

**ECONOMIC IMPACT STUDY FOR
WATER & WASTEWATER INFRASTRUCTURE FUNDING
TO SELECTED BORDER COMMUNITIES**

July 13, 2004

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Executive Summary

BACKGROUND

The Border Environment Cooperation Commission (“BECC”) is a bi-national agency established by the United States and Mexico in 1994 under the terms of the North American Free Trade Agreement (“NAFTA”). Over the past eight years, BECC has certified 100 infrastructure projects in the border region with a combined construction cost of over \$2.3 billion. Additionally, BECC maintains in its pipeline approximately 60 active water, wastewater and solid waste projects in various stages of development. BECC is seeking to determine the extent to which these infrastructure improvements create or enhance economic opportunities for the targeted border communities.

The American Economic Development Council defines Economic Impact Analysis as follows:

Economic Impact Analysis is an analytical approach used to assess the measurable public costs and benefits resulting from a project or policy over a specific time period.

Investment in infrastructure results in a different type of economic impact from a typical private sector investment (i.e. a new factory or retail store). This is because communities must invest in infrastructure and new capacity before new economic activity can take place. Therefore, infrastructure investment must be considered a driver or catalyst for new private sector economic activity and job/wealth creation.

For example, assume that a community invests \$1 million in new water and wastewater infrastructure capacity. By itself this \$1 million investment will not create significant numbers of new jobs or community wealth. However, it will provide the ability for private sector businesses and residences to expand within the community, something that was not possible under the utility system’s previous capacity constraints. Therefore, \$1 million in infrastructure investment will result in new private sector jobs, increased community output or sales, and other tangible measures of increased economic activity.

To summarize, for the great majority of infrastructure projects that are currently under development, there can be no significant increase in economic activity or wealth creation in the surrounding community without the enhancement of existing capacity or creation of new capacity associated with the public infrastructure investment.

FORECAST OF ECONOMIC IMPACTS

The potential community economic impacts measured in this study are grouped into three categories:

Impact on Private Sector Investment

- Total Industrial, Commercial, and Residential Property Investments

Impact on the Community

- Employment (Job Creation / Retention)
- Wages (Total Gross Earnings from Employment)
- Output (Total Sales from industrial, retail, and commercial sectors. Includes final sales at the community level including sales for products consumed in the area or sales to other areas).

Impact on Tax Revenues

- Local Government Sales Tax and Property Taxes

After conducting a review of the projects and communities currently in the pipeline, the following communities were selected to conduct this economic impact analysis:

- Calapatria, California
- Bisbee, Arizona
- Doña Ana Village, New Mexico
- East Rio Hondo WSC, Texas
- Lower Valley Water District, Texas

These communities were considered representative of the border region. At least one community from each major border state was included in the analysis.

Data calculated from the Bureau of Economic Analysis ("BEA") RIMS II model was utilized for this analysis. RIMS II data serves as standard inputs for economic impact analyses conducted throughout the United States.

SUMMARY OF RESULTS – OVERALL IMPACT

The economic data analyzed in this study support the conclusion that the United States-Mexico border area is one of the most economically dynamic regions of the North American continent. This is due to a combination of many factors, including climate, population growth, the available labor force, and the North American Free Trade Agreement (NAFTA). However, the lack of infrastructure investment has resulted in a constraint on this growth for many border communities in California, Arizona, New Mexico and Texas. Given the dynamism and opportunities provided by this region, new infrastructure investment will provide a substantial economic benefit to these communities and residents.

Table ES-1 summarizes the private sector investment activity that would be made possible in these communities for every \$1 million of infrastructure investment **over a 10-year period**. The 10-year period initiates with the commencement of construction on the project.

TABLE ES-1 Community Economic Impact Summary IMPACT PER \$1 MILLION OF INFRASTRUCTURE INVESTMENT	
	Total Benefits Year 1 - 10
Total Investment Impact:	11,124,825
Total Community Impact:	
Employment (jobs)	221
Wages (dollars)	\$ 16,621,111
Output (dollars)	\$ 52,175,414
Total Tax Revenue Impact:	\$ 1,689,103

The following is notable about this table:

- For each \$1 million in new water/wastewater infrastructure investment there is a resulting impact of **\$11,124,825** in new private sector investment.
- For every \$1 million in new infrastructure investment, it is estimated that **221** jobs would be created and/or retained.
- Infrastructure investment leading to new economic activity would substantially increase governmental revenues as well. It is forecast to increase local sales and property taxes by **\$1,689,103**.
- There is forecast to be a total of **\$52,175,414** in private sector output (final sales in the area including industrial, commercial, and retail sales) over the course of ten years that would be made possible (directly, indirectly, and induced) by each \$1 million in infrastructure investment.

Table ES-2 summarizes the total economic impact of the five projects examined in this study. The tables identify the overall benefits **over the 10-year period** from the construction of the facilities, the combined increased economic activity that can take place within the communities after the facilities are in place, and the respective annual averages. The following is notable about these tables:

- The total project investment for the five communities is forecast to be **\$88,857,131**.
- Over the ten year period, this investment is expected to result in an overall increase in private sector investment in the combined communities (i.e. new property value - - industrial, commercial, and residential property) of **\$988,520,000**.
- The project team forecasts that the increased economic activity throughout the five communities resulting from this investment will lead to the creation and/or retention of **18,359** jobs over the next decade.

- The total combined community output (final sales in the area including industrial, commercial, and retail sales) forecast for the five communities from the increased economic activity as a result of the infrastructure investment is **\$4,636,157,605** over the 10-year period.
- The total local sales and property taxes forecast to be collected from the additional economic activity generated by the infrastructure investment for the five communities is forecast to be **\$150,088,808**.

TABLE ES-2
Community Economic Impact Summary
10 Year Study Period and Average Annual Impacts

	Calapatria	Bisbee	Doña Ana Village	East Rio Hondo	Lower Valley	Total	Average
Total Project Construction Cost	\$3,000,000	\$30,067,321	\$22,000,000	\$13,300,000	\$20,489,810	\$88,857,131	\$17,771,426
Total 10-Year Community Impacts:							
Total Investment Impact	\$68,640,000	\$22,680,000	\$210,800,000	\$183,800,000	\$502,600,000	\$988,520,000	\$197,704,000
Total Community Impact							
Employment (jobs)	1,247	711	4,172	3,930	8,299	18,359	3,672
Wages (dollars)	\$101,338,339	\$50,890,816	\$337,058,166	\$321,322,065	\$666,294,854	\$1,476,904,240	\$295,380,848
Output (dollars)	\$318,807,078	\$160,226,972	\$1,057,397,735	\$1,006,129,880	\$2,093,595,940	\$4,636,157,605	\$927,231,521
Total Tax Revenue Impact							
Sales Tax	\$1,394,781	\$1,001,419	\$2,141,230	\$539,896	\$10,467,980	\$15,545,305	\$3,109,061
Property Taxes	\$6,177,600	\$1,533,962	\$31,303,800	\$18,312,821	\$77,215,320	\$134,543,503	\$26,908,701
Total	\$7,572,381	\$2,535,380	\$33,445,030	\$18,852,717	\$87,683,300	\$150,088,808	\$30,017,762
Annual Average Community Impacts:							
Annual Investment Impact	\$6,864,000	\$2,268,000	\$21,080,000	\$18,380,000	\$50,260,000	\$98,852,000	\$19,770,400
Annual Community Impact							
Employment (jobs)	125	71	417	393	830	1,836	367
Wages (dollars)	\$10,133,834	\$5,089,082	\$33,705,817	\$32,132,206	\$66,629,485	\$147,690,424	\$29,538,085
Output (dollars)	\$31,880,708	\$16,022,697	\$105,739,773	\$100,612,988	\$209,359,594	\$463,615,760	\$92,723,152
Annual Tax Revenue Impact							
Sales Tax	\$139,478	\$100,142	\$214,123	\$53,990	\$1,046,798	\$1,554,531	\$310,906
Property Taxes	\$617,760	\$153,396	\$3,130,380	\$1,831,282	\$7,721,532	\$13,454,350	\$2,690,870

Total	\$757,238	\$253,538	\$3,344,503	\$1,885,272	\$8,768,330	\$15,008,881	\$3,001,776
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I. Introduction

BACKGROUND

The Border Environment Cooperation Commission (“BECC”) is a bi-national agency established by the United States and Mexico in 1994 under the terms of the North American Free Trade Agreement (“NAFTA”). BECC’s primary purpose is to identify, develop, evaluate and certify environmental infrastructure projects by means of a bi-national team through an open public process in order to access financing through the North American Development Bank (“NADB”) and other sources.

