Texas Water Development Board
Research and Planning Fund
Regional Water Planning Grant

Application Checklist

I. GENERAL INFORMATION

☑ 1. Legal name of applicant(s)

☑ 2. Regional Water Planning Group:

☑ 3. Authority of law under which the applicant was created.

☑ 4. Applicant's official representative, Name, Title, Mailing address, Phone number, Fax number, E-mail Address, and Vendor ID Number.

☑ 5. Is this application in response to a Request for Applications published in the *Texas Register*?
Yes ☑ No ☐

☑ 6. If yes to No. 5 above, list document number and date of publication of the *Texas Register*.

☑ 7. Total proposed planning cost

☑ 8. Cash contribution to the study.

☑ 9. List source of cash contribution, explanation of source of local cash contribution

☑ 10. Total grant funds requested from the Texas Water Development Board.

☑ 11. Detailed statement of the purpose for which the money will be used.

☑ 12 Detailed description of why state funding assistance is needed.

☑ 13. Identify potential sources and amounts of funding available for implementation of viable solutions resulting from proposed planning.

II. PLANNING INFORMATION

☑ 14. A detailed scope of work for proposed planning.

☑ 15. A task budget for detailed scope of work by task. *Example is attached*

☑ 16. An expense budget for detailed scope of work by expense category *Example is attached*

☑ 17. A time schedule for completing detailed Scope of Work by task.

☑ 18. Specific deliverables for each task in Scope of Work.

☑ 19. Method of monitoring study progress

☑ 20. Qualifications and direct experience of proposed project staff

III. WRITTEN ASSURANCES

Written assurance of the following items:

- ☑ Proposed planning does not duplicate existing projects;
- ☑ Implementation of viable solutions identified through the proposed planning will be diligently pursued and identification of potential sources of funding for implementation of viable solutions;
- ☑ If a grant is awarded, written evidence that local matching funds are available for the proposed planning must be provided when the contract is executed.

IV. PROOF OF NOTIFICATION

- ☑ Proof of notification

  For developing or revising regional water plans, eligible applicants requesting funds to develop or revise regional water plans must, not less than 30 days before board consideration of the application, provide notice that an application for planning assistance is being filed with the executive administrator by:

  (1) publishing notice once in a newspaper of general circulation in each county located in whole or in part in the regional water planning area; and

  (2) mailing notice to each mayor of a municipality with a population of 1,000 or more or which is a county seat and that is located in whole or in part in the regional water planning area, to each county judge of a county located in whole or in part in the regional water planning area, to all districts and authorities created under Texas Constitution, Article III, §52, or Article XVI, §59, located in whole or in part in the regional water planning area based upon lists of such water districts and river authorities obtained from Texas Commission on Environmental Quality, and all regional water planning groups in the state.

The notice must include the following:

- ☑ Name and address of applicant and applicant's official representative;
- ☑ Brief description of proposed planning area;
- ☐ Purpose of the proposed planning;
- ☑ Texas Water Development Board Executive Administrator's name and address; and
- ☑ Statement that any comments on the proposed planning must be filed with the applicant and the Texas Water Development Board Executive Administrator within 30 days of the date on which the notice was mailed or published.

Prior to action by the board, the applicant must provide one copy of the notice sent, a list of those to which the notice was sent, the date on which the notice was sent, copies of all notices as published showing name of the newspaper and the date on which the notice was published

APPLICATION FOR
REGIONAL WATER PLANNING GRANT

PHASE II FOR PREPARATION OF THE
2011 COASTAL BEND REGIONAL WATER PLAN

Submitted to:

The Texas Water Development Board

Submitted by:

The Nueces River Authority

On behalf of:

Coastal Bend Regional Water Planning Group
Region "N"

June 12, 2008

Application for a Regional Water Planning Grant for Development
Of the 2011 Coastal Bend Regional Water Plan

I. General Information

(1) Legal name of applicant(s):
Nueces River Authority on behalf of the Coastal Bend Regional Water Planning Group (Coastal Bend RWPG)

(2) Regional Water Planning Group:
Coastal Bend RWPG (Region N)

(3) Authority of law under which the applicant was created:
The Nueces River Authority, created in 1935 by special act of the 44th Texas Legislature codified as Article 8280-115 (Texas Water Code Auxiliary Laws, as amended), was designated by the Coastal Bend RWPG at their regular meeting on April 9, 1998 as the political subdivision to represent the Coastal Bend RWPG (See **Attachment A-1**).

On May 22, 2008 the Coastal Bend RWPG directed the Nueces River Authority to submit an application for the second biennium funding cycle (Phase II of Third Round) for planning activities related to revising and updating the Coastal Bend Regional Water Plan for development of the 2011 Coastal Bend Regional Water Plan (See affidavit by Coastal Bend RWPG authorizing submittal of application in **Attachment A-2**).

(4) Applicant's official representative:
The official representative for the Nueces River Authority and the Coastal Bend RWPG for the purpose of this application is:

Mr. Con Mims, Executive Director
Nueces River Authority
P.O. Box 349
Uvalde, Texas 78802-0349
Phone: 830-278-6810; Fax: 830-278-2025
Email: *cmims@nueces-ra.org*
Tax ID: 74-1666349

(5) Application in response to a Request for Applications published in the Texas Register:
Yes

(6) Document Number and Date of Publication of the Texas Register:
TRD-200800727, RWP RFP, 33 TexReg 1463; February 15, 2008.

(7) Total proposed planning cost: $773,760

(8) Cash contribution to the study: $180,000

(9) List source of cash contribution, explanation of source of local cash contribution: Cash contributions are solicited yearly from participating political subdivisions based on population, using a $0.1109 per capita rate.

(10) Total grant funds requested from the Texas Water Development Board: $593,760

(11) Detailed statement of the purpose for which the money will be used

The regional water planning grant funds hereby requested will be used for reimbursement of expenses associated with planning activities for the revision and update of the Coastal Bend Regional Water Plan in accordance with Texas Water Code §16.053 and 31 Texas Administrative Code (TAC) Chapter 357 guidelines. The 2011 Coastal Bend Regional Water Plan will include updates due to changed conditions and incorporate results from region-specific studies conducted during first two years of this planning cycle. The Coastal Bend Planning Group requests full base funding allocated to Region N by the Texas Water Development Board's January 22, 2008 letter[1] in an amount of $151,310 to be used for proposed, eligible work activities as described in the enclosed detailed scope.

In consideration of Senate Bill 1 objectives and necessary work to address future local water supply needs, the Coastal Bend Planning Group requests additional funding of $442,450 for development of the 2011 Coastal Bend Regional Water Plan. The additional funds will be used to perform region-specific work tasks to address regional water supply needs with efficient use of existing and future water supplies, enhance water quality for water conservation, perform prudent evaluation of watershed changes that may affect water supplies, and interregional coordination.

Cash contributions by participating political subdivisions will be used to fund direct expenses incurred by the Nueces River Authority in administering the regional planning revision program on behalf of the Coastal Bend RWPG. An additional $10,000 for Nueces River Authority administrative activities is included in the additional funding request of $442,450 as shown above. The direct expenses of the Nueces River Authority include: salaries, benefits, travel, and other expenses (printing costs, publication of notices, postage for mailing of notices and other materials, phone and long distance charges, office supplies, rental of facilities for public meetings, etc).

1 TWDB, RE: Request to Publish a Request for Applications in the Texas Register for the Second Phase of the Third Cycle of Regional Water Planning, January 22, 2008.

(12) Detailed description of why state funding assistance is needed

Pursuant to Senate Bill 1 (1997) Texas was divided into 16 water planning regions by the TWDB, with each region required to develop and adopt a regional water plan in 2001, and every 5 years thereafter. In response to Senate Bill 1, as amended, the Coastal Bend Region (Region N) has developed regional water plans for 2001, and 2006, and is currently in the first phase of developing the 2011 Coastal Bend Regional Water Plan.

Regional water planning is outside the financial ability and obligation of any one entity within the region. Accordingly, the Texas Legislature has appropriated funding resources for regional water planning activities pursuant to Senate Bill 1 according to guidelines in 31 TAC Chapter 357. The requested regional water planning grant funds are needed so that all water users groups and water suppliers in the planning area are equally evaluated, ensuring that reasonable water management strategies are considered and recommended for each water user group and/or entity.

(13) Identify potential sources and amounts of funding available for implementation of viable solutions resulting from proposed planning.

When it is economically feasible, local water user groups who would benefit from implemented water projects are expected to contribute to financing those facilities needed from their own resources. State loans and state or federal participation assistance can also be available, as needed. A primary source of funding for implementation of viable solutions as a result of the proposed planning is through the Texas Water Development Board's Financial Assistance Program. Other funding sources include the US Army Corps of Engineers (on projects that are also identified in the Nueces Basin Feasibility Study) and the Texas State Soil and Water Conservation Board.

II. Planning Information

(14) A detailed scope of work for proposed planning.

Scope of Work: In response to Texas Water Development Board (TWDB) Request for Application for RWP and 33 TexReg 1463 February 15, 2008 Texas Register, the Coastal Bend RWPG presents the following scope of work for consideration by the TWDB. The proposed scope of work and budgets are presented for base- funding and additional funding activities according to Tasks 0 – 10 as identified by TWDB Attachment C-Guidance for Preparation of Scope of Work for Phase II of the Third Round of Regional Water Planning.

Although not required by the TWDB, the Coastal Bend RWPG felt that it would be beneficial to prioritize projects with the understanding that additional funding is limited and that this ranking may be useful to the TWDB. The prioritization of scope of work tasks by the Coastal Bend RWPG is included at the end of the scope and precedes (15) task budget.

Task 0: Scope of Work Development

Base Funding Request (from Task 10): $10,000

Task 1: Planning Area Description [31 TAC §357.7(a)(1)]

- Update agriculture and economic data summaries to reflect most current information readily available;
- Update water quality concerns based on 2008 Nueces River Authority's Basin Summary Report;
- Summarize 2006 Plan activities;
- Update status of water resources planning, including Groundwater Management Area (GMA) activities in Region N;
- Add water conservation targets for entities that submitted Water Conservation and Drought Contingency Plans;
- Add information compiled by TWDB from water loss audits performed by retail public utilities pursuant to [31 TAC §358.6].

Base Funding Request: $10,000

Task 2: Population and Water Demand Projections [31 TAC §357.7(a)(2)]

There are minimal updates anticipated for this section since the next census is not scheduled until 2010. Population and water demands will generally be the same as those shown in the 2006 Plan.

- Review, coordination, and integration of new water demand projections for steam-electric power water users, which are estimated to be provided by the TWDB in August 2008;
- Update water demand projections and TWDB database in response to changed conditions.

Base Funding Request: $6,400

Task 3 (Base): Evaluation of Existing Water Supply [31 TAC §357.7(a)(3)]

- Provide technical support to the Coastal Bend RWPG including discussion of available surface water models for the area (TCEQ Water Availability Model (WAM) for the Nueces Basin and City of Corpus Christi Water Supply Model) including hydrologic assumptions, reservoir system operation considerations, and TCEQ 2001 Agreed Order requirements for pass-thrus to the Nueces Bay and Estuary. Assist the Coastal Bend RWPG in obtaining Executive Administrator approval to use alternative approach to TCEQ WAM Run 3 (no return flows) to estimate yields of surface water supplies;
- Provide technical support to the Coastal Bend RWPG in response to TWDB guidance to base existing surface water supplies on firm yield. Based on previous studies of inflow reductions to the Choke Canyon Reservoir/ Lake Corpus Christi (CCR/LCC) System, the Coastal Bend RWPG selected a safe yield analysis for the 2006 Plan to determine available surface water supplies. This provision of considering safe yield rather than firm yield supplies, allowed a designated amount of water to remain in storage in the event that a future drought event is worse than the drought of record. Assist the Coastal Bend RWPG in obtaining Executive Administrator approval to use safe yield analysis;

- Update TWDB database for surface water and groundwater supplies.

Base Funding Request: $5,100*

* Base funding request is estimated to be sufficient with use of the City of Corpus ChristiWater Supply Model for evaluating surface water availability. If the TWDB does not approve the request and mandates use of the TCEQ WAM Run 3 then additional funding will need to be requested.

Task 3 (Additional): Incorporating Managed Available Groundwater Supplies in the Coastal Bend Regional Water Plan

GMA 16 is in the process of providing desired future conditions for groundwater development. Provided that Region N receives managed available groundwater information from the TWDB by the end of November 2008, revised groundwater supplies will need to be considered for the 2011 Coastal Bend Regional Water Plan.

1. Coordination with Groundwater Management Areas to ensure that new Managed Available Groundwater volumes reflect their desired future conditions and intentions for inclusion in the 2011 Coastal Bend Regional Water Plan.

Additional Funding Request: $4,690

2. Coordination with the TWDB to address local historical groundwater issues and formatting compatibility with incorporating Managed Available Groundwater in the 2011 Coastal Bend Regional Water Plan.

Additional Funding Request: $6,700

3. Update groundwater supplies, and recalculate projected water surplus/needs for groundwater water user groups.

Additional Funding Request: $8,610

Base Funding Request: $0
Additional Funding Request: $20,000

Task 3 Base Funding Request: $5,100
Task 3 Additional Funding Request: $20,000
Task 3 Total Request: $25,100

Task 4 (Base): Identification of Water Needs and Selection of Water Management Strategies

- Update capital cost estimates to second quarter 2007 Engineering News Record (ENR) Construction Cost Index (CCI) for all water management strategies. Update annual costs to reflect updated power and capital/debt service costs per TWDB guidelines (i.e. 0.09 $/kWh);
- Update Stage II Lake Texana evaluation based on studies conducted by Region P;
- Based upon updated projection of steam-electric demands, revise and update computations of needs (shortages);

- Update yields of water management strategies and resulting computations of shortages (needs) based on results of Phase I region-specific studies. Revise water management strategy yields for the off-channel reservoir, CCR/LCC pipeline, groundwater supplies in Bee County, and others due to changes in routing, capacity, or system operations based on priority topic studies developed in Phase I of Third Round, as a result of changed conditions since 2006 Plan. Revise recommended water management strategy, as needed.

Base Funding Request: $7,800

Task 4 (Additional): Identification, Evaluation and Selection of Water Management Strategies

Currently, five (5) studies are being conducted as part of Phase I (Region N Studies 1 through 5) with funds provided by TWDB for Task 4 activities. The Phase II of Third Round request continues with sequential numbering of proposed Task 4 projects, beginning with Study 6 as shown below.

