



Project ID#
November 4, 2002

PROJECT NAME: Water Conservation Improvements for Delta Lake Irrigation District, Hidalgo and Willacy Counties, Texas

TEAM MEMBERS: Project Sponsor – Max Phillips; Consultant - Al Blair ; BECC – ; NADB – Fernando Escarcega; IBWC – Bobby Ybarra; TWDB – Jeff Walker; USBOR – Rick Clark; Secretary of State Office – Helena Colyandro;

PROJECT SPONSOR: Delta Lake Irrigation District, Hidalgo and Willacy Counties; Max Phillips, Manager, Route 1, Box 225; Edcouch, Texas 78538; Tel: (956) 265-2101 Fax: (956) 262-5695

PROJECT SPON. CONSULTANT Al Blair, P.E.,Ph.D.; Axiom-Blair Engineering; 3922 Steck Ave. Suite B119 Austin, Texas 78759; Tel: 512-349-0385 Fax: 512-349-0385 a.w.blair@world.net.att.net

BENEFITED POPULATION: 581,087 residents

PROJECT ESTIMATED COST: \$7,120,000

FUNDING PRELIMINARY PLAN: SECO funding for planning and design at \$253,020
NADBWCF:
Project Sponsor:
Other:

BECC DATES: Step I: September 24, 2002
Step I Response:
Est. certification date:

I. GENERAL ASPECTS

1.1 Project description

The project sponsor requests financial assistance to construct four conservation projects that were selected as priority from a list of 11 major and 37 minor projects. The Reservoir Renovation project consists of building a by-pass canal, control structures, and radial gates to allow the J-Canal to be supplied directly from the main canal. In water short years, this would allow the larger portion of Delta Lake to be unused and salvage approximately 5,000 to 7,000 acre-feet of evaporation loss. The Main Canal Seepage Recovery project would construct a surface and subsurface drain collection system and return pump to collect 5 cfs of water that seeps from the main canal. The capital cost of such a recovery system may be 5 to 10 times more economically viable than concrete lining the main canal. The Flow Measurement and Telemetry project consists of installing meters or providing metering of all turnouts and installation of flow measurement telemetry devices on the main canal and all canals with capacities greater than 30 cfs. The telemetry system would improve the timing of water delivery to farms and reduce spillage and operation costs. Pipeline and Canal Lining projects would renovate or replace existing open channel laterals and small canals and buried mortar joint concrete pipe with new gasket joint PVC or RCP pipe or slip-for lining of laterals. A preliminary estimate of the quantity of water that could be salvaged from each of the priority projects is 22,800



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acre-feet per year. The District has 174,776 ac-ft of authorized water rights and has the largest amount of irrigated agriculture of the 28 irrigation districts in the Lower Rio Grande Valley (LRGV).

1.2 Project Location

The district is located in northern Hidalgo and western Willacy Counties, Texas, and is one of the few irrigation districts in the Lower Rio Grande Valley that is primarily rural. The district has approximately 250 miles of lined or partially lined canals, 42 miles of unlined canals, and 122 miles of unlined laterals. The Rio Grande serves as the primary water source for the system. Water is drawn from the river and pumped northward through a system of pipelines and canals.

1.3 Project Sponsor Profile

The project sponsor is the Delta Lake Irrigation District and the Texas Water Development Board. The district is an irrigation district and is a political subdivision of the State of Texas, organized under and by virtue of Article 16, Section 59 of the Constitution of the State of Texas. The district is operated under Chapter 49 and 55 of the Texas water Code. The District's ruling body is a Board consisting of user representatives. The projects will not require additional personnel to implement the operation of the improvements. Currently the project sponsor has under contract a consultant, Axiom-Blair Engineering, to complete the planning through final design of the project.