In order to meet its objectives, BECC manages the Project Development and Assistance Program (“PDAP”), financed by the United States Environmental Protection Agency (“EPA”), which provides technical assistance to project sponsors. Through PDAP, BECC retains consultants to support communities in the development of their projects.



The project development process implements the planning phase through final design of the project in preparation of certification. During this stage, BECC’s Project Managers, in coordination with the sponsor and other relevant stakeholders, will determine the technical capabilities and costs of the projects, as well as their financial feasibility and potential financing from NADB loan program and EPA funded Border Environment Infrastructure Fund Program. Usually this includes such steps as the development of planning studies, environmental impact assessments, financial analyses, preliminary projects and final design.

Over the last eight years the BECC has certified 100 projects with a combined construction cost of over \$2.3 billion. Additionally, BECC currently has in its pipeline approximately 60 active water and wastewater projects in various stages of development.

SCOPE OF WORK

As stated above, The BECC's mission has been to support project development and implementation of border communities' infrastructure needs. The studies performed by the BECC generally encompass an overall review of the project sponsor's capacity to support the designated project and to ascertain the general level of support for the selected infrastructure from the primary impacted social groups. The BECC studies measure the utility's institutional capacity to support a specific infrastructure and its ability to finance the entire project. A critical component of the planning phase is the documentation of acceptance by the impacted community of the project as it relates the overall financial cost, environmental impact, and regulatory compliance.

An economic analysis has been conducted to determine the extent to which infrastructure improvements may potentially create or enhance economic opportunities for targeted U.S. border communities. Although there are many factors in addition to water and wastewater infrastructure improvements that potentially influence community development, it is important to determine the specific impact of this infrastructure enhancement on the recipient border community's overall level of economic activity. For the great majority of infrastructure projects currently in the pipeline, there can be no significant increase in economic activity or wealth creation in the surrounding community without the enhancement of existing capacity or creation of new capacity that results from infrastructure investment. Therefore, infrastructure investment serves as a driver or catalyst for new economic activity and job/wealth creation.

Evaluation of logical economic opportunities resulting from designated projects could serve as a conceptual endorsement for these infrastructure improvements. The documentation of economic opportunities generated by specific infrastructure improvements could be used to promote the financing and social support needed for the improvements.

The study objective is to determine and quantify the economic opportunities resulting from the implementation of infrastructure improvements to the U.S. communities identified below. The quantification of these economic opportunities will be applied throughout the BECC's current pipeline of projects in the U.S. communities in order to determine the overall economic impact the implementation of these projects could have. Appendix A of this study contains a comprehensive listing of BECC's current projects in the U.S.

METHOD OF APPROACH

The American Water Works Association outlines three types of cost/benefit analyses that typically address water and wastewater infrastructure:

1. Analysis of Benefit to Utility/Government Entity
2. Analysis of Benefit to Ratepayer
3. Analysis of Benefit to Society/Community

The project team's method of approach in this study primarily focuses on the perspective of the Benefit to the Society/Community (method 3), with an emphasis on economic development factors. These economic development factors include the following:

1. Employment & Wage Impact – Construction Period
2. Employment & Wage Impact – Post Construction Period
3. Overall Economic Impact to Community – Total Community Output (Sales)
4. Local Government Sales Tax Revenue Impact
5. Local Government Property Tax Revenue Impact

The following communities were selected to conduct this economic impact analysis:

- Calapatria, California
- Bisbee, Arizona
- Doña Ana Village, New Mexico
- East Rio Hondo WSC, Texas
- Lower Valley Water District, Texas

Each of these communities maintains current, pending, or potential water and wastewater infrastructure projects with the BECC. The communities represent projects in each of the states in which BECC operates - - California, Arizona, New Mexico and Texas. Together these communities are considered to be a reasonably representative sample of BECC's projects, covering both high-opportunity and low-opportunity situations.

During the study, community and project specific economic and demographic data was collected. This data forms the cornerstone of the resulting economic impact analysis. For each community, the data analyzed includes but is not limited to the following:

- General description of the municipality or jurisdiction
- Description of the economic base, type of industry and employment
- Profiles of major employers
- Population history/forecasts, including number of households, household income, per capita income, population age groups, and educational level
- Community general plan
- Master plan for utility infrastructure development
- Outline of recent economic development activity and potential development opportunities
- Economic growth history
- Community's strategy for economic growth

COMMUNITY ECONOMIC IMPACT ANALYSIS

The American Economic Development Council defines Economic Impact Analysis as follows:

Economic Impact Analysis is an analytical approach used to assess the measurable public costs and benefits resulting from a project or policy over a specific time period.

The potential community economic impacts measured in this study are grouped into three categories:

Impact on Private Sector Investment

- Total Industrial, Commercial, and Residential Property Investments

Impact on the Community

- Employment (Job Creation / Retention)
- Wages (Total Gross Earnings from Employment)
- Output (Total Community Sales)

Impact on Tax Revenues

- Local Government Sales Tax and Property Taxes

The Output of the community is the primary indicator, as this measures the overall increase in total community sales from industrial, retail, and commercial sectors as a result of the project. This includes final sales at the community level including sales for products consumed in the area or sales to other areas.

Economic development impact to the local community arises from three distinctive sources: Direct Impacts (Basic Industry), Indirect Impacts (Services), and Induced Impacts (Households). Thomas R. Harris, Director of the University Center for Economic Development at University of Nevada, Reno, defines these as follows:

Direct Impacts: Activities or changes in production levels of **Basic Industries**

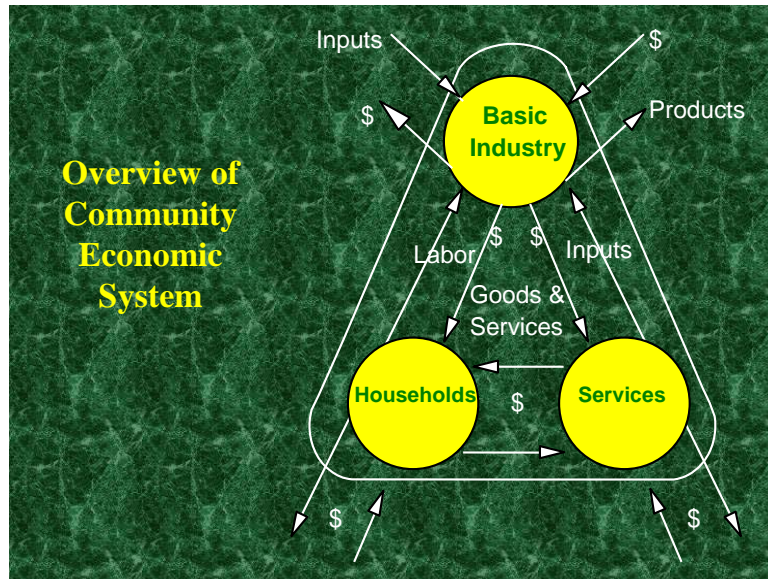
Indirect Impacts: Activities/**Services** in the local business sector which result from providing inputs to basic industries

Induced Impacts: The economic activity caused by **Household** consumption in the local economy from the direct and indirect impacts (Note: the household sector consists of personal income (primarily wages earned) and the resulting available consumer spending)

A combination of these three factors is used to calculate the overall economic impact of a given project on a community. This type of economic impact analysis methodology is commonly used to gauge the effect of public and private sector projects on communities throughout the United States

Figure 1 presents an overview of the community economic impact model, as derived by the University Center for Economic Development at the University of Nevada – Reno.