Lower Nueces River Water Quality (Studies 6 & 7)

Background: Previous studies have indicated a significant increase in the concentration of dissolved minerals in the Lower Nueces River over about a 35 river mile stretch, between Mathis and the Calallen Saltwater Barrier Dam. Chloride concentrations in the Lower Nueces River at Calallen Pool, just upstream of the Calallen Saltwater Barrier, are on the average 2.5 times the level of chlorides in water released from Lake Corpus Christi. These dissolved mineral increases can be attributed to natural seepage of groundwater from the Gulf Coast Aquifer, enhanced mineralization of Lake Corpus Christi water when stored over large period of time, and man-made periodic discharges of salty water likely from sand and gravel operations.

Based on recent preliminary results of a current Region N study, raw water from Lake Texana and the Colorado River near Bay City contain average chloride levels of 16 mg/L and 61 mg/L respectively, *which is about 60 to 90% less than the average chloride levels in Lower Nueces River raw water* of 163 mg/L. The City of Corpus Christi, San Patricio Municipal Water District (SPMWD), South Texas Water Authority (STWA), and their customers receive contracted supplies via the Mary Rhodes Pipeline from Lake Texana which improves water quality when blended with Nueces River supplies and are considering additional projects in the Lavaca-Navidad and Colorado Basins to increase supply and maintain or improve water quality (Garwood, Groundwater, Stage II Lake Texana).

There are industries and a public water provider with intakes located in the Calallen Pool that do not currently have access to water supplies from the Mary Rhodes Pipeline. By evaluating options to (1) provide supplies from Mary Rhodes Pipeline to users with intakes in Calallen Pool and/or (2) evaluate system operations of Lake Corpus Christi based on water quality, overall regional water supplies become more reliable with a reduction in water consumption and treatment costs.

Task 4 (Addl) Study 6: **Evaluation of Pipeline Inter-connects to Provide Access to Water from the Mary Rhodes Pipeline to Water Providers near Calallen**

6-1. Conduct meetings with Flint Hills, Celanese, and others with intakes in Calallen Pool area that do not currently have access to Mary Rhodes Pipeline supplies to identify specific water quality concerns, obtain records of their water quality data (as available), and collect other pertinent data.

Additional Funding Request: $10,808

6-2. Water Quality Analysis

- Identify water quality constituents of interest for evaluation;
- Perform analysis of available water quality and corresponding streamflow data to determine seasonal or other patterns in water quality.

Additional Funding Request: $11,514

6-3. Evaluate up to five scenarios considering existing supplies from Lake Texana, with and without three future water management strategies for delivery by the Mary Rhodes Pipeline (Garwood, Stage II of Lake Texana, and/or Gulf Coast Aquifer). One strategy will consider all four possible sources, up to pipeline capacity.

Determine for each scenario:

- Estimated water quality improvement
- Additional water supply and/or improvement to the efficiency of treatment (treated water: raw water ratio)
- Project costs, including pipeline to connect Mary Rhodes Pipeline to approximate site of intake locations.

Additional Funding Request: $32,267

6-4. Conduct follow-up meetings with wholesale water providers and industries to present results and gather feedback and determine interest and project participation. Conduct two meetings with Coastal Bend RWPG to present results and receive feedback.

Additional Funding Request: $8,580

6-5. Prepare a draft report for the Initially Prepared Plan and final report for the 2011 Coastal Bend Regional Water Plan to be submitted per TWDB requirements.

Additional Funding Request: $15,131

Task 4- Study 6 Base Funding Request: $0
Task 4- Study 6 Additional Funding Request: $78,300
Task 4- Study 6 Total Funding Request: $78,300

Task 4 (Addl) Study 7: **Evaluation of Strategies for Management of Water Supply and Operation of Lake Corpus Christi to Improve Water Quality**

7-1. Compile available water quality data for the Lower Nueces River near intakes and compare to inflows to Lake Corpus Christi, reservoir levels, and Lake Corpus Christi operations.

Additional Funding Request: $7,208

7-2. Groundwater Inflow Analysis

- Research and compile groundwater quality data available from the TWDB database for areas around Lake Corpus Christi and previous groundwater quality study results from the USGS and others;
- Perform analysis to develop estimates of seasonal and annual groundwater inflow to Lake Corpus Christi and Calallen Pool;
- Identify impact of groundwater inflow on Lake Corpus Christi water quality based on hydrologic conditions, including reservoir levels and/or rainfall events.

Additional Funding Request: $21,049

7-3. Meet with the City of Corpus Christi and other interests to discuss groundwater inflow considerations and select up to three target levels for total dissolved solids/chlorides at Lower Nueces River at Calallen Pool.

Additional Funding Request: $6,882

7-4. Update model code to include groundwater inflow component to calculate total dissolved solids and chloride concentrations for Lake Corpus Christi and Calallen Pool.

Additional Funding Request: $10,351

7-5. Conduct model runs with the Corpus Christi Water Supply Model to determine necessary Lake Corpus Christi releases to meet target levels and resulting impacts to storage capacity (based on total dissolved solid /chloride loading relationships identified in on-going Region N Study 4).

Additional Funding Request: $11,957

7-6. Update model code in the Corpus Christi Water Supply Model so that Lake Corpus Christi releases increase when water quality in the Calallen Pool is worse than selected targets.

Additional Funding Request: $19,165

7-7. Evaluation of Reservoir System Operations

- Evaluate potential changes to the current operation of Choke Canyon Reservoir/ Lake Corpus Christi System (CCR/LCC), and with potential future water management strategies in the Nueces River Basin (Off-Channel Reservoir) to improve water quality and increase water supply. Identify additional operational considerations such as evaporation, additional groundwater seepage, and others;
- Evaluate changes in operations of Mary Rhodes Pipeline.

Additional Funding Request: $15,686

7-8. Meet with stakeholders (City of Corpus Christi, Nueces County WCID#3 (Robstown), SPMWD, STWA) to discuss the results of the study, and benefits and potential impacts with changes to their system operations.

Additional Funding Request: $7,185

7-9. Compare results of Study 6 and Study 7 with respect to:

- Estimated water quality improvement
- Additional system yield and/or improvement to the efficiency of treatment (treated water: raw water ratio)
- Project costs, including pipeline to connect Mary Rhodes Pipeline to approximate site of intake locations.

Additional Funding Request: $12,772

7-10. Conduct two meetings with Coastal Bend RWPG to present results and provide feedback.
Additional Funding Request: $9,095

7-11. Prepare a draft report for the Initially Prepared Plan and final report for the 2011 Coastal Bend Regional Water Plan to be submitted per TWDB requirements.
Additional Funding Request: $16,550

Task 4- Study 7 Base Funding Request: $0
Task 4- Study 7 Additional Funding Request: $137,900
Task 4- Study 7 Total Funding Request: $137,900

Impacts of Climate and Watershed Changes

Background: The Nueces Basin has received progressively less inflow with each successive drought period. This reduces reservoir system yield, and due to uncertainty of the severity of future droughts the 2006 Plan included provisions for safe yield supplies, which retains a certain amount in reservoir storage during the critical month of the drought of record. The safe yield analyses in the 2006 Plan assume a reserve of 75,000 acft (i.e. 7% CCR/LCC System storage) for future drought conditions which is generally equivalent to about 6 months of supply.

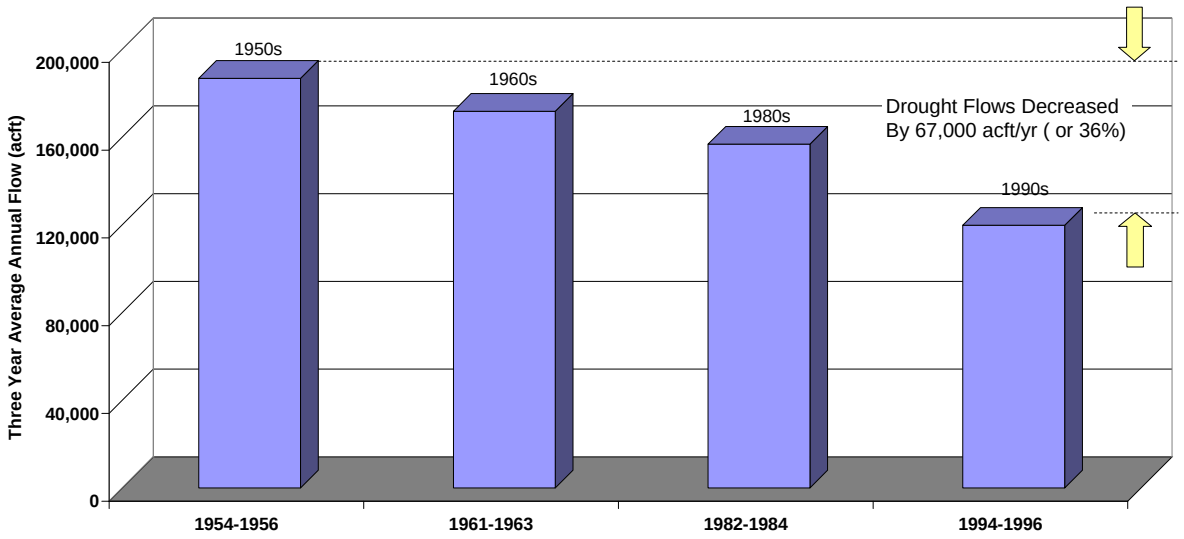

Figure 2- Historical Changes in Average Annual Reservoir System Inflows

Task 4 (Addl) Study 8: **Evaluation of CCR/LCC Reservoir System Yields to Evaluate Impacts of Climate and Watershed Changes**

8-1. Evaluation of Historical Reservoir System Yields

- Evaluate decadal inflow to Choke Canyon Reservoir and Lake Corpus ChristiCC and precipitation patterns since 1950, including wet and drought events.
- Calculate the change in firm and safe yields of the CCR/LCC reservoir system occurring between the 1950's and 1990's droughts to determine if the current volume of storage reserve in the system (about 6 months) is adequate to protect against a future drought which could be worse than previous droughts due to climate change or other changes in the Nueces River watershed.

Additional Funding Request: $11,885

8-2. Summarize results of the study. Conduct one meeting with Coastal Bend RWPG to present results and receive feedback.

Additional Funding Request: $3,700

8-3. Prepare a draft report for the Initially Prepared Plan and final report for the 2011 Coastal Bend Regional Water Plan to be submitted per TWDB requirements.

Additional Funding Request: $9,415

Task 4- Study 8 Base Funding Request: $0
Task 4- Study 8 Additional Funding Request: $25,000
Task 4- Study 8 Total Funding Request: $25,000

Continue Evaluation of Off-Channel Reservoir

Background: The proposed off-channel reservoir near Lake Corpus Christi was recommended as a water management strategy in the 2006 Plan. Currently, the off-channel reservoir is being studied as part of Phase I region-specific studies (Study 2) to evaluate site conditions (size and location) and reservoir operations to optimize the project yield and minimize environmental impacts. As part of a full evaluation of the off-channel reservoir, the Coastal Bend RWPG subcommittee recommended identifying the property owner(s) for proposed off-channel reservoir site.

Task 4 (Addl) Study 9: **Evaluating Land Ownership within Proposed Off-Channel Reservoir Site**

- Based on the off-channel reservoir site location identified by the on-going Phase I study, obtain most recently available property maps for consideration of size and number of properties within proposed off-channel area;
- Prepare letter to be addressed to property owners potentially impacted by the off-channel reservoir to include, identification of project, site specific advantages, and other issues. Present draft letter to Coastal Bend RWPG for review and approval. Send letter to property owner(s) and receive feedback regarding project interest;

- Report results to Coastal Bend RWPG, and include appropriate update in off-channel reservoir write-up for Initially Prepared Plan and 2011 Coastal Bend Regional Water Plan.

Task 4- Study 9 Base Funding Request: $0
Task 4- Study 9 Additional Funding Request: $15,000
Task 4- Study 9 Total Funding Request: $15,000

CCR/LCC System Yield Enhancement Due to Increases in Biological Productivity from Treated Wastewater Diversions

Background: The TCEQ 2001 Agreed Order (Agreed Order) includes provisions for operating the CCR/LCC system and requires monthly pass-thrus based on system inflows to provide fresh water to the Nueces Bay and Estuary for aquatic health. Per the Agreed Order, the City of Corpus Christi constructed the Rincon pipeline to provide freshwater directly to the Nueces Delta and are in the process of development of an operations plan. Currently, the Agreed Order includes a credit of 500 acft per month for treated waste-water return flows from the Allison Water Treatment Plant to the Nueces Bay and Estuary but does not provide credit for measureable enhancements of biological productivity in the Nueces Bay and Estuary especially Nueces Delta Area.

Task 4 (Addl) Study 10: **Updates to CCR/LCC System Yields Through Modification of TCEQ Agreed Order for Reservoir System Operations**

- Evaluation of potential increases in yield of the CCR/LCC reservoir system if multipliers were allowed by Nueces Estuary Advisory Council (NEAC) and TCEQ under Agreed Order for increases in biological productivity associated with: a) the discharge of treated waste-water to the Nueces River Delta; or b) the discharge of water into the Delta through the City's new Rincon pump station and pipeline.

Task 4- Study 10 Base Funding Request: $0
Task 4- Study 10 Additional Funding Request: $30,000
Task 4- Study 10 Total Funding Request: $30,000

Brackish Groundwater Desalination

Background: In previous water plans, brackish groundwater desalination was considered as a water management strategy to meet future water needs. A detailed analysis of brackish groundwater desalination was included in the 2001 Plan, which was carried forward in the 2006 Plan with cost updates but limited additional analysis due to funding constraints. Several brackish groundwater treatment scenarios were identified including combining with seawater desalination, as well as a brackish groundwater only option (without seawater desalination) with concentrate disposal using Barney Davis Power Station outfall. Combining brackish groundwater and seawater desalination reduces costs by 25 – 30% ($835 – $986 per acft) as compared to seawater desalination alone ($1,190 – $1,341 per acft). Furthermore, stand-alone brackish groundwater treatment reduces cost by an additional 11 -19% to $678 to $874 per acft depending on delivery option, which is also ½ the unit cost of seawater desalination overall. Brackish groundwater has the benefits of needing little or no pretreatment, has lower concentrations of salinity than seawater, and could have more direct, lower cost brine disposal options.

Previous plans identified three potential brackish groundwater wellfields in Nueces County: one northwest of Robstown (Northwest Well Field), one in south central Nueces County west of the Barney Davis Power Station (South-Central Well Field), and one southeast of the Barney Davis Power Station (Coastal Well Field). Based on TWDB database information, total dissolved solids were estimated to range from 2,000 to 2,500 mg/L at the Northwest and South Central Well Fields and ranges from 5,000 to 20,000 mg/L at the Coastal Well Field.

For the 2001 Plan (as included in the 2006 Plan), a generalized local, groundwater model of Goliad Sands was used to calculate the availability of groundwater from these well fields. Since the 2001 Plan, the Central Gulf Coast Groundwater Availability Model (CGCGAM) has been developed by the TWDB to evaluate groundwater availability.