1.4 Prior studies by sponsor for project development

The District is preparing, through its consultant, a Project Plan and Report following US Bureau of Reclamation (USBOR) guidelines and funded by the TWDB SECO Funds. The Project Plan contains a brief description of the project, an alternative analysis based on best-management practices, and design criteria to be used. The Project Report, which will include a more detailed technical alternative analysis, defined project costs, modeling results for water salvage and the environmental summary. The environmental summary will require agency consultation.

1.5 Project Schedule

A project schedule is attached, Attachment 1, based on the available information as of November 20, 2002. An Action-Item checklist is contained in Attachment 2 of this report. The critical milestones are (1) a project cost estimate to an extent that NADB is confident in committing resources (2) receipt of the financial information from the project sponsor and those projections to be provided by Texas A&M; (3) completion of the financial modeling, analysis, and funding structure determination; (4) acceptance of the financial structure by the District Board and (4) having the public meetings which cannot be held until the technical analysis and financial structure determination is complete. Below is a summary of the schedule

Task	Duration (Work days)	Start	Finish
Step I Process	456 days	10/7/02	12/6/02
RAP Process	33 days	11/6/02	12/20/02
Technical Assistance Process	13 days	12/3/02	12/19/02
Analysis of Technical Documents	13 days	12/4/02	12/20/02
Environmental Analysis	32 days	1/17/03	3/3/03
Financial Analysis/Chapter 4	76 days	11/6/02	2/19/03
Project Certification Document	47 days	12/17/02	2/19/03
Community Participation	78 days	11/6/02	2/21/03
Certification Process	19 days	2/24/03	3/20/03

1.6 Conformance with International Treaties and Agreements

TCEQ (formally TNRCC) and IBWC are the authority for allocation of water to the District. The project will not violate the allocations and will improve the beneficial use of the water provided



through the District. Minute 308 does not apply. The 1944 Water Treaty does apply, therefore the Project Sponsor will need to provide a signed statement that the project will conform with rights and obligations under applicable international treaties and agreements in force.

II. ENVIRONMENTAL AND HUMAN HEALTH INDICATORS

2.1 Human health

The proposed project will provide more efficient water delivery by the District increasing the availability for agricultural and municipal use. Therefore, this area of the certification document will focus on the reduced risk of diseases associated with not having water available for municipal use.

2.2 Environmental Assessment

An Environmental Summary will be prepared as part of the Project Report required by USBOR currently under contract and funded by the State of Texas SECO funds. The Environmental Summary and agency consultation to be completed with this project is expected to result in a clearance similar to a categorical exclusion by USBOR. Agency consultation will include at least the following agencies: Corps of Engineers, Texas Parks and Wildlife, and Historical Preservation Office, IBWC, and US Fish and Wildlife Service. Since it is unlikely USBOR funds will be provided for this project, a formal environmental review consistent with the National Environmental Policy Act will not be required. Therefore, only the completion of the Environmental Summary and agency consultation will be required for certification. The Project Sponsor has directed the consultant to accelerate completion of this task to achieve BECC certification. The BECC consultant will use this document to address the environmental component, specifically section b.2. of the Certification Criteria. The Secretary of States Office has committed to send a letter to the appropriate agencies encouraging them to respond quickly. The Project Sponsor will provide a list of names and addresses of the agency consultation to the Secretary of States Office. Should USBOR funding be approved after certification, the formal categorical exclusion can be completed subsequently. Design standards will meet all applicable regulatory requirements.

2.3 Compliance with environmental norms and regulations including violations

The design criteria will be completed in accordance with all applicable regulatory requirements and presented to the TWDB and USBOR in the Project Plan. These two agencies will review and approved in writing the Project Plan. The Project Sponsor as part of the Project Certification Document will provide the letters of approval by TWDB and USBOR.

III. TECHNICAL FEASIBILITY

3.1 Appropriate Technology

A description on how the most effective technology was selected should be included in this section. The Project Plan will be sufficient to meet this requirement. Alternatives are analyzed in the plan following industry and “best practice” standards and the design criteria to be used was also included. As mentioned previously, the Project Plan was approved by TWDB and USBOR, therefore technical verification of the document by BECC will not be needed. The Project Plan has been provided to the BECC. The BECC consultant, for completion of the Step II, will review and provide recommendations for any information needed for Certification which is not included in the existing technical documents.