Figure 1 – Community Economic Impact Model



University Center for Economic Development - University of Nevada, Reno

The enclosed study does not include a detailed project-by-project analysis for the potential economic development activity in each community. Instead, each case study includes an aggregate community-level analysis.

USE OF RIMS II MULTIPLIERS

Described below is the most commonly used approach for aggregate regional economic analysis in the United States, as outlined by Kenneth D. Bleakly in Economic Impact Analysis: Assessing a Project's Value to a Community.

Input-output analysis is a widely used approach for analyzing the impact of government policies and economic development opportunities on regional economies. In the 1970s, the Bureau of Economic Analysis ("BEA") developed a regional input-output model for the United States known as the Regional Industrial Multiplier System ("RIMS"). In 1986, a further enhancement and refinement of the model was developed and is known as RIMS II.

The RIMS II model can be accessed for an RSA ("Rural Statistical Area"), an MSA ("Metropolitan Statistical Area"), single counties, clusters of counties, or larger economic regions. For the purpose of this study, a particular set of data for McAllen-Edinburg-Mission, TX, was already available that could be used. The McAllen-Edinburg-Mission area is representative of the typical U.S. border communities. The timeline that would have been required to obtain specific community RIMS II data for each of the five utility service areas was not available for purposed of this study. However, the aggregate impact of using specific RSA / MSA data for each of the five U.S. communities may not be materially significant to the overall findings.

In this study, three types of regional RIMS II multipliers are used to estimate the regional economic impact of water and wastewater infrastructure investments:

EMPLOYMENT MULTIPLIER – Employment impact per million dollars

WAGES MULTIPLIER – Total impact on gross wages

OUTPUT MULTIPLIER – Total community impact on gross sales

The regional multipliers are considered to be all-inclusive in that they cover the Direct, Indirect and Induced effects applicable to the local economy from the infrastructure investment and its immediate beneficiaries. For a detailed discussion of the use of RIMS II multipliers, the BEA provides a March 1997 manual titled, Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS II).

The regional multipliers are used to estimate Construction Benefits, Operating Benefits, and Total Benefits. **Construction Benefits** are the direct, indirect, and induced construction-period economic impacts of the utility infrastructure construction project, and other construction impacts. This includes construction jobs, materials, services, etc. that are directly related to the project, as well as the indirect and induced benefits (ripple effect) on investment, purchases, wages, spending, etc. **Operating Benefits** are estimated based upon the impact of ongoing operations in three sectors: Utility, Industrial, Commercial, and Residential. **Total Benefits** are the 10-year estimated impacts combining both construction-period benefits (public sector and private sector) and annual operating benefits (public sector and private sector).

OTHER KEY REPORT INPUTS & METHODOLOGIES

Paramount to the forecast of 10-year study period benefits is the estimated private sector investment impact that is dependent upon the infrastructure improvement. This underlying estimate is provided for each community in terms of a rate of *Sustainable Annual Average Investment* in real and personal property by sector: Industrial, Commercial, and Residential.

Finally, all forecasts of costs and benefits are expressed in *2004 Constant Dollars* - - that is, no inflation factors have included in the projections.

ORGANIZATION OF THE REPORT

This report is organized into the following sections:

Executive Summary

Section I	-	Introduction
Section II	-	Case Study: Calapatria, California
Section III	-	Case Study: Bisbee, Arizona
Section IV	-	Case Study: Doña Ana Village, New Mexico
Section V	-	Case Study: East Rio Hondo WSC, Texas
Section VI	-	Case Study: Lower Valley Water District, Texas
Section VII	-	Summary of Findings and Conclusions
Appendix A	-	BECC Project Listing a/o June 30, 2004

II. Case Study: Calapatria, California

INFRASTRUCTURE PROJECT DESCRIPTION

Project Location

The City of Calapatria consists of approximately two square miles and is located in Imperial County, California, approximately 150 miles east of San Diego and approximately 35 miles north of the U.S./Mexico border. The City is located south of Interstate Highway 10 (I-10) and north of Interstate Highway 8 (I-8), at an elevation of 184 feet below sea level. The City's estimated population is 7,289 based upon the 2000 Census, which includes the population of a local prison facility (2000 US Census). The residential population is 3,138. The City is designated as a Federal Enterprise Zone.

Project Background

The City's proposed wastewater system infrastructure improvements include the following:

COLLECTION SYSTEM: rehabilitation of sewer mains, install clean-outs for maintenance

LIFT STATION: rehabilitation of existing lift station or construct new

WASTEWATER TREATMENT PLANT: improve testing, screening of influent, improved draining and cleaning of ponds, additional aerators

Further, the project will address numerous deficiencies identified in the existing wastewater utility infrastructure, including but not limited to:

- Leaks and breaks in existing sewer mains during the past 18 months
- Repair and replacement of manholes and selected collection system lines, which are over 50 years old and have experienced numerous small earthquakes
- Emergency power provisions and proper ventilation and odor control for lift station
- Influent screening to prevent treatment plant blockages
- Elevated levels of contaminants and pollutants, with the sources unidentified
- Reduction of treatment ponds overflow
- Numerous violations of BOD and E. Coli levels

Estimated Project Cost

\$3,000,000

SUMMARY OF PROJECT ECONOMIC IMPACT

Table II-1 summarizes the potential economic impact of the pending wastewater infrastructure project on the City of Calipatria. The table identifies the overall potential benefits over the 10-year period from the construction of the facilities and the increased economic activity that can take place within the community after the facilities are in place. The following is notable about this forecast:

- The total project construction cost is forecast to be **\$3,000,000**.
- Over the 10-year period, the private sector investment impact is expected to be **\$68,640,000**.
- The study forecasts that the increased economic activity throughout the community resulting from this investment will lead to the creation of **1,247** new jobs over the next decade.
- These new jobs are forecast to result in an additional **\$101,338,339** in new wages within the community over the 10-year period.
- The total community output (final sales in the area including industrial, commercial, and retail sales) forecast for Calipatria from the increased economic activity as a result of the infrastructure investment is **\$318,807,078** over the 10-year period.
- The total local sales tax and property taxes forecast to be collected from the additional economic activity generated by the infrastructure investment is forecast to be **\$7,572,381**.

TABLE II-1		
Calapatria, California		
SUMMARY OF ECONOMIC IMPACT MODEL		
		Total Benefits Years 1-10
Total Project Construction Cost	\$	3,000,000
<u>Total Investment Impact:</u>	\$	68,640,000
<u>Total Community Impact:</u>		
Employment (jobs)		1,247
Wages (dollars)	\$	101,338,339
Output (dollars)	\$	318,807,078
<u>Total Tax Revenue Impact:</u>		
Sales Tax	\$	1,394,781
Property Taxes	\$	<u>6,177,600</u>
Total	\$	7,572,381

Table II-2 presents the average annual impact of the infrastructure investment as well as the impact per \$1 million of infrastructure project construction cost estimated for Calapatria. The following is notable about this forecast:

- The average annual increase in investment in the community (i.e. new property value) is forecast to be **\$6,864,000**.
- The average annual job creation and retention due to the increased economic activity made possible by this investment is forecast to be **125**.
- The average annual community output (final sales in the area including industrial, commercial, and retail sales) is forecast to be **\$31,880,708**.
- Average annual tax revenue is forecast to be **\$757,238**.
- The private sector investment impact per \$1 million of project construction cost is forecast to be **\$22,880,000**.
- The job creation and retention impact per \$1 million of project construction cost in the City of Calipatria is forecast to be **416**.
- The total community output (final sales in the area including industrial, commercial, and retail sales) impact per \$1 million of project construction cost is forecast to be **\$106,269,026**.
- The total tax revenue impact per \$1 million of project construction cost is forecast to be **\$2,524,127**.