Task 4 (Addl) Study 11: **Evaluation of Opportunities for Brackish Groundwater Desalination**

11-1. Identify drawdown criteria from GMA 16 and other aquifer considerations for brackish groundwater well field(s) consistent with GMA desired future conditions. Conduct an aquifer sensitivity analysis using the Partially Penetrating version of the CGCGAM to determine impacts of groundwater pumping on groundwater levels within proposed well fields or other areas identified by the Coastal Bend RWPG including surrounding area such as the City of Kingsville.

Additional Funding Request: $8,040

11-2. Perform analysis using the CGCGAM for two groundwater wellfield sites as identified in the 2006 Plan, or other locations identified by the Coastal Bend RWPG. Update estimates for the amount of brackish groundwater available and estimate water quality using TWDB water quality database. Consider impacts of potential intrusion of saline groundwater and land surface subsidence.

Additional Funding Request: $27,277

11-3. Revise proposed location for brackish desalination water treatment plant, if necessary. Evaluate up to two potential sites for groundwater desalination treatment plant, including costs for concentrate disposal.

Additional Funding Request: $9,027

11-4. Update capital and annual costs of brackish groundwater desalination. Update previous analysis with combination of groundwater and seawater desalination based on revised brackish groundwater availability, sizing considerations, and treatment plant locations.

Additional Funding Request: $12,028

11-5. Evaluate environmental impacts of brackish groundwater desalination at proposed well field and water treatment plant locations, including concentrate disposal considerations.

Additional Funding Request: $9,845

11-6. Two meetings to present results to Coastal Bend RWPG and receive feedback.

Additional Funding Request: $9,150

11-7. Prepare a draft report for the Initially Prepared Plan and final report for the 2011 Coastal Bend Regional Water Plan to be submitted per TWDB requirements.

Additional Funding Request: $16,833

Task 4- Study 11 Base Funding Request: $0
Task 4- Study 11 Additional Funding Request: $92,200
Task 4- Study 11 Total Funding Request: $92,200

Task 4 Base Funding Request: $7,800
Task 4 Additional Funding Request (Studies 6-11): $378,400
Task 4 Total Request: $386,200

Task 5: Impacts of Water Management Strategies on Water Quality

- Incorporate and address water quality results from the Gulf Coast groundwater study for transmission through the Mary Rhodes Pipeline (Study No. 1) and Water Quality Modeling of the Regional Water Supply System (Study No. 4) developed in Phase I of Third Round. Address additional water quality issues associated with water management strategies developed in the second biennium funding cycle (such as Calallen Pool).

Base Funding Request: $3,410

Task 6: Conservation and Drought Management

- Update the summary of water conservation and drought management recommendations from 2006 Plan, include adding information for current water conservation practices in the region collected from water conservation BMP surveys (21 respondents) from Phase I studies;
- Update list of entities that have submitted drought management plans, since development of the 2006 Plan;
- Include existing Model Water Conservation and Drought Contingency Plans as appendices in 2011 Plan.

Base Funding Request: $10,000

Task 7: Description of How the Regional Water Plan is Consistent with Long-term

Protection of State's Water, Agricultural, and Natural Resources

- Update documentation of the consistency of the 2011 Plan with goals of long-term protection of water, agricultural, and natural resources with results from the five Phase I region-specific projects, including project specific updates of environmental impacts;
- Assist Coastal Bend RWPG in identifying specific resources important to planning areas and describe how these resources are protected through the regional water planning process;
- Update regional initiatives to respond to drought conditions, including revisions to safe yield analysis to account for impacts of climate and watershed changes (contingent on available funding to study "Study 9- Impacts of Climate and Watershed Studies" as described with Additional Funding Activities).

Base Funding Request: $10,000

Task 8: Unique Reservoir/ Stream Segments and Other Legislative Recommendations

- Assist the Coastal Bend RWPG with consideration of regional policy issues and development of regulatory, administrative, or legislative recommendations to facilitate the evaluation, management, and conservation of water resources in Texas;
- Assist the Coastal Bend RWPG with documentation of any unique stream segments or unique reservoir sites for inclusion in the 2011 Plan, including consideration of Palmetto Bend – Stage II and Nueces Off-Channel Reservoir per 2007 State Water Plan.

Base Funding Request: $15,000

Task 9: Water Infrastructure Funding

- Assist Coastal Bend RWPG with infrastructure funding survey and compilation of responses.

Base Funding Request: $1,800

Task 10.1: Adoption of Plan and Public Participation

- Scope of Work Development (Base Funding Request: $10,000)
- Development of one newsletter for public information;
- Assemble Initially Prepared 2011 Plan for public review and comment per TWDB rules and guidance;
- Assist RWPG with responses to comments and revisions to Initially Prepared Plan;
- Assemble 2011 Plan for RWPG adoption and TWDB approval;
- Assist the Coastal Bend RWPG in verification of integration of the 2011 Plan into the 2012 State Water Plan.
- Project Administration activities, coordination, public notice, and attendance at public participation meetings.

Task 10.1 Cost:	**$261,800**
Local Cash Contribution to NRA by Political Subdivisions*:	**− $180,000**
Task 10.1 Funding Requested:	**$81,800**

Task 10.1 Base Funding Request (With $10,000 removed for Scope of Work- Task 0):$71,800
Task 10.1 Additional Funding Request (for Administration Activities):$10,000

*****Note: Nueces River Authority administration activities, coordination, direct costs for placing public notices in newspapers for public hearings, cost of postage for mailing notices, providing meeting materials to voting and non-voting members is funded by cash contribution of $180,000 by political subdivisions. An additional $10,000 is requested by the TWDB for Nueces River Authority administration activities.

Task 10.2- 10.4 (additional): Adoption of Plan and Public Participation

Interregional Coordination

Background: Nearby regional water planning areas (Region L and Region P) are developing water management strategies that may impact Region N water supplies. Although most of their projects are in the early stages of development, interregional coordination early in project development is essential to identify and resolve significant issues that may impact the success of projects. Surface water supply projects are being considered in the Upper Nueces Basin in Region L that may impact flows into the CCR/LCC System and hence impact Region N system yields.

Region P is considering Stage II of Lake Texana, which was identified as a unique reservoir site in the 2007 State Water Plan and priority site in TWDB Reservoir Site Protection Study. The Lavaca Navidad River Authority (LNRA) is looking for participants to develop Stage II of Lake Texana, which was recommended in the 2006 Region N Plan to provide future water supplies to the City of Corpus Christi and their customers.

The Edwards Aquifer Recovery Implementation Program (EARIP) includes "voluntary, multi-stakeholder initiatives that seek to balance water use and development with the recovery of federally listed species" as presented on their website. EARIP participants began meeting in February 2007 and

typically meet on a monthly basis to discuss policy information, scientific research, education, habitat restoration, and other activities.

10.2 Interregional Coordination with Region L and Additional Surface Water Availability Runs

- Meeting(s) with Region L Executive Committee members to discuss opportunities for co-operation on seawater desalination and other Corps of Engineers projects including mitigation options for recharge projects;
- Review Region L water management strategy updates and results of changes to Nueces and Frio streamflow that may impact Region N, attributable to surface water supply development in the Upper Nueces Basin. Update associated flow files in the City of Corpus Christi Water Supply Model, as necessary;
- Provide information to Coastal Bend RWPG regarding opportunities to jointly develop water supplies with Region L, and quantify changes in system yield and potential mitigation options associated with recharge projects.

10.2 Base Funding Request: $0
10.2 Additional Funding Request: $20,000
10.2 Total Funding Request: $20,000

10.3 Interregional Coordination with Region P

- Meeting(s) with Region P Executive Committee members or LNRA management to discuss opportunities for co-operation concerning Stage II of Lake Texana;
- Provide information to Coastal Bend RWPG regarding opportunities to jointly develop water supplies with Region P. Conduct two meetings with Coastal Bend RWPG and/or designated subcommittee.

10.3 Base Funding Request: $0
10.3 Additional Funding Request: $10,000
10.3 Total Funding Request: $10,000

10.4 Coordination with Edwards Aquifer Recovery Implementation Program

- Attendance of EARIP meetings by Region N representative (up to 27 meetings, calculated as one meeting per month from June 2008 to August 2010). NOTE: Additional Funding Request includes travel expenses at $150 per meeting (i.e. rental car, fuel, etc). Report results to Coastal Bend RWPG.

10.4 Base Funding Request: $0
10.4 Additional Funding Request: $4,050
10.4 Total Funding Request: $4,050

Task 10 Base Funding Request: $71,800
Task 10 Additional Funding Request (10.1-10.4): $44,050
Task 10 Total Request: $115,850

Total Base Funding Request:	**$151,310**
Total Additional Funding Request:	**$442,450**
Total Request:	**$593,760**

Prioritization of Additional Funding Request Scope of Work Tasks by Coastal Bend Regional Water Planning Group:

Priority Number 1: Task 4 Study 7 - Evaluation of Strategies for Management of Water Supply and Operation of Lake Corpus Christi to Improve Water Quality;
Priority Number 2: Task 4 Study 6 - Evaluation of Pipeline Inter-connects to Provide Access to Water from the Mary Rhodes Pipeline to Water Providers near Calallen;
Priority Number 3: Task 3 (addl) - Incorporating Managed Available Groundwater Supplies in 2011 Plan;
Priority Number 4: Task 4 Study 10 - Updates to CCR/LCC System Yields Through Modifications to TCEQ Agreed Order for Reservoir System;
Priority Number 5: Task 4 Study 8 - Evaluation of CCR/LCC Reservoir System Yields to Evaluate Impacts of Climate and Watershed Changes;
Priority Number 6: Task 4 Study 11 - Evaluation of Opportunities for Brackish Groundwater Desalination;
Priority Number 7: Task 4 Study 9 - Evaluating Land Ownership within Proposed Off-Channel Reservoir Site;
Priority Number 8: Task 10.2 - Interregional Coordination with Region L and Additional Surface Water Availability Runs;
Priority Number 9: Task 10.3 - Interregional Coordination with Region P; and
Priority Number 10: Task 10.4 - Coordination with Edwards Aquifer Recovery Implementation Program.

(15) A task budget for detailed scope of work by task

TASK BUDGET BY PRIORITY TOPICS

Task	Task Description	Base Funding Request	Additional Request	Total Request
Task 0	Scope of Work (Includes Scope Development)	$10,000	$0	$10,000
Task 1	Planning Area Description	$10,000	$0	$10,000
Task 2	Population and Water Demand Projections	$6,400	$0	$6,400
Task 3 (base)	Evaluation of Existing Water Supply	$5,100	$0	
Task 3 (addl)	Incorporating Managed Available Groundwater Supplies in 2011 Plan	$0	$20,000	--
Task 3 Total		$5,100	$20,000	$25,100
Task 4 (base)	Identification, Evaluation, and Selection of Water Management Strategies	$7,800	$0	--
Task 4 (addl) Study 6	Evaluation of Pipeline Inter-connects to Provide Access to Water from the Mary Rhodes Pipeline to Water Providers near Calallen	$0	$78,300	--
Task 4 (addl) Study 7	Evaluation of Strategies for Management of Water Supply and Operation of Lake Corpus Christi to Improve Water Quality	$0	$137,900*	--
Task 4 (addl) Study 8	Evaluation of CCR/LCC reservoir system yields to evaluate impacts of climate and watershed changes	$0	$25,000	--
Task 4 (addl) Study 9	Evaluating Land Ownership within Proposed Off-Channel Reservoir Site	$0	$15,000	--
Task 4 (addl) Study 10	Updates to CCR/LCC System Yields Through Modification of TCEQ Agreed Order for Reservoir System Operations	$0	$30,000	--
Task 4 (addl) Study 11	Evaluation of Opportunities for Brackish Groundwater Desalination	$0	$92,200	--
Task 4 Total		$7,800	$378,400	$386,200
Task 5	Impacts of Selected Water Management Strategies on Key Parameters of Water Quality and Impacts of Moving Water from Rural and Agricultural Areas	$3,410	$0	$3,410
Task 6	Water Conservation and Drought Management Recommendations	$10,000	$0	$10,000
Task 7	Description of How the Regional Water Plan is Consistent with Long-term Protection of the State's Water, Agricultural, and Natural Resources	$10,000	$0	$10,000
Task 8	Recommendations Regarding Unique Stream Segments and/or Reservoir Sites and Legislative & Regional Policy Issues	$15,000	$0	$15,000
Task 9	Infrastructure Funding Recommendations	$1,800	$0	$1,800
Task 10.1	Plan Adoption and Other Items	$71,800	$10,000	--
Task 10.2	Interregional Coordination with Region L and Additional Surface Water Availability Runs	$0	$20,000	--
Task 10.3	Interregional Coordination with Region P	$0	$10,000	--
Task 10.4	Coordination with Edwards Aquifer Recovery Implementation Program	$0	$4,050	--
Task 10 Total		$71,800	$44,050	$115,850
Grand Total		$151,310	$ 442,450	$593,760

(16) An expense budget for detailed scope of work by expense category

Category	Total Amount Requested	Subcontract
Salaries and Wages	$5,000	$179,395
Fringe	$1,100	$80,728
Travel	$300	$2,671
Other Expenses	$1,570	$29,376
Subcontract Services	*$583,760*	
Overhead	$2,030	$233,214
Voting Planning Member Travel		
Profit		$58,376
TOTAL	$593,760	*$583,760*

(17) A time schedule for completing detailed Scope of Work by task

Tasks	Months (1-6)	Months (7-12)	Months (13-18)	Months (19-24)
Task 0 – Completed 6/13/2008				
Task 1				
Task 2				
Task 3 (base)				
Task 3 (addl)				
Task 4 (base)				
Task 4 (addl) Study 6				
Task 4 (addl) Study 7				
Task 4 (addl) Study 8				
Task 4 (addl) Study 9				
Task 4 (addl) Study 10				
Task 4 (addl) Study 11				
Task 5				
Task 6				
Task 7				
Task 8				
Task 9				
Task 10 (base)				
Task 10 (addl) Study 10.1				
Task 10 (addl)Study 10.2				
Task 10 (addl) Study 10.3				
Completion				

(18) Specific deliverables for each task in Scope of Work

Work Items	Major Deliverables	Due Date*
Task 0: Scope of Work	**Scope of Work**	**6-13-08**
Task 10: (a) Draft Plan Adoption	**Initially Prepared Plan**	**3-1-10**
Task 10: (b) Revised/Final Plan	**Adopted 2011 Coastal Bend Regional Water Plan**	**9-1-10**

*Note: Subject to Change Based on TWDB Timeline for Regional Water Planning Contracting

The results for each task will be presented to the Regional Water Planning Group during regularly scheduled planning group meetings for review and in draft report form. An Initially Prepared Plan will be submitted to the TWDB in accordance with TWDB Guidelines for Regional Water Planning Data Deliverables (2007-2012). Comments received during the review process will be addressed, appropriate changes and/or corrections will be made, and final report(s) will be submitted to the planning group for adoption. The adopted 2011 Coastal Bend Regional Water Plan will be submitted to the TWDB.