3.2 Operation and Maintenance Plan

The project must include an Operation and Maintenance Plan including start-up operations, emergency planning, safety plan, quality assurance plan, and training plan for personnel. The company that constructs the project will develop the O&M Plan. The plans and specifications for



design of the project will include development of the O&M Plan (Standard Operating Procedures), start-up, training, and a warranty period.

IV. FINANCIAL FEASIBILITY AND PROJECT MANAGEMENT

4.1 Identified potential construction funding sources

As described in the Step I, the project cost for the project is \$253,020 for final design and \$7.12M for construction. The District has received funding for planning and design from the state of Texas SECO funds. These technical documents are those required by the USBOR process for requesting construction funding. The funding that is potentially available from USBOR is included in Public Law 106-576 for Texas Irrigation Projects however actual funding dollars have not been appropriated. There are currently bills presented to the US House and US Senate which request funding appropriations but the language currently describes the use of that funding for planning only. A request has been initiated to amend that language to include construction. It is unlikely this funding will be appropriated this federal fiscal year for this project, since the amount of funding available will be between \$500,000 to \$2,000,000 for four projects. Additionally, the District does not report any existing debt obligations and is willing to consider a debt component for the project

Loan funding is available through the TWDB to match grant funds available from the North American Development Bank's Water Conservation Investment Fund (WCIF). As a part of its project and financial analysis, the district will investigate and implement where necessary, adequate user fees and other measures to ensure that the district is financially able to meet all debt and operational obligations. The proposed financial strategy will be to establish the financial structure and sources of funding. The District can provide funding contributions using existing means. The District has requested that the maximum amount of grant funding applicable be made available for the project and has indicated an ability to provide matching funds in the amount required at no more than fifty percent of the total cost of the project. The District requests that work potentially to be performed by District personnel be considered as a potential source of project sponsor contribution. During discussion on September 25th, NADB's response was favorable to this concept. Should the USBOR funding be provided at a later date this funding could potentially substitute the Project Sponsor contribution and/or NADB loan.

As determination of the financial structure is complete, the District Board must provide some evidence of general concurrence and commitment to implementing the project prior to certification. The public will also be provided information on the financial structure at the final public meeting. The District will be required to provide evidence of public support for any immediate impact to the public for repayment of any portion of the project.

4.2 Project sponsor financial potential – fee/rate model

The construction is estimated to cost \$7.12M. The detailed construction costs and O&M costs will be prepared as part of the Project Report. The District will present O&M Costs expected from the implementation of the project improvements. The District will also provided this data to Texas A&M for development of an economic study and cost performa. The work completed by Texas A&M will be used for the financial model developed for this project. The revised schedule attached includes this task and it's relationship to completion of the financial tasks required for certification.

4.3 Project Management

The project will not require additional staffing. Therefore, the existing organizational structure, which has been provided, will be sufficient.



V. PUBLIC PARTICIPATION

5.1 Public Participation Plan

The steering committee formation meeting will be held and a committee will be formed. The project Public Participation Plan will be developed by the Project Sponsor and steering committee for approval by BECC. Public meetings for the technical and financial aspects will be held following the development of the documents necessary.

VI. STAKEHOLDERS

6.1 Intergovernmental Coordination

The project certification process entrusted to the BECC, is a process in which different agencies participate. The success of the certification process depends heavily on the support and coordination of each of these agencies. The agencies directly involved in the certification of this project include the project sponsor, NADB, IBWC, TWDB, TCEQ, SOS, and BECC. The role of each agency is defined below:

1. The project sponsor has developed much of the technical documents needed for the project.
2. The NADB's primary role will be to complete the financial analysis and determine the financial structure for the project.
3. TWDB has provided the funding for planning through design of the project. Therefore, the technical review will be provided through TWDB.
4. TCEQ is responsible for the regulatory aspect of the project including the allocation of water rights.
5. Secretary of States Office will assist the project's public participation process through the Ombudsmen and will provide support through the agency consultation for the environmental process.