Table II-2		
Calapatria, California		
SUMMARY OF ECONOMIC IMPACT MODEL		
	Annual Average Impact of BECC Direct Investment	Impact Per \$1,000,000 of BECC Direct Investment
<u>Total Investment Impact:</u>	\$ 6,864,000	\$ 22,880,000
<u>Total Community Impact:</u>		
Employment (jobs)	124.7	415.7
Wages (dollars)	\$ 10,133,834	\$ 33,779,446
Output (dollars)	\$ 31,880,708	\$ 106,269,026
<u>Total Tax Revenue Impact:</u>		
Sales Tax	\$ 139,478	\$ 464,927
Property Taxes	\$ <u>617,760</u>	\$ <u>2,059,200</u>
Total	\$ 757,238	\$ 2,524,127

III. Case Study: Bisbee, Arizona

INFRASTRUCTURE PROJECT DESCRIPTION

Project Location

The City of Bisbee is the county seat of Cochise County, Arizona. The City is located approximately 94 miles southeast of Tucson and twenty miles from the Mexican border, at an elevation of 5,350 feet above sea level. The 2000 Census estimates the City's population at 6,140. Located in the foothills and canyons of the Mule Mountains, Bisbee's city limits encompass 5.4 square miles and include three main developed areas: Old Bisbee, Warren and San Jose. In addition, there are a number of smaller communities within the City.

Project Background

The City of Bisbee's proposed wastewater system improvements plan is one of the most costly and ambitious undertakings by the BECC and its fellow agencies, EPA, the NADB and the Water Infrastructure Finance Authority of Arizona ("WIFA"). The project's primary objectives are as follows:

COLLECTION SYSTEM: repair the collection and conveyance system to eliminate untreated or partially treated sewage discharges caused by excessive system infiltration and inflow during periods of heavy precipitation.

WASTEWATER TREATMENT PLANT: replacement of the existing Mule Gulch trickling filter WWTP and the Warren and San Jose lagoons; construction of a new activated sludge plant at the San Jose WWTP site.

Further, the project will address numerous deficiencies identified in the existing wastewater utility infrastructure, including but not limited to:

- Resolution of issues related to ADEQ issued consent order due to collection system's high rate of infiltration and inflow
- Removal of ADEQ imposed moratorium on new connections to the Mule Gulch and Warren Sewer Systems
- Increase treatment capacity as well as provide preliminary, secondary and advanced treatment to accommodate the needs of the community for a minimum of twenty years from the date of completion
- Provision of an enhanced disinfection process
- New treatment process to allow the plant to acquire an APP and to meet APP standards

Estimated Project Cost

\$30,067,321

SUMMARY OF ECONOMIC IMPACT

Table III-1 summarizes the potential economic impact of the pending wastewater infrastructure project on the City of Bisbee. The table identifies the overall benefits over the 10-year period from the construction of the facilities and the increased economic activity that can take place within the community after the facilities are in place. The following is notable about this forecast:

- The total project construction cost is forecast to be **\$30,067,321**.
- Over the 10-year period, this private sector investment impact (i.e. new property value) is expected to be **\$22,680,000**.
- The study forecasts that the increased economic activity throughout the community resulting from this investment will lead to the creation of **711** new jobs over the next decade.
- The total community output (final sales in the area including industrial, commercial, and retail sales) forecast for Bisbee from the increased economic activity as a result of this investment is **\$160,226,972** over the 10-year period.
- The total sales tax and property taxes forecast to be collected from the additional economic activity generated by the infrastructure investment is forecast to be **\$2,535,380**.

TABLE III-1	
Bisbee, Arizona	
SUMMARY OF ECONOMIC IMPACT MODEL	
	Total Benefits Years 1-10
Total Project Construction Cost	\$ 30,067,321
<u>Total Investment Impact:</u>	\$ 22,680,000
<u>Total Community Impact:</u>	
Employment (jobs)	711
Wages (dollars)	\$ 50,890,816
Output (dollars)	\$ 160,226,972
<u>Total Tax Revenue Impact:</u>	
Sales Tax	\$ 1,001,419
Property Taxes	<u>\$ 1,533,962</u>
Total	\$ 2,535,380

Table III-2 presents the average annual impact of infrastructure investment as well as the impact per \$1 million of project construction cost in the community. The following is notable about this forecast:

- The average annual increase in investment in the community (i.e. new property value) is forecast to be **\$2,268,000**.
- The average annual job creation due to the increased economic activity made possible by this investment is forecast to be **71**.
- The average annual community output (final sales in the area including industrial, commercial, and retail sales) is forecast to be **\$16,022,697**.
- Average annual tax revenue is forecast to be **\$253,538**.
- The private sector investment impact per \$1 million of infrastructure project construction cost in the City of Bisbee is forecast to be **\$754,307**.
- The job creation and retention impact per \$1 million of BECC Direct Investment is forecast to be **24**.
- The total community output (final sales in the area including industrial, commercial, and retail sales) impact per \$1 million of project construction cost is forecast to be **\$5,328,941**.
- The total tax revenue impact per \$1 million of project construction cost is forecast to be **\$84,323**.

Table III-2			
Bisbee, Arizona			
SUMMARY OF ECONOMIC IMPACT MODEL			
	Annual Average Impact of BECC Direct Investment		Impact Per \$1,000,000 of BECC Direct Investment
<u>Total Investment Impact:</u>	\$	2,268,000	\$ 754,307
<u>Total Community Impact:</u>			
Employment (jobs)		71.1	23.6
Wages (dollars)	\$	5,089,082	\$ 1,692,562
Output (dollars)	\$	16,022,697	\$ 5,328,941
<u>Total Tax Revenue Impact:</u>			
Sales Tax	\$	100,142	\$ 33,306
Property Taxes	\$	153,396	\$ 51,018
Total	\$	253,538	\$ 84,323

IV. Case Study: Doña Ana Village, New Mexico

INFRASTRUCTURE PROJECT DESCRIPTION

Project Location

The Doña Ana Mutual Domestic Water Consumers Association (“DAMDWCA”), in Doña Ana County, New Mexico, is located approximately 48 miles from the U.S./Mexico border. The DAMDWCA currently serves an estimated population of 20,000 (DAMDWCA update) with approximately 3.5 million gallons per day (MGD) of potable water. Doña Ana County owns the wastewater collection and conveyance system that is operated by DAMDWCA and serves the core community of Doña Ana. This system provides the Village of Doña Ana with approximately 0.18 MGD treatment capacity. The remaining wastewater is conveyed to a wastewater treatment plant owned by the City of Las Cruces (CLC). The purpose of this project is to expand the water and wastewater systems to meet the needs of the regional community and to meet local regulatory requirements.

Project Background

The DAMDWCA's proposed water and wastewater system infrastructure improvements include the following:

WATER SYSTEM: Although the system currently meets New Mexico Environment Department (NMED) regulatory requirements for pressure, delivery and storage capacity, improvements to the system is necessary to provide safe and adequate service and eliminate any threats due to the existing deficiencies including fire protection requirements. In addition, the DAMDWCA proposal to develop alternative water sources and/or additional water rights for the DAMDWCA service area and surrounding water systems provides a regional approach to addressing the problem of depleting ground water resources. A surface water treatment plant is proposed.

WASTEWATER SYSTEM: The DAMDWCA also proposes to expand the wastewater system to meet the existing needs within the region. The community seeks to compare treatment alternatives such as the construction of a new regional wastewater treatment plant and expansion of collection services to parallel its water service area.