(19) Method of monitoring study progress

The Nueces River Authority will provide administrative functions in support of all activities, including contract administration, subconsultant contract management and oversight, meeting preparation and management, posting of meeting notices, meeting attendance, and public participation activities.

The Primary Subconsultant will provide updates at the RWPG meetings of the work being performed to revise the regional water plan, and will be a part of the monthly requests for reimbursement from TWDB. Draft and final reports will be required of the Primary Subconsultant, and transmitted to TWDB, in accordance with planning contract procedures and requirements.

(20) Qualifications and direct experience of proposed project staff

Proposed Project Staff:
Mr. Con Mims, Executive Director, Nueces River Authority
Ms. Rocky Freund, Deputy Executive Director, Nueces River Authority

Primary Subconsultant Project Staff:
Ken Choffel, P.E.,
Kristine Shaw, P.E.,
Larry Land, P.E., and
Cory Shockley, P.E.

See **Attachment B** for Nueces River Authority staff and Primary Subconsultant qualifications and experience directing and/or conducting in similar planning projects.

III. Written Assurances

The proposed planning activities by the Nueces River Authority, on behalf of the Coastal Bend RWPG, do not duplicate existing projects. The Nueces River Authority and Coastal Bend RWPG will diligently pursue any implementation of viable solutions identified through the proposed planning and identify potential sources of funding for the implementation of viable solutions. Written evidence that local matching funds are available for proposed administration activities will be provided upon execution of contract.

IV. Proof of Notification

Published Notice: Notice that the Nueces River Authority, on behalf of the Coastal Bend RWPG, will file an application with the TWDB for funding assistance to revise the Coastal Bend Regional Water Plan will be published on June 15, 2008 in the *Corpus Christi Caller-Times,* a newspaper of general circulation in each of the eleven counties in the Coastal Bend Region. A copy of the notice showing publication date (June 15, 2008) is included as **Attachment C-1.**

Mailed Notices: Notice that the Nueces River Authority, on behalf of the Coastal Bend RWPG, will file an application with the TWDB for funding assistance to revise the Coastal Bend Regional Water Management Plan has been mailed to the mayor of each municipality with a population of over 1,000 or more that are located in whole or in part of the Coastal Bend Region, to the county judge in each of the eleven counties in the Coastal Bend Region, to all districts and authorities created under the Texas Constitution, Article III, 52, or Article XVI, 59 that are located in whole or in part in the Coastal Bend Region, and all other SB-1 regional water planning groups in the state at least 30 days before board consideration of the application. A copy of the notice and a list of those to whom the notice was sent on June 10, 2008 are included as **Attachment C-2.**

Attachment A-1:

Verifications: Designation of the Nueces River Authority as the Political Subdivision Representing the Coastal Bend Regional Water Planning Group

Minutes of the April 9, 1998 Meeting of the
Regional Water Planning Group for the
Senate Bill 1 Regional Water Planning Program for Region "N"

The first meeting of the Regional Water Planning Group (RWPG) was held in the "TTVN" Classroom at the TAMU Research and Extension Center, 10345 Agnes Street, Corpus Christi, Texas 78406. The meeting was called to order by Dr. David McNichols at 1:37 p.m. Ariel Garcia, the interim Chairman, was not present. Dr. McNichols was asked to take over as interim Chair for this meeting.

Members of the RWPG in attendance were: Dr. McNichols, Mr. Kane, Mr. Bledsoe, Mr. Figueroa, Mr. Kunkel, Mr. Nedbalek, Mr. Yturria, Dr. Hubert, Mr. DeLaune, Ms. Serrato, Mr. Sandoval, Mr. Paulson, Dr. Prouty, Mr. Flores, and Mr. Tolan. Members absent included: Judge Miller, Mayor Cantu and Mr. Garcia.

Others attending the meeting included: Mr. Randy Fugate, Texas Parks and Wildlife Department (TPWD), Mr. Eduardo Garana (City of Corpus Christi), Mr. Hubert Hall (City of Corpus Christi), Mr. Con Mims (Nueces River Authority), Mr. Larry Land (HDR Engineering), Dr. Ron Waters (Freese & Nichols Engineering), Mr. Kyle Spiller (TPWD), Mr. James Dodson (Nueces River Authority), Mr. Smiley Nava (TPWD), Ms. Paulette Shaw (San Patricio County Economic Development Corporation) and Mr. Jim Naismith (San Patricio Municipal Water District).

Minutes from the March 27, 1998 meeting of the Initial Coordinating Body for Region "N" were reviewed. Mr. Yturria moved that the minutes be approved as written and Mr. Kunkel seconded; there was a unanimous voice vote approving the motion.

Dr. McNichols asked each person to introduce himself or herself and all present did so.

Mr. Kane addressed discussion of the bylaws. He moved to adopt the "model" bylaws provided by the Texas Water Development Board (TWDB) as interim bylaws, to be modified at a later time, and to amend the word "model" with a name applying to Region "N", it was seconded; there was a unanimous voice vote approving the motion.

Election of officers:
There was a discussion regarding the election of Co-chairs and amending the bylaws to change the Chair and Vice Chair position to two Co-chairs. There was a motion by Mr. Yturria to make this amendment to the bylaws and it was seconded; there was a unanimous voice vote approving the motion. Mr. Paulson made a motion to elect Judge Josephine Miller and Mr. Jerry Kane as Co-chairs of the RWPG and it was seconded; there was a unanimous voice vote approving the motion. Mr. Paulson also made a motion to elect Dr. Patrick Hubert as the secretary for the RWPG and Ms. Serrato seconded it; the motion was passed by a unanimous voice vote. A motion was made and seconded to appoint Mr. Bernard Paulson and Mr. Scott Bledsoe, III as members of the ~~executive~~ committee. Both were voted in unanimously.

Mr. James Dodson discussed the bylaws and designating alternate representation whenever a member plans to be absent from a meeting. A written notice must be sent to the Co-chairs at least 48 hours prior to a meeting designating the alternate who will be attending the meeting. The alternates should represent the same interest group as that of the absent member, and cannot perform the duties of the officers. A member cannot designate more than two different alternates over the period of one year. The alternate has to come from outside of the RWPG -- a simple written proxy is not allowed.

The Nueces River Authority (NRA) was recommended to be the designated political subdivision to represent the RWPG and apply for state financial assistance for scope of work and Regional Water Plan (RWP) development, hold contracts with other entities on behalf of the RWPG and perform the administrative functions of the group. A motion was made to that effect by Mr. Paulson and Ms. Serrato seconded it. There was no discussion. The motion was passed by a unanimous voice vote. Mr. Con Mims, the Executive Director of the NRA, thanked the RWPG for designating the NRA.

Mr. Dodson discussed how the RWPG might determine the methodology for preparing a scope of work and a Request for Qualifications (RFQ) for the selection of firms to provide professional services. He stressed the importance of the RWPG having a consensus on the methodologies that they would like to use to pursue the task of doing the planning work. He also pointed out that there is a defined process to select qualified consultants that will be providing professional services for the RWPG. Mr. Dodson requested that the RWPG give the NRA some general direction on how they would like to function and work, as far as how much involvement the RWPG wishes to have in the process and whether there will be subcommittees involved in the process. Dr. McNichols responded by suggesting that at the next meeting the RWPG could have a "visioning process", allowing everyone to discuss what their position and their thoughts are on what the RWPG should be aiming towards.

Mr. Paulson suggested that all members should have a copy of the Trans-Texas Water Program report for the South-Central Study area. Mr. Bledsoe agreed, but noted that the RWPG should go beyond that study because of other users now involved in the planning program. Dr. McNichols pointed out two reasons as to why the RWPG should go beyond the Trans-Texas Water Study: (1) many members of the community believe that the study should be more inclusive and should go broader, and (2) some regional water development activities have already gone beyond Trans-Texas Water Study as a working document, such as desalination and the Tampa Bay Project. Mr. Bledsoe also commented on desalination and how people are not up to date on this subject, so the Trans-Texas Water Plan is a good place to start. This plan is out of date but it does contain good information to get people up to speed.

Mr. Robert Flores provided copies of the most current state water plan, *Water for Texas*, to each member of the RWPG, referring to page 3-71 as a brief synopsis of the Coastal Bend Region. He emphasized that the scope of work is a foundation for the planning process because you need a detailed outline to get a good work product. Mr. Flores pointed out that the Texas Water Development Board (TWDB) will fund the initial scope of work up to $20,000 and would like to avoid any duplication of effort.

Ms. Serrato suggested that a discussion take place on the current operating order for freshwater inflows to the Nueces Estuary and how it evolved, because there is a misconception of how it exactly works. Mr. Dodson offered to prepare a presentation on the freshwater inflow operating plan and other regional water planning studies and issues at the next meeting. Dr. Prouty also suggested that the gaps be addressed on all water issues. Dr. McNichols stressed the importance of explaining the reservoir-operating plan because there are still people out there working against the process. Mr. Kane also suggested that the group discuss conservation and new water resources. He requested that an additional presentation be given by Mr. Robert Flores from the TWDB perspective, such as political and physical realities, and how far we can go, addressing what the plan is for the year 2001 and even getting to the year 2050. Mr. Kane also gave his personal opinion on subcommittees and would prefer that the RWPG make decisions as a whole instead of in subcommittees.

Mr. Yturria commented on how he would like the presentation to first address where the committee is now and this will help to determine how to obtain the goals of the future. Mr. Dodson responded that he would address these issues, including where the previous planning committees left off and what has changed since those studies were concluded.

Dr. Hubert commented on his concerns regarding the economics of water supply for ranchers and small businesses in rural areas. Mr. Dodson stated that NRA and TWDB had co-sponsored a study on water supply for Duval County and that he can present that information. Mr. Yturria asked if the report, *Water for Texas*, covered a lot of the issues that the RWPG must address? Mr. Dodson said that the report covers the issues but not thoroughly for this new planning area.

Mr. Flores brought up the question as to TNRCC representation on the RWPG and if anyone is working closely with someone from TNRCC. Mr. Kane remarked that a TNRCC representative should be present every step of the way. Dr. McNichols felt that the TNRCC should probably send a local representative, someone like Mr. Buddy Stanley, Manager for Region 14.

Dr. McNichols asked Mr. Dodson if there is anymore consideration for authorization of preparation and dissemination of a RFQ of consultants. Mr. Dodson responded that if the RWPG would direct the NRA to do so, he would prepare a draft RFQ for consideration at the next meeting. Dr. McNichols moved that the NRA staff prepare a draft RFQ for the next meeting and Dr. Prouty seconded it. There was a unanimous voice vote passing the motion.

Mr. Robert Flores of the TWDB passed out a four-page information piece titled *Notice and Meeting Requirements* to all members of the RWPG. He emphasized that notices have to be sent to all RWPG and subgroups by 72 hours plus the various areas it must be sent to for posting. He noted that a proposal has been made to amend the TWDB rules so as to avoid having to publish the meeting notices in the *Texas Register*. Another key change is to send notice to all other RWPGs when applying for state assistance for 75% funding of regional water plan development costs.

Mr. Flores indicated that TWDB is planning to sponsor a statewide meeting on the SB 1 Regional Water Planning Program in the either 2nd or 3rd week of May in Austin. Mr. Flores also noted that TWDB was looking at the liability issues associated with membership on the RWPG and would have more information on that subject for the members at a later date.

Dr. McNichols initiated discussion on the local cost sharing of the 25% of the overall cost of the Regional Water Planning Program. Mr. Dodson laid out several concepts that the RWPG might consider in terms of methods of allocating the local cost share, including having the City of Corpus Christi fund most of the cash portion of the 25% local match requirement, then "pass-through" those costs to other regional entities who are part of the Choke Canyon/Lake Corpus Christi water supply system in the raw water rates that are charged by the City of Corpus Christi to all water users. Another approach would be to simply allocate the local cost share on a per capita basis by counties.

Mr. Dodson noted that TWDB rules would prohibit the use of state funding to pay administrative costs associated with the regional water planning program, and that NRA's administrative expenses would likely have to come from the local cost share.

Mr. Kane asked for a "ballpark" figure on how much the planning program would cost. Mr. Dodson responded that he thought TWDB has been appropriated enough monies to provide about $450,000 per region, and that the 25% local share might then be another $150,000.

Discussion ensued regarding the need to come up with a local cost share allocation method and the need to visit with county judges as soon as some dollar figures might be available. Ms. Serrato asked whether the RWPG should make a decision at that meeting. Mr. Bledsoe indicated he felt that some direction should be provided. It was moved by Mr. Kane and seconded by Ms. Serrato to direct the NRA staff to draft and submit an application to TWDB on behalf of the RWPG for state financial assistance for the scope of work development. The motion was approved by a unanimous voice vote.

There was then discussion regarding items for the agenda for the next RWPG meeting. It was decided that the next meeting would be a Public Meeting for the purposes of gathering input on issues and items that should be included in the regional water planning program. At that meeting, agenda items are to include: (1) Presentation on Water Supply Planning in Region, (2) Discussion on goals and objectives for the regional water plan/process, (3) Approve RFQ dissemination, and (4) accept public comment on scope of work and regional water planning program.

The RWPG then considered the date of the next meeting and decided to set a regular meeting date. It was moved and seconded that the RWPG would meet regularly at 1:30 p.m. on the 2nd Thursday of the month at the Texas A&M University Research and Extension Center (10345 Agnes Street, Corpus Christi, Texas 78406). The motion was approved by a unanimous voice vote.

It was moved and seconded that the area now designated by TWDB as "Region "N"" be renamed to be designated the "Coastal Bend" area. Thus the official name of the RWPG would be the "Coastal Bend Regional Water Planning Group." The motion carried by a unanimous voice vote.

Dr. McNichols called for any public comment. There was none.

The meeting adjourned at 3:05 p.m.

Minutes prepared by Ms. Melida (Meli) Sugarek and Mr. James Dodson.

