely raw water cost of the additional system water.

2.4 – Estimate the facilities and operational costs of diversion, transmission and treatment in order for the BRA system water to be utilized to meet each need.

2.5 – Compare cost of utilizing the BRA system water with other potential water management strategies considered by the BGRWPG.

**Task 3. Analyze the effects of the additional appropriation under BRA System Operation on water management strategies to be evaluated in the 2006 plan**

**Budget: \$37,700.**

These include both strategies evaluated and included in the 2001 plan, as well as those "new" strategies that were not evaluated in the 2001 plan. This would be accomplished in the following three subtasks:

3(a). Evaluate up to ten (10) strategies with and without BRA System Operation in place. The difference would be the effect of the additional water appropriated by the BRA System Operation on that specific water management strategy. For example, what is the yield of the Millican, Little River, Breckenridge and Double Mountain Fork Reservoirs both with and without the BRA System Operation in place?

3(b). Evaluate the effect of incorporating up to five (5) proposed water management strategies into the BRA system. This would include, for example, analysis of how operation of Millican and Little River Reservoirs within the BRA system would increase the BRA system yield.

3(c). Evaluate the effect of operating up to five (5) existing water supplies in coordination with the BRA system. This would include, for example, analysis of how operation of Lake Waco or Hubbard Creek Reservoir in coordination with the BRA System could increase overall water supply in the Brazos Basin. HDR will obtain written authorization from the local entity owning the facility or owning water rights in the facility prior to commencing with the analysis.

**Total Not to Exceed Budget for Proposed Additional Scope of Work Items: \$84,100.**