Estimated Project Cost

\$22,000,000

SUMMARY OF ECONOMIC IMPACT

Table IV-1 summarizes the potential economic impact of the water and wastewater infrastructure projects on Doña Ana Village. The table identifies the overall benefits over the 10-year period from the construction of the facilities and the increased economic activity that can take place within the community after the facilities are in place. The following is notable about this forecast:

- The total project construction cost is forecast to be **\$22,000,000**.
- Over the 10-year period, the private sector investment impact (i.e. new property value) is expected to be **\$210,800,000**.
- The study forecasts that the increased economic activity throughout the community resulting from this investment will lead to the creation of **4,172** new jobs over the next decade.
- The total community output (final sales in the area including industrial, commercial, and retail sales) forecast for the community from the increased economic activity as a result of this infrastructure investment is **\$1,057,397,735** over the 10-year period.
- The total sales tax and property taxes forecast to be collected from the additional economic activity generated by the infrastructure investment is forecast to be **\$33,445,030**.

TABLE IV-1	
Doña Ana Village, New Mexico	
SUMMARY OF ECONOMIC IMPACT MODEL	
	Total Benefits Years 1-10
Total Project Construction Cost	\$ 22,000,000
<u>Total Investment Impact:</u>	\$ 210,800,000
<u>Total Community Impact:</u>	
Employment (jobs)	4,172
Wages (dollars)	\$ 337,058,166
Output (dollars)	\$ 1,057,397,735
<u>Total Tax Revenue Impact:</u>	
Sales Tax	\$ 2,141,230
Property Taxes	<u>\$ 31,303,800</u>
Total	\$ 33,445,030

Table IV-2 presents the average annual impact of the infrastructure investment as well as the impact per \$1 million of project construction cost in the community. The following is notable about this forecast:

- The average annual increase in investment in the community (i.e. new property value) is forecast to be **\$21,080,000**.
- The average annual job creation due to the increased economic activity made possible by this investment is forecast to be **417**.
- The average annual community output (final sales in the area including industrial, commercial, and retail sales) forecast is **\$105,739,773**.
- Average annual tax revenue is forecast to be **\$3,344,503**.
- The private sector investment impact per \$1 million of project construction cost is forecast to be **\$9,581,818**.
- The job creation and retention impact in Doña Ana Village per \$1 million of project construction cost is forecast to be **190**.
- The total community output (final sales in the area including industrial, commercial, and retail sales) impact per \$1 million of Direct Investment is forecast to be **\$48,063,533**.
- The total sales tax and property tax revenue impact per \$1 million of project construction cost is forecast to be **\$1,520,229**.

Table IV-2		
Doña Ana Village, New Mexico		
SUMMARY OF ECONOMIC IMPACT MODEL		
	Annual Average Impact of BECC Direct Investment	Impact Per \$1,000,000 of BECC Direct Investment
Total Investment Impact:	\$ 21,080,000	\$ 9,581,818
Total Community Impact:		
Employment (jobs)	417	190
Wages (dollars)	\$ 33,705,817	\$ 15,320,826
Output (dollars)	\$ 105,739,773	\$ 48,063,533
Total Tax Revenue Impact:		
Sales Tax	\$ 214,123	\$ 97,329
Property Taxes	\$ 3,130,380	\$ 1,422,900
Total	\$ 3,344,503	\$ 1,520,229

V. Case Study: East Rio Hondo WSC, Texas

INFRASTRUCTURE PROJECT DESCRIPTION

Project Location

The East Río Hondo Water Supply Corporation (ERHWSC) is located in Cameron County, Texas, approximately 6 miles from the U.S./Mexico border. ERHWSC provides potable water to an unincorporated community of 22,000 people with authority issued under Certificate of Convenience and Necessity (CCN) No. 11552. ERHWSC services community demand through a 3.2 million gallon per day (MGD) surface water treatment plant.

Project Background

The ERHWSC's proposed water and wastewater system infrastructure improvements include the following:

WATER SYSTEM: Existing water treatment plant storage capacity is not adequate to meet peak demands on the system or pressure requirements. Therefore, part of this project is to repair and maintain existing water storage tanks. In addition, the proposed project will include replacing or supplementing undersized 2-inch distribution lines and developing alternatives to the Rio Grande, which at present serves as the only source of raw drinking water. The ERHWSC is currently in the design phase of a new 8.0 MGD water treatment plant.

WASTEWATER SYSTEM: Construction of a wastewater collection and treatment system to provide first-time community wastewater services to the area is proposed for this project. The proposed wastewater treatment plant and collection system will be a new regionally planned system. The proposed wastewater collection system would consist of a combination of collection lines, residential hook-ups, lift stations and force mains which would provide first time wastewater service to current residents. The proposed WWTP would cover the wastewater treatment needs of the entire project area, including several low income Colonias.

Estimated Project Cost

\$13,300,000

SUMMARY OF ECONOMIC IMPACT

Table V-1 summarizes the potential economic impact of the water and wastewater infrastructure projects on the community. The table identifies the overall benefits over the 10-year period from the construction of the facilities and the increased economic activity that can take place within the community after the facilities are in place. The following is notable about this forecast:

- The total project construction cost is forecast to be **\$13,300,000**.
- Over the 10-year period, the private sector investment impact (i.e. new property value) is expected to be **\$183,800,000**.
- The study forecasts that the increased economic activity throughout the community resulting from the infrastructure investment will lead to the creation of **3,930** new jobs over the next decade.
- The total community output (final sales in the area including industrial, commercial, and retail sales) forecast for the community from the increased economic activity as a result of the infrastructure investment is **\$1,006,129,880** over the 10-year period.
- The total sales tax and property taxes to be collected from the additional economic activity generated by the infrastructure investment is forecast to be **\$18,852,717**.

TABLE V-1	
East Rio Hondo WSC, Texas	
SUMMARY OF ECONOMIC IMPACT MODEL	
	Total Benefits Years 1-10
Total Project Construction Cost	\$ 13,300,000
<u>Total Investment Impact:</u>	\$ 183,800,000
<u>Total Community Impact:</u>	
Employment (jobs)	3,930
Wages (dollars)	\$ 321,322,065
Output (dollars)	\$ 1,006,129,880
<u>Total Tax Revenue Impact:</u>	
Sales Tax	\$ 539,896
Property Taxes	<u>\$ 18,312,821</u>
Total	\$ 18,852,717

Table V-2 presents the average annual impact of the infrastructure investment as well as the impact per \$1 million of infrastructure investment in the community. The following is notable about this forecast:

- The average annual increase in investment in the community (i.e. new property value) is forecast to be **\$18,380,000**.
- The average annual job creation due to the increased economic activity made possible by this investment is forecast to be **393**.
- The average annual community output (final sales in the area including industrial, commercial, and retail sales) forecast to be **\$100,612,998**.
- Average annual tax revenue is forecast to be **\$1,885,272**.
- The private sector investment impact per \$1 million of project construction cost in the community is forecast to be **\$13,819,549**.
- The job creation and retention impact per \$1 million of project construction cost is forecast to be **295**.
- The total community output (final sales in the area including industrial, commercial, and retail sales) per \$1 million of project construction cost is forecast to be **\$75,648,863**.
- The total tax revenue impact per \$1 million of project construction cost is forecast to be **\$1,417,497**.

Table V-2		
East Rio Hondo WSC, Texas		
SUMMARY OF ECONOMIC IMPACT MODEL		
	Annual Average Impact of BECC Direct Investment	Impact Per \$1,000,000 of BECC Direct Investment
<u>Total Investment Impact:</u>	\$ 18,380,000	\$ 13,819,549
<u>Total Community Impact:</u>		
Employment (jobs)	393	295
Wages (dollars)	\$ 32,132,206	\$ 24,159,554
Output (dollars)	\$ 100,612,988	\$ 75,648,863
<u>Total Tax Revenue Impact:</u>		
Sales Tax	\$ 53,990	\$ 40,594
Property Taxes	\$ 1,831,282	\$ 1,376,904
Total	\$ 1,885,272	\$ 1,417,497

VI. Case Study: Lower Valley Water District, Texas

INFRASTRUCTURE PROJECT DESCRIPTION

Project Location

Lower Valley Water District Regional Office (LVWD) is located in the City of Clint, in El Paso County, Texas, approximately 5 miles from the U.S./Mexico border. LVWD serves the Town of Clint, the City of Socorro, San Elizario and surrounding unincorporated communities.