Minutes submitted by: Patrick Hubert, Ph.D. 4-23-98

Dr. Patrick Hubert, Secretary
Coastal Bend RWPG

Date

AGREEMENT

This agreement is entered into by and between Coastal Bend Regional Water Planning Group (Coastal Bend RWPG) and Nueces River Authority (NRA) effective as of the 9th day of April, 1998:

WHEREAS, Coastal Bend RWPG is the regional water planning group established for Region N, State of Texas by the Texas Water Development Board (TWDB) pursuant to Senate Bill No. 1, 75th Legislature-Regular Session; and

WHEREAS, NRA is a conservation and reclamation district and political subdivision of the State of Texas created and existing under the laws of the State, including particularly Article XVI, Section 59 of the State Constitution and TEX. WATER CODE AUX. LAWS art. 8280-115 (Act of November 1,1935, 44th Leg., 1st C.S., ch.427,1935 Gen. Laws 1660) as amended; and

WHEREAS, at a regular meeting of Coastal Bend RWPG on April 9, 1998, NRA was selected as the designated political subdivision to represent Coastal Bend RWPG and apply for state financial assistance for regional water planning, hold contracts with other entities on behalf of Coastal Bend RWPG and perform the administrative functions of the Coastal Bend RWPG; and

WHEREAS, Coastal Bend RWPG and NRA desire to agree upon the duties and responsibilities of the parties in carrying out water planning for Region N pursuant to the said Senate Bill No. 1;

NOW, THEREFORE, Coastal Bend RWPG and NRA agree as follows:

1.. **Regional Water Planning.** Coastal Bend RWPG is the group established pursuant to Senate Bill No. 1 to submit a regional water plan for Region N, State of Texas, to TWDB.

2. **Representative; Effective Date.** NRA is the political subdivision of the State of Texas designated by Coastal Bend RWPG to represent Coastal Bend RWPG to apply to, and contract with, the TWDB for funds for regional water planning pursuant to Senate Bill No. 1. This Agreement is effective as of April 9, 1998, the date Coastal Bend RWPG designated NRA as its representative. All actions taken by the parties hereto in furtherance of the regional water planning program for the Coastal Bend Region from and after April 9, 1998, are hereby ratified and approved. This Agreement will continue in effect until and unless terminated by either party upon 90 days written notice to the other party. If this agreement is terminated by either party, NRA will transfer all funds and records maintained on behalf of the Coastal Bend RWPG to another political subdivision designated by the Coastal Bend RWPG.

3. **Contracts and Administration.** NRA will negotiate and enter into contracts with other entities on behalf of Coastal Bend RWPG, and perform the administrative functions of the Coastal Bend RWPG, including, but not limited to, entering into and administering the performance of the contract between TWDB and NRA for regional water supply planning for the Coastal Bend Region

(Contract), a copy of which is attached hereto. In administering the performance of the Contract, NRA will enter into those agreements or contracts necessary to perform the Contract., subject to any guidelines established by Coastal Bend RWPG or TWDB.

4. **Administration.** In connection with its representation of Coastal Bend RWPG and its administration of the Contract, NRA will provide the following services:

A. Maintain an office in Corpus Christi, Texas;

B. Provide employees of NRA to staff the office of NRA in Corpus Christi, Texas;

C. Maintain in the Corpus Christi office all of the records of Coastal Bend RWPG; and provide support for meetings of Coastal Bend RWPG including issuing notices of same in compliance with the Texas Open Meetings Act and any applicable rules of the TWDB;

D. Receive and pay out, and maintain records with respect to, all funds received or paid, and all in-kind contributions, in connection with regional water planning pursuant to Senate Bill No. 1 consistent with generally accepted accounting principles; and maintain all of said records for a minimum of seven (7) years;

E. Act as the administrative representative for Coastal Bend RWPG, and in that capacity NRA, through its Executive Director, is authorized to take all necessary actions to carry out the day to day activities of Coastal Bend RWPG, subject to any guidelines established by Coastal Bend RWPG or TWDB, including negotiation and execution of contracts and other official documents on behalf of Coastal Bend RWPG..

5. **Compensation.** It is anticipated that an application filed by NRA with TWBD will result in execution of the Contract, and that following execution of the Contract NRA will receive funds from TWBD for regional water planning for Region N on behalf of Coastal Bend RWPG. Prior to receipt of such funds, however, NRA has expended and will continue to expend funds for rent, salaries and other expenses to establish its Coastal Bend Division in Corpus Christi, Texas. Prior to the CONTRACT INITIATION DATE as defined and set forth in the Contract as May 21, 1998, funds expended by NRA for initiation of the regional water planning process pursuant to Senate Bill No. 1 will be recorded as in-kind services provided by NRA in accordance with Senate Bill No. 1 or the Contract, and documentation of same will be provided to TWDB in accordance with the Contract. Beginning on the CONTRACT INITIATION DATE, NRA will be compensated for its services pursuant to this agreement as set forth in the Contract and any amendments to it or any subsequent contracts between NRA and TWDB or between NRA and other parties in furtherance of the Contract and this agreement. Should it be necessary for NRA to provide funds on an interim basis after the CONTRACT INITIATION DATE because of the timing of payments by TWDB to NRA pursuant to the Contract, NRA will be reimbursed for such funds out of payments by TWDB to NRA when such payments are received by NRA, or any other funds paid as local share contributions or from other funds paid to Coastal Bend RWPG or NRA for regional water planning for the Coastal Bend RWPG.

6. **Additional Services.** Coastal Bend RWPG and NRA by action of their respective governing bodies may agree upon the performance of additional services by NRA for Coastal Bend RWPG with respect to regional water planning without the necessity of amendment of this agreement.

7. **Arbitration.** Any dispute arising under this agreement will be decided by binding arbitration by the American Arbitration Association pursuant to the commercial arbitration rules of the American Arbitration Association. Before any arbitration can be commenced, however, the parties will use the mediation or other alternate dispute resolution procedure to attempt to resolve any dispute.

8. **Texas Law to Apply.** This agreement shall be construed under and in accordance with the laws of the State of Texas.

9. **Parties Bound.** This agreement shall be binding on and inure to the benefit of the parties to it and their respective successors, and assigns.

10. **Legal Construction.** In the event any one or more of the provisions contained in this agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provisions, and this agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained in it.

11. **Time of Essence.** Time is of the essence with respect to each date or time specified in this agreement by which an event is to occur.

12. **Rights and Remedies Cumulative.** The rights and remedies provided by this agreement are cumulative, and the use of any one right or remedy by either party shall not preclude or waive its right to use any or all other remedies. Said rights and remedies are given in addition to any other rights the parties may have by law, statute, ordinance or otherwise.

13. **Captions.** All captions in this agreement are for reference and convenience only and shall not modify or affect the provisions of this agreement in any manner.

14 **Successors.** This agreement is binding on the successors or assigns of the parties hereto.

15. **Entire Agreement.** This agreement, including any exhibits, constitutes the parties' final and mutual agreement. There are no written or oral representations or understandings that are not fully expressed in this agreement. No change, waiver or discharge is valid unless in writing that is signed by the party against whom it is sought to be enforced.

IN TESTIMONY WHEREOF, this agreement is executed in duplicate originals, either of which shall be deemed to be an original, at Corpus Christi, Texas, this 30th day of July, 1998, effective as of April 9, 1998.

COASTAL BEND REGIONAL WATER PLANNING GROUP

By: _____
Judge Josephine Miller, Co-Chair

By: _____
Mr. Jerry Kane, Co-Chair

NUECES RIVER AUTHORITY

By: _____
Mr. Ariel Garcia, President

Attachment A-2:

Verifications: Authorization to Submit the Regional Water Planning Grant Application

Affidavit

Verifying that the Coastal Bend Regional Water Planning Group, At a Meeting on May 22, 2006, Took Action to Approve and Authorize the Nueces River Authority To Submit to the Texas Water Development Board An Application for a Regional Water Planning Grant For the Second Biennium Funding for Preparation of the 2001 Regional Water Plan

I do hereby verify that on May 22, 2006, the Coastal Bend Regional Water Planning Group held a duly posted public and regional water planning group meeting, attended by a quorum of the voting members, and took action to approve and authorize the Nueces River Authority to submit to the Texas Water Development Board an application for state funding for planning activities for the second biennium funding for preparation of the 2011 Regional Water Plan.

By:

B. Paulson 5/22/06

Bernard Paulson Date
Secretary
Coastal Bend RWPG

Attachment B:

Experience in Directing Similar Projects and NRA and Primary Subconsultant Staff Qualifications

Regional Water Planning Programs Administered by the Nueces River Authority:

2006 "Senate Bill 1 Regional Water Plan for the Coastal Bend Region (Region "N")." (HDR, Engineering, Inc.)

2002 "Inter-Regional Coordination for the Development of Consensus on Water Management Strategies for South Texas." (HDR Engineering, Inc.)

2001 "Senate Bill 1 Regional Water Plan for the Coastal Bend Region (Region "N")." (HDR, Engineering, Inc.)

1996 "Regional Water Supply Planning Study - Duval and Jim Wells Counties, Texas." (Naismith Engineering, Inc. with Coym & Rehmet Engineering Co., Inc.)

1993 "Nueces Basin Water Supply Study, Phase II, Conditional Probability Modeling." (Michael Sullivan and Associates, Inc.)

1991 "Regional Water Supply Planning Study, Phase III, Recharge Enhancement, Nueces River Basin." (HDR Engineering, Inc.)

1991 "Regional Water Supply Planning Study, Phase I, Nueces River Basin." (HDR Engineering, Inc.)

1982 "Report on Availability of Additional Surface Water Supply from the Nueces River between Uvalde and Three Rivers." (Freese and Nichols Engineering)

Nueces River Authority

Con Mims, Executive Director
Rocky A. Freund, Deputy Executive Director

Staff Qualifications: (See following pages)

CON MIMS

Current Position:
Executive Director, Nueces River Authority
March 1976 to present

Former Member of:
South Texas Watermaster Advisory Committee
Corpus Christi Bay National Estuary Program
Corpus Christi Mayor's Task Force on Water Issues
San Antonio Joint Committee on Water Resources
Policy Management Committee of the South Central Trans-Texas Water Program

Current Member of:
Nueces Estuary Advisory Council
South Central Texas Regional Water Planning Group-Region L; Chair
Region L Liaison to Plateau Regional Water Planning Group-Region J
Region L Liaison to Coastal Bend Regional Water Planning Group-Region N
Texas Water Conservation Association, Director
National Water Resources Association
Texas Wildlife Association, Director
Edwards Aquifer Recovery Implementation Program, Steering Committee

Education:
B.S. in Animal Science, Texas A&M University, 1966

Current Address:
Nueces River Authority
200 East Nopal, Suite 206
P. O. Box 349
Uvalde, Texas 78802-0349

Phone Numbers:
Office: 830-278-6810
Fax: 830-278-2025
Home: 830-278-8183

Email:
cmims@nueces-ra.org

ROCKY A. FREUND

Current Position:
Deputy Executive Director, Nueces River Authority,
2005 to present

Recent Professional Experience:
Clean River Program Project Manager
2003 to present

Regional Water Planning Experience:
Facilitator for the Coastal Bend Regional (Region N) Water Planning Group
2002 to present

Current Member of:
Nueces Estuary Advisory Council
Coastal Bend Bays and Estuaries Bays Council
Texas Water Conservation association

Education:
B.S. Geology, University of Texas at Austin, 1981
M.S. Computer Science, Corpus Christi State University, 1991

Current Address:
Nueces River Authority, Coastal Bend Division
6300 Ocean Drive, Unit 5865
Corpus Christi, Texas 78412-5865

Phone Numbers:
Office: 361-825-3193
Fax: 361-825-3195
Home: 361-937-0724
Cell: 361-946-7827

Email:
rfreund@nueces-ra.org

Kenneth L. Choffel

Project Principal

Education
Bachelor of Science, Civil Engineering, University of Texas Austin, 1974

Professional Registrations
Professional Engineer, Texas, No. 45686, 1979.

Professional Affiliations
American Society of Civil Engineers (ASCE), Member

HDR Tenure
30 Years

Industry Tenure
34 Years

Professional Experience

Ken Choffel, P.E. holds a Bachelors degree in Civil Engineering from the University of Texas. Thirty of his 34 years of experience have been with HDR Engineering, working with Texas entities with complex surface and groundwater systems. His major clients have included San Antonio Water System, Dallas Water Utilities, the City of Corpus Christi, the Edwards Aquifer Authority, the Brazos River Authority, and the City of Abilene. He has served as Project Manager on more than 75 water resources projects throughout Texas, including the design of the first municipal, inland reverse osmosis water treatment plant in the State. He has successfully directed more than 25 water rights permit applications, many of which have included interbasin-transfer and systems operations issues. Mr. Choffel has extensive experience in presenting complicated water resource issues in public forums, and has co-authored and presented numerous technical papers throughout his career. He has testified before Federal and State legislative committees regarding water resources and water rights issues.

HDR Project Experience

Coastal Bend Regional Water Planning Group and Nueces River Authority, Texas. Project Principal. Assisted in development of 2001 and 2006 Coastal Bend Regional Water Plans.

City of Corpus Christi, Texas. Project manager. Developed an interactive computer model of the Lower Nueces River Basin and Estuary (NUBEST), including the Choke Canyon Reservoir/Lake Corpus Christi System. Based on user-specified drought management trigger storages, target reservoir level, required monthly estuarine inflows, and return flows, the model calculates system firm yield, long-term system storage frequency, and monthly estuarine inflow statistics.

City of Corpus Christi, Mary Rhodes (Lake Texana to Corpus Christi) Pipeline, Port of Corpus Christi Authority, Lake Texana To Corpus Line, Corpus Christi, TX. Civil Engineer, Project Manager, Quality Reviewer.

South Texas Water Authority. Project manager. Modified the Lower Nueces River Basin and Estuary computer model previously developed for the City of Corpus Christi to incorporate operating rules and Nueces Bay inflow requirements proposed by the Texas Water Commission. Applied modified computer model (NUBAY) to evaluate the potential effects of municipal and industrial effluent and/or river diversion into the Nueces Delta area on the firm yield of the Choke Canyon Reservoir/Lake Corpus Christi System.

Additional Reservoir Yield Studies. Performed yield studies of the following existing or proposed reservoirs: Choke Canyon Reservoir, Lake Corpus Christi, Lake Bivins, Lake Bridgeport, Lake Weatherford, Lake Georgetown, Lake Granger, Lake Stillhouse Hollow, Bullinger Creek Reservoir, Lake Belton, Kickapoo Reservoir, Lake Granbury, Lake Mineral Wells, Santo Reservoir, Brenham Reservoir, Mill Creek Reservoir, South Fork Reservoir, Lake Proctor, Lake Palo Pinto, Leon River Reservoir, Dimple Reservoir, Meridian Reservoir, Turkey Peak Reservoir, Gatesville Reservoir, Cowhouse Creek Reservoir, Onion Creek Reservoir, Keechi Reservoir, Ioni Reservoir, Lakes Graham-Eddleman, and Sanchez Reservoir. Over 80 SCS Reservoirs and Numerous Off-Channel Reservoirs

Bowie Water Supply District, Bowie, Texas. Project manager. Prepared alternatives study, permit applications, design drawings, and environmental assessment for a 13,000 acre-foot reservoir project. Performed the hydrologic and hydraulic analysis for the 85-foot high embankment, spillways, and highway relocation.