A meeting was held on November 5th and 6th, 2002 in San Juan and Weslaco, TX with the project sponsor and other agencies to review the strategy for certification and the list of information that will be needed in order to achieve certification. Agencies in attendance included TWDB, SOS, USBOR, and Texas A&M.

6.2 BECC Project approach and Technical Assistance

BECC will provide Technical Assistance to complete the financial modeling and feasibility analysis and to compile the Step II document.

VII. SUSTAINABLE DEVELOPMENT

7.1 Minimum criteria requirements

The Baseline Conditions report will need to be completed by the project sponsor and included as Attachment 3. Additionally, BECC will determine which of the Sustainable Development Minimum Criteria will apply to this project and include in Attachment 3. These minimum criteria were distributed at the September 25th meeting. It is important to note that the Texas A&M has developed a model which will quantify the amounts of water saved. The project sponsor will provide the information necessary to run the model. This information will be useful for this chapter of the Project Certification Document.

Attachments

Attachment 1 – Project Schedule

Attachment 2 – Project Information Checklist

Attachment 3 – Baseline Conditions and Minimum Criteria for Sustainable Development



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Attachment 1 – Project Schedule



Attachment 2

PROJECT INFORMATION CHECKLIST

GENERAL ASPECTS

Project description

1. On **November 20 the Project Sponsor** will submit a more detailed project description and a tentative schedule for completion of project from present through construction.

Conformance with International Treaties

2. **Project Sponsor will provide** a signed statement as part of the Project Certification Document
BECC to provide example to be completed by Certification.

ENVIRONMENTAL AND HUMAN HEALTH INDICATORS

Environmental Assessment

3. By **January 17 the Project Sponsor** will submit the Environmental Summary
4. On **January 20, the Project Sponsor** will have initiated Agency Consultation. In addition to provide the Secretary of State's office a list of names, agencies, and addresses.
5. By **January 27, the SOS** will send letters to agencies
SOS office has reiterated its commitment.

FINANCIAL FEASIBILITY AND PROJECT MANAGEMENT

Identified potential construction funding sources

6. By **February 5, the Project Sponsor/NADB** will determine the potential sources of funding for the project.

Terms and conditions of funding are to be determined pending final guidelines from NADB. District Board will make this decision as these items are provided to them.

Project sponsor financial potential – fee/rate model

7. By **December 23 the Project Sponsor** will provide (1) detailed project costs (2) Operation and Maintenance costs for the new project.
8. Prior to **January 16 the Project Sponsor** will provide the information requested by NADB for the financial analysis
NADB to determine if any additional information is needed.
9. After receipt of information by Project Sponsor, **the NADB within 2 weeks**, will complete the financial analysis and Chapter 4 of the certification document (estimated to be February 21).
BECC will initiate financial feasibility and model development. NADB to assist with SOW. Schedule has been modified to provide for this effort.



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PUBLIC PARTICIPATION

Proposed Public Participation Strategy

10. **Pending from the Project Sponsor** is a definition of the final public participation process. Needs to be completed by **February 21 to achieve a March certification. Project Sponsor and BECC to agree on public participation plan. Requirements must be met for March Certification. Schedule has been updated to reflect this.**

SUSTAINABLE DEVELOPMENT

Minimum criteria requirements

11. On **November 5, BECC** provided the relevant Sustainable Development Minimum Criteria.
12. The **Project Sponsor** as part of the Project Certification Document will work with Texas A&M to determine the amount of water to be conserved.
This is on-going.
The **Project Sponsor by January 17** will provide as much of the information as possible in the Baseline Conditions Report. The BECC Consultant will obtain the remainder.