Project Background

To meet the existing demands within the LVWD's large service area, the proposed improvements have been segregated into the following planning areas: Town of Clint, City of Socorro, Southeast Area, Darrington, and Indian Cliffs. The LVWD's proposed water and wastewater system infrastructure improvements for these areas include the following:

WATER SYSTEM:

- Clint Planning Area: Rehab/Replacement of undersized and deteriorated distribution system.
- Socorro Planning Area (includes San Elizario): Rehab/Replacement of undersized and deteriorated distribution system.
- Southeast Planning Area (between Clint and Fabens): Construct first-time water service.
- Darrington Planning Area: Construct first-time water service.
- Indian Cliffs Planning Area: Construct first-time water service.

WASTEWATER SYSTEM: Construct first-time wastewater collection systems in all of the service areas where residents are currently served by sub-standard individual on-site treatment systems. The unserved population is approximately 30%.

Estimated Project Cost

\$20,489,810

SUMMARY OF ECONOMIC IMPACT

Table VI-1 summarizes the potential economic impact of the water and wastewater infrastructure projects on the community. The table identifies the overall benefits over the 10-year period from the construction of the facilities and the increased economic activity that can take place within the community after the facilities are in place. The following is notable about this forecast:

- The total project construction cost is forecast to be **\$20,489,810**.
- Over the 10-year period, the private sector investment impact (i.e. new property value) is expected to be **\$502,600,000**.
- The study forecasts that the increased economic activity throughout the community resulting from this investment will lead to the creation and retention of **8,299** jobs over the next decade.
- The total community output (final sales in the area including industrial, commercial, and retail sales) forecast for the community from the increased economic activity as a result of the infrastructure investment is **\$2,093,595,940** over the 10-year period.
- The total sales and property taxes forecast to be collected from the additional economic activity generated by the infrastructure investment is forecast to be **\$87,683,300**.

TABLE VI-1		
Lower Valley Water District, Texas		
SUMMARY OF ECONOMIC IMPACT MODEL		
		Total Benefits Years 1-10
Total Project Construction Cost	\$	20,489,810
<u>Total Investment Impact:</u>	\$	502,600,000
<u>Total Community Impact:</u>		
Employment (jobs)		8,299
Wages (dollars)	\$	666,294,854
Output (dollars)	\$	2,093,595,940
<u>Total Tax Revenue Impact:</u>		
Sales Tax	\$	10,467,980
Property Taxes	\$	77,215,320
Total	\$	87,683,300

Table VI-2 presents the average annual impact of the infrastructure investment as well as the impact per \$1 million of infrastructure investment in the community. The following is notable about this forecast:

- The average annual increase in investment in the community (i.e. new property value) is forecast to be **\$50,260,000**.
- The average annual job creation due to the increased economic activity made possible by this investment is forecast to be **830**.
- The average annual community output (final sales in the area including industrial, commercial, and retail sales) is forecast to be **\$209,359,594**.
- Average annual tax revenue is forecast to be **\$8,768,330**.
- The private sector investment impact per \$1 million of project construction cost is forecast to be **\$24,529,266**.
- The job creation and retention impact per \$1 million of project construction cost is forecast to be **1,583**.
- The total community output (final sales in the area including industrial, commercial, and retail sales) per \$1 million of project construction cost is forecast to be **\$102,177,421**.
- The total tax revenue per \$1 million of project construction cost is forecast to be **\$4,279,361**.

Table VI-2		
Lower Valley Water District, Texas		
SUMMARY OF ECONOMIC IMPACT MODEL		
	Annual Average Impact of BECC Direct Investment	Impact Per \$1,000,000 of BECC Direct Investment
<u>Total Investment Impact:</u>	\$ 50,260,000	\$ 24,529,266
<u>Total Community Impact:</u>		
Employment (jobs)	830	405
Wages (dollars)	\$ 66,629,485	\$ 32,518,352
Output (dollars)	\$ 209,359,594	\$ 102,177,421
<u>Total Tax Revenue Impact:</u>		
Sales Tax	\$ 1,046,798	\$ 510,887
Property Taxes	\$ 7,721,532	\$ 3,768,474
Total	\$ 8,768,330	\$ 4,279,361

VII. Summary of Findings and Conclusions

SUMMARY OF STUDY FINDINGS

Tables VII-1 and VII-2 summarize the total potential economic impact of the five projects examined in this study. The tables identify the overall benefits over the 10-year period from the construction of the facilities and the combined increased economic activity that can take place within the communities after the facilities are in place.

The following is notable about Table VII-1:

- The total project construction cost for the five communities is forecast to be **\$88,857,131**.
- Over the 10-year period, this investment is expected to result in a private sector investment impact in the combined communities (i.e. new property value) of **\$988,520,000**.
- It is forecasted that the increased economic activity throughout the five communities resulting from this investment will lead to the creation and retention of **18,359** new jobs over the next decade.
- The total taxes forecast to be collected from the additional economic activity generated by the infrastructure investment for the five communities is forecast to be **\$150,088,808**.
- The total combined community output (final sales in the area including industrial, commercial, and retail sales) forecast for the five communities from the increased economic activity as a result of the infrastructure investments is **\$4,636,157,605** over the 10-year period.
- The average project construction cost for the five communities is forecast to be **\$17,771,426**.
- The average community increase in private sector investment (i.e. new property value) is forecast to be **\$197,704,000** over the study period.
- The average job creation and retention per community due to the increased economic activity made possible by the infrastructure investment is forecast to be **3,672** over the study period.
- The average community output (final sales in the area including industrial, commercial, and retail sales) for the study period is forecast to be **\$927,231,521**.
- Average tax revenue impact for the study period is forecast to be **\$30,017,762**.

**TABLE VII-1
Community Economic Impact Summary
10 Year Study Period and Average Annual Impacts**

	Calapatria	Bisbee	Doña Ana Village	East Rio Hondo	Lower Valley	Total	Average
Total Project Construction Cost	\$3,000,000	\$30,067,321	\$22,000,000	\$13,300,000	\$20,489,810	\$88,857,131	\$17,771,426
Total 10-Year Community Impacts:							
Total Investment Impact	\$68,640,000	\$22,680,000	\$210,800,000	\$183,800,000	\$502,600,000	\$988,520,000	\$197,704,000
Total Community Impact							
Employment (jobs)	1,247	711	4,172	3,930	8,299	18,359	3,672
Wages (dollars)	\$101,338,339	\$50,890,816	\$337,058,166	\$321,322,065	\$666,294,854	\$1,476,904,240	\$295,380,848
Output (dollars)	\$318,807,078	\$160,226,972	\$1,057,397,735	\$1,006,129,880	\$2,093,595,940	\$4,636,157,605	\$927,231,521
Total Tax Revenue Impact							
Sales Tax	\$1,394,781	\$1,001,419	\$2,141,230	\$539,896	\$10,467,980	\$15,545,305	\$3,109,061
Property Taxes	\$6,177,600	\$1,533,962	\$31,303,800	\$18,312,821	\$77,215,320	\$134,543,503	\$26,908,701
Total	\$7,572,381	\$2,535,380	\$33,445,030	\$18,852,717	\$87,683,300	\$150,088,808	\$30,017,762
Annual Average Community Impacts:							
Annual Investment Impact	\$6,864,000	\$2,268,000	\$21,080,000	\$18,380,000	\$50,260,000	\$98,852,000	\$19,770,400
Annual Community Impact							
Employment (jobs)	125	71	417	393	830	1,836	367
Wages (dollars)	\$10,133,834	\$5,089,082	\$33,705,817	\$32,132,206	\$66,629,485	\$147,690,424	\$29,538,085
Output (dollars)	\$31,880,708	\$16,022,697	\$105,739,773	\$100,612,988	\$209,359,594	\$463,615,760	\$92,723,152
Annual Tax Revenue Impact							
Sales Tax	\$139,478	\$100,142	\$214,123	\$53,990	\$1,046,798	\$1,554,531	\$310,906
Property Taxes	\$617,760	\$153,396	\$3,130,380	\$1,831,282	\$7,721,532	\$13,454,350	\$2,690,870
Total	\$757,238	\$253,538	\$3,344,503	\$1,885,272	\$8,768,330	\$15,008,881	\$3,001,776