Brazos River Authority, Texas. Project engineer. Performed system reservoir operation studies of Lakes Georgetown, Stillhouse Hollow, and Granger to determine the most economical pumping scheme from one reservoir to another. Results of studies showed how temporary over-drafting of reservoir nearest the water plant could significantly reduce both pipeline size and annual pumping costs.

Cities of Clifton and Meridian, Texas. Project manager. Prepared engineering report which determined the most economical type intake structure to be constructed in Lake Bosque.

City of Commerce, Texas. Project manager. Prepared long-range projections of future water requirements and determined that the City had water in excess of its needs. Assisted the City in negotiations for the temporary sale of their excess water.

City of Marlin, Texas. Project manager and hydrologist. Prepared yield and water quality studies of water supply alternatives which included two existing and two proposed reservoirs. Prepared preliminary plans and permit application for selected project which involved increasing the conservation storage in New Marlin City Lake and operating the old upstream reservoir as a sedimentation reservoir. Provided expert testimony before the Texas Water Commission.

City of San Marcos, Texas. Project manager. Prepared report to evaluate various water supply alternatives available to meet the future water needs of a rapidly growing city presently relying on one ground water supply source.

Edwards Underground Water District, San Antonio, Texas. Project manager.. Developed a customized computer model of the Nueces River Basin capable of accurately reproducing streamflows at 25 streamgage locations as well as historic recharge to the Edwards Aquifer, the sole source of drinking water for the City of San Antonio. The model will be used to predict the additional recharge potential of up to 19 recharge dams. The effects of this additional recharge on the yield of a downstream reservoir system which supplies water to the Corpus Christi area was also determined with the model. As a result of the success of the Nueces River Basin modeling work, new models of the San Antonio and Guadalupe River Basins are being developed.

LaSalle County, Texas. Project manager and hydrologist. Performed yield and water availability analysis for several proposed irrigation water supply reservoirs including the transfer of diversion rights from an existing reservoir. Evaluated the impact of conjunctive use of surface water and groundwater on yield and water quality. Numerous alternatives were identified and presented in a feasibility report.

Shell Mining Venture. Project engineer. Comprehensive hydrology studies near Rockdale, Texas. Established a network of stream gages, water quality sampling sites and rain gages to provide baseline hydrologic data for a proposed lignite mine. Work consisted of a site selection, equipment design and installation, water quality sampling, and stream flow measurements.

Various Cities and River Authorities. Program manager. Prepared water supply alternative studies under the Trans-Texas water program for two large areas within the state. The south-central study area included the analysis of 16 alternatives for a 12-county area near Corpus Christi, Texas. The west-central study area included the analysis of 37 alternatives for a 33-county area near San Antonio, Texas.

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Kristine S. Shaw

Project Manager

Education
Master of Science, Civil Engineering, University of Texas Austin, 2001

Bachelor of Science, Bioenvironmental Science, Texas A & M University System, 1996

Professional Registrations
Professional Engineer, Texas, No. 93962, 2004

Professional Affiliations
National Ground Water Association, Member

Water Environment Federation, Member

HDR Tenure
6 Years

Industry Tenure
12 Years

Professional Experience

Ms. Shaw's background is in water resources management with technical expertise in regional water planning, ground water protection and modeling, water supply evaluations with multiple water sources, and ground water and surface water interaction.

HDR Project Experience

Coastal Bend Regional Water Planning Group (Region N)- First Biennium of 2011 Regional Water Plan. Project Manager. Evaluated five region-specific studies for regional water supply and quality, managed project tasks including budgets and schedule, prepared interim progress reports for planning group, and coordinated with resource agencies and municipalities and private landowners for channel loss study.

Coastal Bend Regional Water Planning Group (Region N)- 2006 Regional Water Plan. Project Manager. Evaluated Texas Water Development Board (TWDB) water demand and supply projections for the Coastal Bend Region for the 2000-2060 planning cycle, developed water management strategies to meet projected regional water shortages, managed project budgets and deliverables, presented interim results on bi-monthly basis to diverse interests represented in the Regional Water Planning Group, coordinated and provided technical support to resource agencies, and prepared and submitted the 2006 Regional Water Plan for inclusion in the 2007 State Water Plan.

South Central Texas Regional Water Planning Group (Region L)- Brush Management and Weather Modification Strategies for Water Supply. Project Engineer. Applied pilot recharge models of the Nueces and Blanco Recharge Basins using Hydrologic Simulation Program- Fortran (HSPF) to quantify Edwards Aquifer recharge enhancement associated with brush management and weather modification. Updated model to extend model simulation period (1934-1998) to include the historical drought of record and incorporate upstream watershed areas in the Blanco and Nueces Basins. Calibrated model and adjusted model parameters to simulate brush management and weather modification. Model results were then used to quantify increases in streamflow and recharge to the Edwards Aquifer that could be achieved by implementing projects.

Brazos River Authority, Brazos G 2006 Water Plan. Project Engineer. Water Conservation as Water Management Strategy for 2006 Regional Water Plan. For the 2006 Plans, the Texas Water Development Board required each region to consider water conservation programs to reduce future water demand and meet needs. Ms. Shaw evaluated regional/local water usage and identified municipal and irrigation water conservation techniques that would be considered most effective in the area, quantified expected savings, and recommended focused and measurable water conservation targets for municipal and irrigation entities.

City of College Station, Assessment of Water Demands and Needs and Alternative Supplies for the City of College Station. Task Manager. Evaluated future water demands based on historical population growth trends and projected land uses in undeveloped areas in the City's existing and expanded Certificate of Convenience and Necessity (CCN) and determined additional water supplies to meet projected needs. Ms. Shaw also provided peer review of alternative supply analysis and coordinated project budgets, interim progress report meetings, and deliverables.

Texas Water Development Board- North Trinity Groundwater Availability Model. Task Manager. Conducted surface water and groundwater interaction studies to develop MODFLOW reservoir and stream packages. Project responsibilities included compiling storage and water level elevation for reservoirs, compiling gain and loss studies, performing base flow analyses, and developing MODFLOW packages.

Johnson County Special Utility District Water Supply Study. Project Manager. HDR was contracted by JCSUD to evaluate potential water supplies in the Trinity River Basin to meet increasing demands and need for suitable water quality. The study includes evaluating up to five treated and raw water supplies in the Trinity Basin and considers costs associated with purchasing water, water treatment (if needed), and transmission facility costs to connect to JCSUD's existing system.

Bureau of Reclamation, Assessment of Western Navajo and Hopi Tribes Water Supply Needs Distribution Analysis Alternatives and Impacts, AZ, NV. Project Engineer. Conducted groundwater model analyses as part of a comprehensive water development study to establish the most cost-effective set of projects to supply high quality municipal and irrigation water to the major Navajo and Hopi Indian Reservations, while minimizing negative impacts. Developed MODFLOW simulations for multiple pumping and water demand patterns and evaluated impacts of pumping scenarios on groundwater and spring flow in the reservation area. Recommended optimal pumping scenario for springflow sustainability and water supply.

Idaho Surface Water Coalition Hydrological Evaluation. Project Engineer. HDR was contracted by the A&B Irrigation District to provide a hydrological evaluation of the Eastern Snake River Plain Aquifer. Ms. Shaw conducted a thorough review of a complex, recharge calculation tool and Eastern Snake Plain Aquifer Groundwater Model developed on behalf of Idaho resource agencies; developed long-term simulations to estimate impacts of continuing current water use and supply practices on Snake River reaches and groundwater levels; and prepared attorney-work-product.

NJ Morris County Groundwater Model. Task Manager. Developed multi-layered, steady state groundwater model of complex, aquifer system in Morris County based on rigorous review of existing models and hydrologic conditions.

San Antonio Water System- Potential Use of Quarries for Supplemental Recharge to Edwards. Task Manager. Evaluated use of quarry for additional water supply and ecosystem benefits, developed strategy for anticipating droughts and simulating quarry in Edwards Aquifer groundwater model, recommended project improvements that resulted in more effective strategy for protecting springflow while providing maximum water supply benefit, and performed multiple model runs to optimize quarry operations. Managed project budgets and scheduling, presented progress reports to client, and prepared report.

San Antonio Water System- Critical Period Management Evaluation. Project Engineer. Employed GWSIM4 Edwards Aquifer Model to run simulations with new pumping caps, CPM trigger levels, and use of Aquifer Storage Recharge (ASR) to provide a technical assessment of benefits and impacts to index well levels and springflow. Also, developed input files for the model, executed multiple simulations, responded to client requests for additional model simulations, and prepared and presented results of the assessment(s).

San Antonio Water System- Water Supply Management Model. Project Engineer. Revised initial water levels of each grid cell in the GWSIM4 Edwards Aquifer Model based on a relationship to index wells and designated springs using regression equations, developed municipal pumpage cutbacks according to usage patterns and precipitation trends, and performed quality control of multi-sourced, user friendly model to ensure accuracy of model output.

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Larry F. Land

Senior Project Manager

Education
Master of Science, Agricultural Engineering, Colorado State University, 1967

Bachelor of Science, Agricultural Engineering, Texas Tech University, 1965

Professional Registrations
Professional Engineer, Texas, No. 31380, 1971

Professional Affiliations
American Water Resources Association, Member

American Water Works Association, Member

National Ground Water Association, Member

National Society of Professional Engineers (NSPE), Texas (NSPE), Member

HDR Tenure
10 Years

Industry Tenure
41 Years

Professional Experience

Mr. Land has over 41 years experience as a water resources engineer. His career includes over 30 years of experience with the U.S. Geological Survey-Water Resource Division. He has worked in the fields of ground water, surface water, and water quality. Mr. Lands greatest interests are solving water supply problems and issues and bringing all the disciplines of hydrology together for a comprehensive, technical assessment. His activities with HDR have been in water-resource planning, development, monitoring, well design, well field evaluation, and conjunctive use of surface water and ground water.

HDR Project Experience

Determination of Brackish Groundwater Supplies in the vicinity of Corpus Christi. Project Manager. One of the alternative water supplies for the City of Corpus Christi is desalination of local surface water (Gulf of Mexico) and groundwater (Gulf Coast Aquifer). To assess the feasibility of developing brackish groundwater, Mr. Land developed a groundwater model of the major water bearing zone of the Gulf Coast Aquifer in Nueces County. He tested three potential well field locations and several different well spacing by calculating drawdowns. He also prepared salinity maps of groundwater in the Goliad Sand to aid in the design of the desalinization facility.

Determination of Groundwater Availability in the Coastal Bend Water Planning Region. Project Manager. Groundwater availability is one of the critical issues in the development of a water plan for the Coast Bend Region in South Texas. HDR, teamed with scientists at the Texas A&M University Corpus Christi, developed a regional groundwater model for the Coastal Bend Water Planning Region. Mr. Land was a technical advisor in the development of the USGS MODFLOW model and lead with the Regional Planning Group in the determination of groundwater availability that is consistent with their willingness to accept a given level of aquifer changes. The model is nearly 200 miles long and 100 miles wide and includes 5 layers. Data from a Geographical Information System is an important component in the development and testing of the model. A calibrated model has been tested for a range of water development and management criteria and has been used to estimate the sustained yield of the aquifer system.

Determination of Groundwater Availability in the Regional Planning Areas. Project Engineer. Groundwater availability is one of the critical building blocks in the development of water resources and regional water management plans for the SB-1 process. For the Brazos G, South Central Texas, Coastal Bend, and the Llano Estacado water planning regions, Mr. Land has taken the lead in reviewing previous estimates of fresh and saline groundwater availability, revising estimates with better methods, and calculating the groundwater availability for many options that were considered. Many of the options were evaluated with a groundwater modeling analysis.

Review of Groundwater Model for Platte West Well Field (2004-current). Senior Engineer. The Metropolitan Utilities District (MUD) is in the process of expanding the water supplies for Greater Omaha, Nebraska by installing a well field in the Platte River Valley west of Omaha. To plan and permit the water supply facility with 42 wells producing 90 million gallons per day, a groundwater model (MODFLOW) has been

designed and developed by Chatman and Associates, Inc who are under contract with HDR. The model area covers about 650 square miles and has cell dimensions of 100 ft in the vicinity of Platte West Well Field. The model represents, major streams, well pumpage, evapotranspiration, recharge from precipitation and irrigation return flows, and areas outside the model boundary. Mr. Land provided an extensive technical review the models design, calibration, and applications for the district. His comments lead to refining the estimates of recharge and pumpage by irrigation wells, improving the calibration by considering base flow in streams, and clarifying the presentation of effects of Platte West pumping on the surrounding area.

Assessment and Management of Water Supplies in the Republican River Basin. Project Engineer. The Republican River starts in Colorado, flows into Kansas, then Nebraska, and finally back into Kansas. To allocate the surface water supplies in the late 1930s and early 1940s, the three state formed the Republican River Compact. Since, several reservoirs were constructed to develop the surface water supplies for irrigation and flood control, and wells have been constructed, mostly for irrigation, in all three states. Over the years, the streamflow has been declining; and, Kansas has blamed the upstream states wells as the cause. Mr. Land has assisted Nebraska and its defense team in determining the amount of streamflow declines and the causes. He is very much involved in the development of groundwater flow and stream-reservoir models for legal defense purposes as well as management tools.

Assessment of Aquifer Storage and Recovery in the Brazos River Alluvium. Project Manager. One alternative in expanding the water supplies in the Brazos River basin is to store excess surface water and recover the water during periods of shortage. Mr. Land proposed a concept to divert water from the Brazos River during seasons of high flow and to recharge the nearby Brazos River Alluvium and to recover the water with wells during the season of high summer demands or drought. Mr. Land is testing this concept by the development and application of a MODFLOW groundwater model of the study area.

Calculating Volume of Groundwater in Storage. Project Engineer. The Llano Estacado Regional Water Planning Group is developing long range water plans for the central part of the High Plains Aquifer. In support of the planning, the groundwater in storage was calculated for several counties using aquifer data from wells in several databases, reports, and Geographic Information System software. In addition, the water table was mapped in 1995 and 1995 were prepared and water level changes were calculated.

Determination of Groundwater Assessment and Availability. Project Manager. The San Antonio Water System (SAWS) is in the process of evaluating several Edwards and non-Edwards Aquifer water supply alternatives for future demands. Mr. Land provides leadership and technical support in the evaluation of availability and sustainability of the water supplies from each of these potential projects. The Edwards Aquifer alternatives included groundwater supplies in Kinney and Val Verde Counties. The non-Edwards alternatives have included several locations in the Carrizo-Wilcox, Gulf Coast, and Trinity Aquifers.