Baseline Conditions

Baseline Conditions need to be determined through identification of relevant pressure and state indicators to support and serve as a basis for the proposed infrastructure responses. If baseline conditions are not linked to project performance, the actions taken in response to environmental projects may not be justified. Baseline conditions needed as part of the engineering process are already adequately defined (e.g. description and evaluation of existing infrastructure, population projections). However, other baseline conditions should be included, such as public health factors, institutional strength, education level, employment and other socioeconomic factors. Although some baseline conditions, such as the previously mentioned, would not be particularly useful from a technical feasibility perspective, they can be used to formulate criteria used to help define the engineered solutions. The type of non-engineering baseline conditions needed to determine and support applicable health and environmental issues and the community's profile must be defined. Baseline conditions will then be used by the sponsor and consultant to adhere the engineering process to sustainability and adequately define the basis for proposed infrastructure.

The following tables list key state and pressure indicators. The sponsor and consultant will search for and identify the data to match these indicators (when applicable), and use the information to produce a Baseline Conditions Report. This report should be as concise as possible, and key indicator data should be presented in bulleted format. It is important to note that data and information gathering should be from existing studies or published sources. New research or fieldwork is not expected or required. Where information does not exist, data from other communities with similar circumstances or characteristics may be substituted.



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PRESSURE & STATE INDICATORS	SOURCE INFORMATION OF
Irrigation District Indicators	

<ul style="list-style-type: none"> • Water source (surface and/or ground) 	
<ul style="list-style-type: none"> • Volume of water withdrawals (surface and/or ground) 	
<ul style="list-style-type: none"> • Volume of approved water rights to irrigation districts 	
<ul style="list-style-type: none"> • Global efficiency of irrigation districts 	
<ul style="list-style-type: none"> • Loses (%) on stored water 	
<ul style="list-style-type: none"> • Loses (%) on water conveyance (evaporation/infiltration) 	
<ul style="list-style-type: none"> • Water productivity (\$/m³) 	
<ul style="list-style-type: none"> • Soil productivity (\$/acre) 	
<ul style="list-style-type: none"> • Crop production (Ton/acre) 	
<ul style="list-style-type: none"> • Existing crops per irrigation district 	
<ul style="list-style-type: none"> • Consumptive use (water) per crop type 	
<ul style="list-style-type: none"> • Inches of water applied per acre per crop type 	
<ul style="list-style-type: none"> • Irrigation efficiency applied on parcels (consumptive use vs. irrigation applied) 	
<ul style="list-style-type: none"> • Irrigation water supplied per acre (parcel distribution) 	
<ul style="list-style-type: none"> • Amount of irrigation per crop 	
<ul style="list-style-type: none"> • Level slopes according to irrigation practices in the region 	
<ul style="list-style-type: none"> • Water users per irrigation district 	
<ul style="list-style-type: none"> • Existing water flow measure mechanisms in the irrigation districts, on irrigation canals and irrigation ditches. 	
<ul style="list-style-type: none"> • Water control mechanisms (gates, etc.) 	
<ul style="list-style-type: none"> • Historic levels on water reservoirs 	
<ul style="list-style-type: none"> • Irrigation systems currently in use on irrigation 	



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districts	
<ul style="list-style-type: none"> • Current tariff structure 	
<ul style="list-style-type: none"> • Pumps and appurtenances operative efficiency 	
<ul style="list-style-type: none"> • Rio Grande historic flow 	
<ul style="list-style-type: none"> • Contamination problems of water bodies (surface water) and groundwater (irrigation washes) 	
<ul style="list-style-type: none"> • Physical area 	
<ul style="list-style-type: none"> • Irrigated area 	
<ul style="list-style-type: none"> • Crops distribution per irrigation district 	
<ul style="list-style-type: none"> • Economic status of irrigation district users 	
<ul style="list-style-type: none"> • Property land ownership 	
<ul style="list-style-type: none"> • Water quality of the Rio Grande 	
<ul style="list-style-type: none"> • Environmental flow of the Rio Grande 	