The following is notable about Table VII-2:

- The average 10-year private sector investment impact per \$1 million of project construction cost throughout the communities reviewed in this study is forecast to be **\$11,124,825**.
- The average 10-year job creation and retention per \$1 million of project construction cost throughout the communities is forecast to be **221**.
- The average tax revenue per \$1 million of construction cost is forecast to be **\$1,689,103**.
- The average 10-year total community output (final sales in the area including industrial, commercial, and retail sales) per \$1 million of project construction is forecast to be **\$52,175,414**.

	Calapatria	Bisbee	Doña Ana Village	East Rio Hondo	Lower Valley	Total
<u>Total 10-Year Community Impacts per \$M of Project Cost:</u>						
<u>Total Investment Impact</u>	\$22,880,000	\$754,307	\$9,581,818	\$13,819,549	\$24,529,266	\$11,124,825
<u>Total Community Impact</u>						
Employment (jobs)	416	24	190	295	405	221
Wages (dollars)	\$33,779,446	\$1,692,562	\$15,320,826	\$24,159,554	\$32,518,352	\$16,621,111
Output (dollars)	\$106,269,026	\$5,328,941	\$48,063,533	\$75,648,863	\$102,177,421	\$52,175,414
<u>Total Tax Revenue Impact</u>						
Sales Tax	\$464,927	\$33,306	\$97,329	\$40,594	\$510,887	\$174,947
Property Taxes	\$2,059,200	\$51,018	\$1,422,900	\$1,376,904	\$3,768,474	\$1,514,155
Total	\$2,524,127	\$84,323	\$1,520,229	\$1,417,497	\$4,279,361	\$1,689,103

TABLE VII-2 (continued)
Community Economic Impact Summary
Cost / Benefit Analysis for Case Studies

	Calapatría	Bisbee	Doña Ana Village	East Rio Hondo	Lower Valley	Total
Annual Investment Impact	\$2,288,000	\$75,431	\$958,182	\$1,381,955	\$2,452,927	\$1,112,482
Annual Community Impact						
Employment (jobs)	42	2	19	30	41	22
Wages (dollars)	\$3,377,945	\$169,256	\$1,532,083	\$2,415,955	\$3,251,835	\$1,662,111
Output (dollars)	\$10,626,903	\$532,894	\$4,806,353	\$7,564,886	\$10,217,742	\$5,217,541
Annual Tax Revenue Impact						
Sales Tax	\$46,493	\$3,331	\$9,733	\$4,059	\$51,089	\$17,495
Property Taxes	\$205,920	\$5,102	\$142,290	\$137,690	\$376,847	\$151,416
Total	\$252,413	\$8,432	\$152,023	\$141,750	\$427,936	\$168,910

COMPARISON TO USDA STUDIES

As cited below, highly relevant data is available (for comparison purposes) on the economic impact of water and wastewater infrastructure funding in a 2002 journal article entitled, *“Economic Impact of Water/Sewer Facilities on Rural and Urban Communities”* by Faqir S. Bagi of the USDA Economic Research Service.

Table VII-3 compares the findings from this study to a similar recent economic impact study conducted by the U.S. Department of Agriculture (“USDA”). Notably, the USDA calculated a ratio of private sector investment to construction cost of 14.9, meaning that for every \$1 million dollars in project construction cost, \$14.9 million in private sector investment is generated. There is a large discrepancy between the impact of rural and urban projects - - 21.6 versus 9.5.

The BECC case study ratio for private investment is calculated to be 11.1, meaning that the results in this study can be considered applicable and even conservative.

TABLE VII-3
Community Economic Impact Summary
Cost / Benefit Analysis for Case Studies

	USDA Study Total	USDA Study Urban	USDA Study Rural	BECC Case Studies Total
Average Construction Cost per Project	\$ 1,418,738	\$ 1,678,363	\$ 1,260,078	\$ 17,771,426
Private Investment to Construction Cost Ratio	14.9	21.6	9.5	11.1

IMPLICATIONS FOR BECC PROJECT PIPELINE

The study objective is to determine and quantify the economic opportunities resulting from the implementation of infrastructure improvements to the U.S. communities identified below. The quantification of these economic opportunities will be applied throughout the BECC's current pipeline of projects in the U.S. communities in order to determine the overall economic impact the implementation the these projects could have. Table VII-4 summarizes the estimated combined economic impact of all U.S. projects currently under development, using the study findings and conclusions per \$1 million of project construction cost.

TABLE VII-4 Community Economic Impact Summary ESTIMATED CONSTRUCTION COSTS FOR BECC PROJECT PIPELINE -- 06/30/04	
	Total
TOTAL PROJECTS UNDER DEVELOPMENT	
California	\$ 17,000,000
Arizona	31,220,000
New Mexico	85,840,000
Texas	386,343,830
Total Project Construction Costs	\$ 520,403,830
ESTIMATED COMMUNITY IMPACT POTENTIAL	
Total Investment Impact:	\$ 5,776,482,513
Total Community Impact:	
Employment (jobs)	115,009
Wages (dollars)	\$ 8,638,703,578
Output (dollars)	\$ 27,165,079,926
Total Tax Revenue Impact:	\$ 884,686,511

The following is notable about Table VII-4:

- The total project construction costs are forecast to be **\$520,403,830**.
- Over the 10-year period, the private sector impact (i.e. new property value) is expected to be **\$5,776,482,513**.
- The study forecasts that the increased economic activity throughout the communities resulting from the infrastructure investments will lead to the creation and retention of **115,009** new jobs over the next decade.
- The total combined community output (final sales in the area including industrial, commercial, and retail sales) forecast from the increased economic activity as a result of the infrastructure investments is **\$27,165,079,926** over the 10-year period.
- The total taxes forecast to be collected from the additional economic activity generated by the infrastructure investments in the project pipeline is forecast to be **\$884,686,511**.