Expansion of Well Field for City of Stephenville. Project Engineer. Recently, Mr. Land served as project engineer on the HDR team for the City of Stephenville, Texas for an expansion of their well field. Mr. Land support the project by preparing a test drilling plan, specifications and drawings, bid documents, overseeing the test drilling, evaluating the test results, preparing a report and making recommendations on locations for new wells to the city council. These recommendations were accepted. As a result, Mr. Land and other HDR engineers have designed an extension of their pipelines and three new wells, prepared specifications and drawings, evaluated bids, and made recommendations on contractors, and currently are administering the contract.

Adam (Cory) Shockley

Water Resources Engineer

Education
Bachelor of Science, Environmental Engineering (Hydrology), Tarleton State University, 1999

Professional Registrations
Professional Engineer, Texas, No. 94761, 2004

Professional Affiliations

HDR Tenure
9 Years

Industry Tenure
9 Years

Professional Experience

Mr. Shockley's experience in water resources engineering includes river basin modeling, water rights analysis, model programming in the FORTRAN language, hydrology and hydraulics, engineering cost analysis, pipelines, pump-stations, hydraulic control structures, environmental data summarization, and water supply planning.

HDR Project Experience

Coastal Bend Regional Water Planning Group and Nueces River Authority. Project Engineer. Developed new FORTRAN code for Corpus Christi Water Supply Model to simulate: (1) water quality in Lake Corpus Christi, Lake Texana, and Calallen Pool; and (2) potential future water supply projects, including: off-channel reservoir located near Lake Corpus Christi, pipeline to deliver water from Choke Canyon Reservoir to Lake Corpus Christi, and Aquifer Storage and Recovery for water supply. Evaluated cumulative effects of water management strategies on future water supplies and flows to Nueces Bay and Estuary.

Lower Nueces River Basin Water Supply Model. Performed FORTRAN code modifications to Lower Nueces River Basin Water Supply Model (NUBAY). Code modifications enabled the model to model out of basin source water, calculate transmission costs through a pipeline, calculate water treatment plant costs associated with blending different source waters, and model the complex channel losses in the lower Nueces Basin.

Nueces Water Availability Model. Project Hydrologist. Performed tasks related to developing input files for the model. Executed the Water Rights Availability Package Model for the different run assumptions. Summarized output data from the model runs to show relations in the different assumptions of each run.

City of Abilene – MultiSource Water Supply Model. Using the FORTRAN and Visual Basic programming languages developed a reservoir system operations model for the Abilene system that includes 3 existing supply reservoirs, one future potential supply reservoir, multiple treatment plant nodes, water quality for conservative constituents, and pumping and treatment costs. The model is able to operate in long-term simulation mode ot in short-term projection mode, where historical hydrology and current conditions are used to project where reservoir levels could be 12, 24 or 36 months from now given a certain set of operation parameters.

Nueces River Basin Feasibility Study. Participated in the COE planning process for this study to identify and investigate potential Federal projects that could be developed for flood damage reduction, ecosystem restoration, and other allied purposes. Project involved tasks on familiarizing stake holders on basin characteristics, updating a reservoir operations model of the Choke Canyon/Lake Corpus Christi/Lake Texana System., perform evaluation of HSPF model and associated recharge estimates included within the model, Streamflow trend analyses in the Nueces and Frio Rivers, and evaluation of several potential projects to meet the goals of the study.

Brazos River Basin Water Availability Model. Water Resources EIT. Developed a water rights database for over 1,600 water rights in the Brazos and San Jacinto-Brazos River Basin. Using GIS applications, developed flow network for over 3,000 control points to be included in the Water Availability Model (WAM). Developed the necessary input files from water right and control point information required by the Water Rights Analysis Package (WRAP) Model. Created the different combinations of input files needed for simulating varying basin scenarios. Analyzed model results and developed summary tables and graphs for incorporation into report. Authored detailed sections of the report describing the modeling process and the interpretation of the results.

South Central Texas Regional Water Planning Group- Engineering Cost Analysis Supply Projects. Water Resources EIT. Provided engineering cost analysis for several different water supply options. Tasks included updating previous cost estimates to current cost construction indices, mapping out pipeline routes, calculating all hydraulics associated with proposed pipeline route, determining the most cost effective option for different variables for the proposed project, and summarizing data into table form. Some options that were analyzed included reservoir and dam construction, water treatment plant construction, Pump/Booster station construction and intake costs, pipeline construction, and various other costs associated with this type of project.

Guadalupe and San Antonio River Water Availability Model. Project Hydrologist. Performed many tasks related to the development of input files for the model. Executed the Water Rights Availability Package Model for the different run assumptions. Summarized output data from the model runs to show relations in the different assumptions of each run. Worked in the areas of database management for different aspects of this project including the water rights database and water use records.

Hartley County Groundwater Transmission Project. Performed engineering analysis to determine the costs associated with developing a well field and transmission system to deliver groundwater throughout the Texas panhandle and parts of New Mexico. Developed the hydraulics necessary to size collection and transmission piping. Analyzed existing aquifer conditions to determine well size and spacing. Authored report outlining results complete with graphs and figures and in depth cost analysis.

Pflugerville Raw Water Storage Reservoir Spillway and Stilling Basin Design. Water Resources EIT. Performed preliminary design analysis to produce drawings for a 200 ogee spillway, discharge apron, and stilling basin for the Pflugerville Raw Water Storage Reservoir. Using 100 year and PMF information for design flows, designed facilities to pass flood events downstream. Performed preliminary design analysis for erosion control structures (ACBs and Rip Rap) for channel and banks downstream of stilling basin.

Rio Grande Basin Reconnaissance Study. Examined a myriad a possible water resources projects in the Nueces River Basin for a possible Federal interest in one or more of the following categories: ecosystem restoration, flood damage reduction, economic development, recreation, and water supply. Performed in depth research on previously studied water resource projects in the basin. Incorporated these results into a presentation and report for presentation to the client to facilitate their decision making process on pursuing one or more of the suggested opportunities. Developed report according to the Corps of Engineers Principles and Guidelines documents.

South Central Texas Regional Water Plan Final Report. Water Resources EIT. Performed functions related to water supply planning. Modified cost estimates for various water supply options. Developed and utilized a cost matrix to distribute cost (debt service and operation/maintenance for water supply option and treatment and distribution) to several water user groups. Developed naturalized daily flow from naturalized monthly flow using USGS daily flow data, and then developed environmental consensus criteria; such as median, 25th percentile and 7Q2, for the site.

Attachment C-1:

Public Notice to Be Published in *Corpus Christi Caller-Times*, June 15, 2008

CORPUS CHRISTI
Caller Times
A part of your life.

****ATTENTION - PLEASE READ CAREFULLY****

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Class.:	6300 OCEAN Dr				CORPUS CHRISTI, TX 78412-5503
Ad #	5860442	Requested By:	ROCKY	Fax:	
Sales Rep.:	7400	Georgia Lawson		Phone:	(361) 886-4307
		lawsong@caller.com		Fax:	(361) 883-4519
Class.:	1110	Legal Notices			
Start Date:	06/15/2008	End Date:	06/15/2008	Nb. of Inserts:	2
PO #:		Entered By:	154612		
Publications:	Corpus Christi Caller-Times , Internet				
Paid Amount:	$0.00		Balance:	$236.29	
Total Price:	$236.29				

NOTICE OF INTENT TO APPLY FOR REGIONAL WATER PLANNING FUNDS

The Nueces River Authority (NRA), on behalf of the Coastal Bend Regional Water Planning Group (Region N) for the Senate Bill 1 Regional Water Planning Program, intends to file an application with the Texas Water Development Board (TWDB) applying for regional water planning funds to fund an approved Scope of Work for Phase II of the Third Round of Regional Planning (2011 Planning Cycle). Region N includes the following counties: Aransas, Bee, Brooks, Duval, Jim Wells, Kenedy, Kleberg, Live Oak, McMullen, Nueces, and San Patricio.

Copies of the grant application may be obtained from NRA when it becomes available. Written comments on the grant application must be filed by July 31, 2008, with both NRA and TWDB as follows:

Rocky Freund
Deputy Executive Director Nueces River Authority 6300 Ocean Drive, Unit 5865 Corpus Christi, Texas 78412-5865

J. Kevin Ward
Executive Administrator Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711-3231

For more information, please contact: Rocky Freund, Administrative Agent for Region N; Phone: 361-825-3193, Email: rfreund@nueces-ra.org; or submit questions to the address listed above.

Attachment C-2:

Notice Mailed to Mayors, Judges, Other Representatives in the Coastal Bend Region, and Regional Water Planning Groups in the State

Coastal Bend Regional Water Planning Group

6300 Ocean Drive, Unit 5865, Corpus Christi, Texas 78412-5865
Phone: 361-825-3193; Fax: 361-825-3195

TO: Mayors, County Judges, Water Districts, Water Suppliers, Water Rights Holders, Regional Water Planning Groups

FROM: Coastal Bend Regional Water Planning Group

DATE: June 10, 2008

SUBJECT: Notice Of Intent To Apply For Region Water Planning Funds

NOTICE OF INTENT TO APPLY FOR REGION WATER PLANNING FUNDS

The Nueces River Authority (NRA), on behalf of the Coastal Bend Regional Water Planning Group (Region N) for the Senate Bill 1 Regional Water Planning Program, intends to file an application with the Texas Water Development Board (TWDB) applying for regional water planning funds to fund an approved Scope of Work for Phase II of the Third Round of Regional Planning (2011 Planning Cycle). Region N includes the following counties: Aransas, Bee, Brooks, Duval, Jim Wells, Kenedy, Kleberg, Live Oak, McMullen, Nueces, and San Patricio.

Copies of the grant application may be obtained from NRA when it becomes available. Written comments on the grant application must be filed by July 31, 2008, with both NRA and TWDB as follows:

Rocky Freund
Deputy Executive Director
Nueces River Authority
6300 Ocean Drive, Unit 5865
Corpus Christi, Texas 78412-5865

J. Kevin Ward
Executive Administrator
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711-3231

For more information, please contact: Rocky Freund, Administrative Agent for Region N; Phone: 361-825-3193, Email: rfreund@nueces-ra.org; or submit questions to the address listed above.

The Honorable Burt Mills, Jr.
Aransas County Courthouse
301 N. Liveoak
Rockport, TX 78382

The Honorable Terry Simpson
San Patricio County Courthouse
400 W. Sinton, Rm. 105
Sinton, TX 78387

The Honorable David Silva
Bee County Courthouse
105 W. Corpus Christi, Rm. 109
Beeville, TX 78102

The Honorable Loyd Neal
Nueces County Courthouse
901 Leopard St.
Corpus Christi, TX 78401

The Honorable Linda Lee Henry
McMullen County Courthouse
P.O. Box 237
Tilden, TX 78072

The Honorable Raul M. Ramirez
217 East Miller
Falfurrias, TX 78355

The Honorable Jim Huff
Live Oak County Courthouse
P.O. Box 487
George West, TX 78022

The Honorable J.A. Garcia, Jr.
Kenedy County Courthouse
P.O. Box 37
Sarita, TX 78385

The Honorable Abel Aragon
Duval County Courthouse
P.O. Box 189
San Diego, TX 78384

The Honorable Arnoldo Saenz
Jim Wells County Courthouse
200 N. Almond
Alice, TX 78332

The Honorable Pete De La Garza
Kleberg County Courthouse
P.O. Box 752
Kingsville, TX 78363

The Honorable Henry Garrett
Mayor, City of Corpus Christi
P.O. Box 9277
Corpus Christi, TX 78469

The Honorable Billy Huerta
Mayor, City of Odem
P.O. Box 754
Odem, TX 78370

The Honorable Kenneth D. Chessire
Mayor, City of Beeville
400 N. Washington St.
Beeville, TX 78102-3938

The Honorable James Liska
Mayor, City of Three Rivers
P.O. Box 398
Three Rivers, TX 78071

The Honorable Tommy Knight
Mayor, City of Aransas Pass
P.O. Box 2000
Aransas Pass, TX 78336

The Honorable David Krebs
Mayor, City of Portland
P.O. Drawer 1285
Portland, TX 78374

The Honorable Stella Herrmann
Mayor, City of Ingleside
P.O. Box 400
Ingleside, TX 78362

The Honorable Norma Tullos
Mayor, City of Premont
P.O. Drawer 340
Premont, TX 78375

The Honorable Juan Rodriguez
Mayor, City of Alice
P.O. Box 3229
Alice, TX 78333

The Honorable Victor Ramos
Mayor, City of Bishop
P.O. Box 356
Bishop, TX 78343

The Honorable Seale Brand
Mayor, City of Orange Grove
P.O. Drawer 1350
Orange Grove, TX 78372

The Honorable Marcos Zavala
Mayor, City of Driscoll
P.O. Box 178
Driscoll, TX 78351

The Honorable Victor Lara,III
Mayor, City of Gregory
P.O. Box 297
Gregory, TX 78359

The Honorable Cynthia Canales
Mayor, City of Benavides
P.O. Drawer R
Benavides, TX 78341

The Honorable Cruz Fuentes
Mayor, City of George West
406 Nueces Street
George West, TX 78022

The Honorable Arnoldo Cantu
Mayor, City of Freer
P.O. Drawer N
Freer, TX 78357

The Honorable Carl Vajdos
Mayor, City of Agua Dulce
P.O. Box 297
Agua Dulce, TX 78330

The Honorable Rodrigo Ramon, Jr.
Mayor, City of Robstown
P.O. Box 872
Robstown, TX 78380

The Honorable Mario Alonzo
Mayor, City of Mathis
411 E. San Patricio
Mathis, TX 78368

The Honorable Claude Brown
Mayor, City of Port Aransas
710 West Avenue A
Port Aransas, TX 78373

The Honorable Alonzo Lopez
Mayor, City of San Diego
404 S. Mier
San Diego, TX 78384

The Honorable Joe Garcia
Mayor, City of Falfurrias
P.O. Drawer E
Falfurrias, TX 78355

The Honorable Pete Gonzales
Mayor, City of Sinton
P.O. Box 1395
Sinton, TX 78387

The Honorable Howard Gillespie
Mayor, City of Ingleside on the Bay
P.O. Box 309
Ingleside on the Bay, TX 78362

The Honorable Todd Pearson
Mayor, City of Rockport
622 E. Market Street
Rockport, TX 78382

The Honorable Filberto Rivera
Mayor, City of Taft
501 Green Ave.
Taft, TX 78390

The Honorable Sam Fugate
Mayor, City of Kingsville
P.O. Box 1458
Kingsville, TX 78364