APPENDIX A

Border Environment Cooperation Commission PROJECT LISTING a/o JUNE 30, 2004

ECONOMIC IMPACT OF WATER AND WASTEWATER INFRASTRUCTURE FUNDING TO SELECTED BORDER COMMUNITIES

Project ID	City	State	Component Description	Cost	Population	Project Development Status	Prior Beif Recipient
CALIFORNIA (4)							
267	Oasis	CA	New Water Main and Water Distribution	\$10,000,000	2,200	FP Complete	No
371	Brawley	CA	WWTP	\$1,000,000	22,000	FP Complete	Yes
431	Niland	CA	WW Collection	Pending	1,143	FP In Progress	No
431	Niland	CA	WWTP Rehab	Pending	1,143	FP In Progress	No
435	Calipatria	CA	WW Collection/Lift Station	Pending	7,289	FP In Progress	No
435	Calipatria	CA	WWTP	Pending	7,289	FP In Progress	No
ARIZONA (4)							
331	Huachuca City	AZ	Water Distribution System Improvements	\$1,100,000	1,751	FP Complete	No
429	Nogales, AZ	AZ	Santa Cruz WT	\$5,400,000	20,878	RAP Complete	Yes
429	Nogales, AZ	AZ	Septic to Sewer Conversion	\$1,200,000	500	RAP Complete	Yes
429	Nogales, AZ	AZ	WW Collection Rehab	\$720,000	Pending	RAP Complete	Yes
429	Nogales, AZ	AZ	Water Distribution System	\$9,500,000	Pending	RAP Complete	Yes
433	San Luis	AZ	Distribution system improvements	Pending	Pending	RAP Complete	No
433	San Luis	AZ	Pump Station Replacement	\$2,300,000	Pending	RAP Complete	No
438	Patagonia	AZ	Distribution System Improvements/Distribution System Extens	Pending	881	RAP Complete	Yes
438	Patagonia	AZ	Well Facility Improvements	Pending	881	RAP Complete	Yes
NEW MEXICO (7)							
170	Chaparral	NM	WW Collection Phase 1 and 2	\$23,000,000	8,884	FP Complete	No
205	San Miguel	NM	Water Distribution System	\$1,000,000	750	In Design	No
314	Columbus	NM	WWTP Expansion	\$1,300,000	550	FP Complete	No
314	Columbus	NM	WW Collection	\$2,800,000	550	FP Complete	No
328	Vinton	NM	Village of Vinton water system improvements	\$8,000,000	2315	FP Complete	No
341	Dona Ana Village	NM	WWTP and WW Collection	\$35,000,000	18,000	FP In Progress	No
341	Dona Ana Village	NM	Water Distribution System	\$2,400,000	18,000	FP In Progress	No
375	Columbus	NM	Water Treatment	\$3,000,000	1,800	FP In Progress	No
375	Columbus	NM	Water Distribution	\$1,000,000	1,800	FP In Progress	No
391	Mesquite	NM	Water System Improvements	\$1,300,000	1,045	FP In Progress	No
391	Mesquite	NM	WWTP rehabilitation and Expansion of ww collection	\$2,500,000	1,045	FP In Progress	No
450	Lordsburg	NM	WT	\$1,540,000	3,100	RAP Complete	No
450	Lordsburg	NM	Water Distribution System	Pending	3,100	RAP Complete	No
450	Lordsburg	NM	WWTP	Pending	3,100	RAP Complete	No
450	Lordsburg	NM	WW Collection	Pending	Pending	RAP Complete	No
TEXAS (22)							
238	Horizon City	TX	WWTP	\$3,000,000	4,342	FP Complete	No
238	Horizon City	TX	Horizon View WW Collection	\$3,500,000	1,721	FP Complete	No
238	Horizon City	TX	El Paso Hills WW Collection	\$2,000,000	570	FP Complete	No
238	Horizon City	TX	Lakeway Estates WW Collection	\$2,500,000	730	FP Complete	No
238	Horizon City	TX	Agua Dulce WW Collection	\$3,500,000	1,325	FP Complete	No
259	Alpine	TX	Water Distribution/Storage	\$1,200,000	5,786	FP Complete	No
259	Alpine	TX	Rehabilitation of sewer system	\$3,300,000	5,786	FP Complete	No
268	Los Fresnos	TX	WTP	\$5,700,000	4,512	NEPA	No
319	Sheffield	TX	WWTP/WW collection	\$831,500	410	FP In Progress	No
319	Sheffield	TX	W/Storage/Distribution	\$1,870,000	410	FP In Progress	No
321	Rio Grande	TX	WW Collection (first time service) & WW Treatment (new ser	\$17,000,000	27,000	FP In Progress	No
321	Rio Grande	TX	Rehab WW Collection	\$7,000,000	7,000	FP In Progress	No
321	Rio Grande	TX	Water Distribution/Storage	\$11,500,000	27,000	FP In Progress	No
321	Rio Grande	TX	WTP	\$40,000,000	27,000	FP In Progress	No
330	Marfa	TX	WW Collection Rehab	\$551,229	2,355	FP Complete	No
330	Marfa	TX	WWTP	\$718,833	2,355	FP Complete	No
330	Marfa	TX	WT - Fluoride	\$864,975	2,355	FP Complete	No
330	Marfa	TX	Water Distribution Looping	\$1,272,093	2,355	FP Complete	No
332	La Grulla	TX	WW Collection Phase 2	\$5,200,000	2,700	NEPA	No
332	La Grulla	TX	WW Collection Phase 1	\$5,600,000	3,900	NEPA	No
342	Webb County	TX	WW Collection/Treatment	\$2,000,000	1,795	FP In Progress	No
342	Webb County	TX	WT/Distribution	\$7,000,000	1,795	FP In Progress	No
353	Mercedes	TX	Sewer Line through downtown	\$1,300,000	13,649	FP Complete	Yes
353	Mercedes	TX	WW Collection (Lift Station)	\$600,000	13,649	FP Complete	Yes
353	Mercedes	TX	WWTP	\$5,800,000	13,649	FP Complete	Yes
361	Weslaco	TX	WTP Improvements	\$15,500,000	26,935	FP Complete	No
362	Pharr	TX	North and Central WW Collection	\$29,500,000	26,555	NEPA	No
362	Pharr	TX	South WW Collection	\$15,500,000	20,257	NEPA	No
366	La Joya City	TX	WWTP Expansion/WW Collection	\$16,600,000	6,962	FP Complete	No
373	Alamo City	TX	Water Distribution/Storage	\$3,000,000	14,760	FP In Progress	No
373	Alamo City	TX	WW Collection Rehab/Expansion	\$3,500,000	14,760	FP In Progress	No
373	Alamo City	TX	WWTP Expansion	\$10,500,000	14,760	FP In Progress	No
377	East Rio Hondo WSC	TX	WW Collection and WWTP	\$3,600,000	2,000	FP Complete	No
377	East Rio Hondo WSC	TX	Water Distribution System and Elevated Storage Tanks	\$9,700,000	10,000	FP Complete	No
398	La Joya WSC	TX	New FM 2221 WTP first phase	\$9,800,000	22,000	FP Complete	Yes
400	Olimto WSC	TX	WW Collection	\$8,600,000	1,600	FP Complete	No
400	Olimto WSC	TX	WTP Expansion	\$5,000,000	5,572	FP Complete	No
400	Olimto WSC	TX	Water Distribution System	\$13,400,000	5,572	FP Complete	No
432	San Juan	TX	Water Line Replacement	\$4,000,000	28,000	FP In Progress	No
432	San Juan	TX	WW Collection	\$5,900,000	28,000	FP In Progress	No
432	San Juan	TX	WTP Expansion	\$7,700,000	28,000	FP In Progress	No
436	LVWD	TX	Clint Area WW	\$6,000,000	1,600	RAP Complete	Yes
436	LVWD	TX	SE LVWD Area WW	\$2,700,000	352	RAP Complete	Yes
436	LVWD	TX	Socorro Area WW	\$18,500,000	6,712	RAP Complete	Yes
436	LVWD	TX	Clint Area Water	\$4,300,000	2,300	RAP Complete	Yes
436	LVWD	TX	SE LVWD Area Water	\$18,300,000	1,404	RAP Complete	Yes
436	LVWD	TX	Socorro Area Water	Pending	Pending	RAP Complete	Yes
447	Lytford	TX	WT	Pending	1,973	RAP Complete	No
447	Lytford	TX	Water Distribution System	Pending	Pending	RAP Complete	No
447	Lytford	TX	WW Collection	Pending	Pending	RAP Complete	No
447	Lytford	TX	WWTP Upgrade	Pending	1,973	RAP Complete	No
448	Brownsville - El Jardin	TX	Water System Improvements	\$8,800,000	9,612	FP In Progress	No
449	Donna	TX	WW Collection	\$5,900,000	2,000	FP In Progress	Yes
449	Donna	TX	WWT	\$1,700,000	16,449	FP In Progress	Yes
449	Donna	TX	Water System Improvements	\$5,400,000	16,449	FP In Progress	Yes
451	Brownsville	TX	FM511-802 WW	\$7,135,200	2,081	FP Complete	No
451	Brownsville	TX	Cameron Park WW	Pending	Pending	RAP In Progress	No