The Honorable Gene Herod
Mayor, City of Lake City
P.O. Box 177
Lake City, TX 78368

The Honorable Ed Gentry
Mayor, City of Lakeside
P.O. Box 787
Lakeside, TX 78368

The Honorable William J. Ordner
Mayor, City of Petronila
2475 County Rd 69
Robstown, TX 78380

The Honorable Lonnie Glasscock III
Mayor, City of San Patricio
20680 McMurray
Mathis, TX 78368

The Honorable Russell Cole
Mayor, Town of Fulton
P.O. Box 1130
Fulton, TX 78358

The Honorable Matt Miller
Mayor, Village of Pernitas Point
101 Bluff Circle
Sandia, TX 78383

Aransas County MUD #1
1338 8th Street (Lamar)
Goose Island Lake Estates
Rockport, TX 78382

Baffin Bay WSC
513 S. County Road 1120
Riviera, TX 78379-3521

Buckeye Knoll, Inc.
229 Freeman Circle
George West, TX 78022

Rob & Bessie Welder Wildlife Foundation
P.O. Box 1400
Sinton, TX 78387

City of Alice
Public Works Director
P.O. Box 3229
Alice, TX 7833

Bernabel P. Vargas
3646 W. Highway 44
Alice, TX 78332

Texas General Land Office
1700 Congress Ave Ste 720
Austin, TX 78701

Ted W. True et al
901 Bradley Dr.
Athens, TX 75751

Mr. Gustavo Gonzalez
Water Director
City of Corpus Christi
P.O. Box 9277
Corpus Christi, TX 78469-9277

US Department of the Interior
Aransas National Wildlife Refuge
P.O. Box 100
Austwell, TX 77950

Utility Board of Falfurrias
P.O. Box 518
Falfurrias, TX 78355

Texas A&M University
Texas AgriLife Exp. Station
1300 Port
Port Aransas, TX 78373

Copano Cove Water Co. Inc.
147W. Sagebrush St.
Rockport, TX 78382-9536

San Patricio County Drainage District
P.O. Box 1414
Sinton, TX 78387

Mr. Lonnie Stewart
Live Oak Underground WCD
3460A Hwy 281
George West, TX 78022

Portland Northshore Golf LP
801 E. Broadway
Portland, TX 78374

E I Dupont De Numours & Co.
P.O. Box JJ
Ingleside, TX 78362

Elementis Chromium LP
3800 Buddy Lawrence Dr.
Corpus Christi, TX 78407

W. L. Flowers Machine & Welding Co.
2585 S. Highway 281
Alice, TX 78332

San Miguel Electric Cooperative Inc.
P.O. Box 280
Jourdanton, TX 78026

W. E. Scarborough Estate
5117 County Road 40
Robstown, TX 78380

Wayne Shambo
P.O. Box 72325
Corpus Christi, TX 78472

H.S. Sizemore & Son Co.
8515 Up River Road
Corpus Christi, TX 78409

Ernest L. Hoelscher
P.O. Box 1498
Alice, TX 78333

St. Anthony's Catholic Church
3918 County Road 61
Robstown, TX 78380

J. T. Stellman
P.O. Box 1111
Aransas Pass, TX 78335

City Manager
City of Taft
P.O. Box 416
Taft, TX 78390

Copano Heights Water Company
P.O. Box 627
Fulton, TX 78358

Cyndie Park II WSC
P.O. Box 261155
Corpus Christi, TX 78426-1155

Duval County CRD
P.O. Box 423
Benavides, TX 78341

East Riviera WSC
P.O. Box 368
Riviera, TX 78379-3502

El Oso Wsc
P.O. Box 309
Karnes City, TX 78118-0309

English Acres
3117 Silverton Drive
Dallas, TX 75229-3753

Richard Thallman
Escondido Creek Estates, Inc.
P.O. Box 973
Kingsville, TX 78364

Mr. Vincente Guerra
Freer WCID
P.O. Box 329
Freer, TX 78357

Glasson WSC
4208 County Road 3693
Taft, TX 78390

Holiday Beach WSC
P.O. Box 807
Fulton, TX 78358

Jim Wells County FWSD 1
P.O. Box 428
Ben Bolt, TX 78342

Lakewood WSC
P.O. Box 270086
Corpus Christi, TX 78427-0086

McMullen County WCID #1
P.O. Box 356
Tilden, TX 78072

McMullen County WCID #2
P.O. Box 158
Calliham, TX 78007

Mr. Philip Richard
Nueces County WCID #3
P.O. Box 1147
Robstown, TX 78380

Nueces County WCID #4
315 S. 9th St.
Port Aransas, TX 78373

Nueces County WCID #5
P.O. Box 157
Banquete, TX 78339

Nueces WSC
P.O. Box 415
Kingsville, TX 78364

Old Marbach School WSC
P.O. Box 268
George West, TX 78022

Pettus MUD
P.O. Box 153
Pettus, TX 78146

Ricardo WSC
P.O. Box 1572
Kingsville, TX 78364-1572

Rincon WSC
P.O. Drawer 7
Taft, TX 78390

River Acres WSC
15449 Northwest Blvd. Suite A
Robstown, TX 78380

Saint Paul WSC
10411 County Road 2329
Sinton, TX 78387-2389

Mr. Vic Casas
San Diego MUD #1
200 South Dr. E E Dunlap Hwy
San Diego, TX 78384-3204

San Patricio County MUD #1
P.O. Box 39
Edroy, TX 78352

Mr. Don Roach
San Patricio MWD
P.O. Box 940
Ingleside, TX 78362

Seaboard WSC
P.O. Box 328
Odem, TX 78370

Skidmore WSC
P.O. Box 290
Skidmore, TX 78389-0290

Tynan WSC
P.O. Box 115
Tynan, TX 78391-0115

Violet WSC
P.O. Box 1146
Robstown, TX 78380

Blueberry Hills Water Works, LLC
2326 Highway 59 West
Beeville, TX 78102

Choke Canyon Water System
P.O. Box 3
Calliham, TX 78007-0003

McCoy WSC
2125 FM 541
Falls City, TX 78113-3380

Ms. Carola Serrato
South Texas Water Authority
P.O. Box 1701
Kingsville, TX 78364

Utility Development & Research Inc.
P.O. Box 305
Riviera, TX 78379-0305

The Honorable Norma Tullos
Mayor, City of Premont
P.O. Drawer 340
Premont, TX 78375

Mr. Lonnie Stewart
Bee Groundwater Conservation District
P.O. Box 682
Beeville, TX 78104-0682

Papalote Ranch Corporation
2730 Irving Blvd.
Dallas, TX 75207

George Williams
King Ranch, Inc.
P.O. Box 1090
Kingsville, TX 78364

Richard P. Horton
P.O. Box 7
Tilden, TX 78072

Maurice R. Byerly
Ila M. Noakes Lindgreen
12629 Leopard St.
Corpus Christi, TX 78410

Joe D. McNair
P.O.Box 148
Banquete, TX 78339

Joel E. Meek
1525 County Road 370 Unit A
Uvalde, TX 78801

Nueces Bay WLE LP
2002 E. Navigation Blvd.
Corpus Christi, TX 78402

Mr. Lonnie Stewart
McMullen Groundwater Conservation District
P.O. Box 232
Tilden, TX 78072

Paul Loeffler
Kiewit Offshore Services Ltd.
2240 Kiewit Rd.
Ingleside, TX 78362

Aransas Bay Utilities Co. LLC
P.O. Box 2197
Rockport, TX 78382

Aransas County Navigation Diestrict
P.O. Box 751
Fulton, TX 78358

Beeville Water Supply District
1011 N. Ave. C
Beeville TX 78102

Patrick Nye
Paul W. Nye & Don E. Peterson
1250 Frost Bank Plaza
Corpus Christi, TX 78470

Riviera Water System, Inc.
178 County Road 1040 South
Kingsville, TX 78363

Riviera WCID
P.O. Box 430
Riviera, TX 78379

City of Corpus Christi
O.N. Stevens Water Treatment Plant
P.O. Box 9277
Corpus Christi, TX 78469

Corpus Christi Downtown Management District
410 Peoples St.
Corpus Christi, TX 78401

Nueces County Drainage & Conservation District 2
P.O. Box 209
Robstown, TX 78380

Port of Corpus Christi Authority
P.O. Box 5488
Corpus Christi, TX 78465

San Patricio County Navigation District 1
P.O. Box 1136
Aransas Pass, TX 78335

2-B Farm and Ranch Inc
5414 Partridge #11
Robstown, TX 78380

Bradley K. Aery et ux
201 E. Viejo Dr.
Friendswood, TX 77546

Alice Country Club
P.O. Box 1428
Alice, TX 78333

Apex Golf Properties Corporation
7111 Pharoah Dr.
Corpus Christi, TX 78412

B. Gentry Ventures, Ltd.
12200 Katy Freeway
Houston, TX 77079

Barney M. Davis LP
4301 Waldron Rd.
Corpus Christi, TX 78418

BPU Reynolds, Inc.
P.O. Box 9911
Corpus Christi, TX 78469

Briscoe Ranch Inc.
P.O. Box 389
Uvalde, TX 78802

Garnett T. Brooks & Patsy A Brooks
P.O. Box 151
Corpus Christi, TX 78403

Oso Creek Properties LC
6201 Oso Parkway
Corpus Christi, TX 78414

John H. & Edith L. Burris
P.O. Box 243
Alice, TX 78333

Chapman Ranch Trusts I and III
P.O. Box 900
Corpus Christi, TX 78403

Circle C Cattle Co. Ltd.
P.O. Box 428
Agua Dulce, TX 78330

C. E. Coleman Estate
34 Longsford
San Antonio, TX 78209

Randy J Corporation et al
111 Gillingham Ln.
Sugar Land, TX 77478

Steve Milam
Diamond Shamrock
Refining/Marketing Co.
P.O. Box 490
Three Rivers, TX 78071

Mary P. Dougherty et al
P.O. Box 640
Beeville, TX 78104

Panhandle Regional Planning Comm.
Region A Administrator
P.O. Box 9257
Amarillo, Texas 79105

C.E. Williams
Panhandle GCD
P.O. Box 637
White Deer, Texas 79097

Vernon Cook
Roberts County
P.O. Box 478
Miami, Texas 79059

Red River Authority
Region B Administrator
3000 Hammon Road
Wichita Falls, Texas 76301

Curtis Campbell
Red River Authority of Texas
P.O. Box 240
Wichita Falls, Texas 76307-0240

Wilson Scaling
Clay County
450 Raht Road
Henrietta, Texas 76365-7337

North Texas Municipal Water District
Region C Administrator
P.O. Box 2408
Wylie, Texas 75098

James Parks
North Texas Municipal Water District
P.O. Box 2408
Wylie, Texas 75098

Jody Puckett
City of Dallas, Dallas Water Utilities
1500 Marilla Street, 4AN
Dallas, Texas 75201

Northeast Texas MWD
Region D Administrator
P.O. Box 955
Hughes Springs, Texas 75656

Jim Thompson
P.O. Box 1107
Atlanta, Texas 75551

Adam Bradley
Bradley Timberlands
P.O. Box 312
Jefferson, Texas 75657

Richard LeTourneau
P.O. Box 12071
Longview, Texas 75607

Rio Grande Council of Governments
Region E Administrator
1100 North Stanton, Suite 610
El Paso, Texas 79902

Tom Beard
Attorney At Law
P.O. Box 668
Alpine, Texas 79831

Ed Archuleta
El Paso Water Utilities – PSB
P.O. Box 511
El Paso, Texas 79961-0001

Colorado River MWD
Region F Administrator
P.O. Box 869
Big Spring, Texas 78721

John Grant
Colorado River MWD
P.O. Box 869
Big Spring, Texas 79721-0869

Steven C. Hofer
P.O. Box 2776
Midland, Texas 79702-2776

Brazos River Authority
Region G Administrator
P.O. Box 7555
Waco, Texas 76714

Scott Mack
108 N. Cranbrook Court
Ingram, Texas 78025

Dale Spurgin
Jones County
P.O. Box 148
Anson, Texas 79501

Harris-Galveston
Coastal Subsidence District
Region H Administrator
1660 W. Bay Area Blvd.
Friendswood, Texas 77546

Jeff Taylor, P.E.
City of Houston
Dept. of Public Works and Engineering
611 Walker, 25th Floor
Houston, Texas 77002

Mark Evans
Trinity County
P.O. Box 457
Groveton, Texas 75845-0457

Deep East Texas COG
Region I Administrator
118 S. First St.
Lufkin, Texas 75901

Kelley Holcomb
Angelina and Neches River Authority
P.O. Box 387
Lufkin, Texas 75902-0387

Worth Whitehead
102 Jan Street
Henderson, Texas 75652

C. Michael Harbordt
701 Lazy Lane
Lufkin, Texas 75904

Kerr County
Region J Administrator
700 Main Street
Kerrville, Texas 78028

Jonathan Letz
Kerr County
700 Main Street
Kerrville, Texas 78028

John Burke
Aqua Water Supply Corporation
P.O. Drawer P
Bastrop, Texas 78602

Con Mims
Nueces River Authority
P.O. Box 349
Uvalde, Texas 78802

Glenn Jarvis
Law Offices of Glenn Jarvis,
InterNational Bank
1801 South Second Street, Suite 550
McAllen, Texas 78503

Harold P. "Bo"Brown
Texas Cattle Feeders
3101 19th Street
Lubbock, Texas 79410-1402

Harrison Stafford, II
Jackson County
115 W. Main
Edna, Texas 77957

Jerry Simpton
The Bank and Trust
P.O. Box 4010
Del Rio, Texas 78841-4010

Haskell Simon
P.O. Box 106
Bay City, Texas 77404

Mike Mahoney
Evergreen UWCD
110 Wyoming Blvd.
Pleasanton, Texas 78064

Jim Darling
Doctors Hospital at Renaissance
5501 South McColl Rd
Edinburg, Texas 78539

Jim Conkwright
High Plains UWCD No. 1
2930 Avenue Q
Lubbock, Texas 79411-2499

Bob Weiss
7451 FM 957
Hallettsville, Texas 77964

Lower Colorado River Authority
Region K Administrator
P.O. Box 220
Austin, Texas 78767-0220

San Antonio River Authority
Region L Administrator
100 E. Guenther Street
San Antonio, Texas 78283-0027

Lower Rio Grande Valley Dev. Council
Region M Administrator
311 N. 15th Street
McAllen, Texas 78501-4705

High Plains UWCD No. 1
Region O Administrator
2930 Avenue Q
Lubbock, Texas 79405

Lavaca-Navidad River Authority
Region P Administrator
P.O. Box 429
Edna, Texas 77957