



CERTIFICATION AND FINANCING PROPOSAL

VISTA DEL ESTE WATER SYSTEM REPLACEMENT PROJECT EL PASO COUNTY, TEXAS

Revised: November 10, 2016

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EXECUTIVE SUMMARY

VISTA DEL ESTE WATER SYSTEM REPLACEMENT PROJECT EL PASO COUNTY, TEXAS

Project:	The proposed project consists of the replacement of an existing drinking water distribution system, including waterlines and 340 service connections, in Vista del Este, a <i>colonia</i> in an unincorporated area of El Paso County, Texas (the "Project"). ¹
Project Objective:	The purpose of the Project is to increase access to sustainable drinking water service, reducing service interruptions and water losses, as well as help improve water resource management and reduce health risks associated with waterborne diseases.
Expected Project Outcome:	The Project is expected to generate environmental and human health benefits related to the following outcomes: <ul style="list-style-type: none">• Increase access to safe and reliable drinking water services for 340 households;• Eliminate water losses from line breaks (approximately 5 million gallons annually); and• Eliminate service interruptions (4 to 6 annually).
Population Benefited:	1,068 residents of Vista del Este in El Paso County, Texas. ²
Project Sponsor:	El Paso County
Project Cost:	US\$1,564,000
NADB Grant:	US\$500,000 from NADB's Community Assistance Program (CAP)

¹ The Office of the Secretary of State of Texas defines a "*colonia*" as a residential area along the Texas-Mexico border that may lack some of the most basic living necessities, such as potable water and sewer systems, electricity, paved roads, and safe and sanitary housing.

² Based on 340 residential connections and average household of 3.14 as reported in <http://quickfacts.census.gov/qfd/states/35/35013.html>, accessed March 9, 2016.

BOARD DOCUMENT BD 2016-24
 CERTIFICATION AND FINANCING PROPOSAL
 CAP GRANT, EL PASO COUNTY, TX

**Uses & Sources of
 Funds:
 (US\$)**

Uses	Amount	%
Construction, contingencies and taxes	\$1,564,000	100
TOTAL	\$1,564,000	100
Sources	Amount	%
El Paso County, TX	\$1,064,000	68.0
NADB CAP Grant	\$500,000	32.0
TOTAL	\$1,564,000	100

CERTIFICATION AND FINANCING PROPOSAL

VISTA DEL ESTE WATER SYSTEM REPLACEMENT PROJECT VISTA DEL ESTE, EL PASO COUNTY, TEXAS

1. ELIGIBILITY

Project Type

The Project falls within the eligible sector of drinking water.

Project Location

The Project is located in the Vista del Este *colonia* in El Paso County, Texas, approximately 13 miles north of the U.S.-Mexico border. The Project is in the border region, which in the U.S. is defined as 100 kilometers (62.5 miles) from the U.S.-Mexico International border.

Project Sponsor and Local Authority

The Project sponsor, El Paso County, Texas (the “Sponsor” or the “County”) operates the East Montana Water System, which includes the Vista del Este area, under Certificate of Convenience and Necessity (CCN) No. 12127, issued by the Public Utilities Commission of Texas.

2. CERTIFICATION CRITERIA

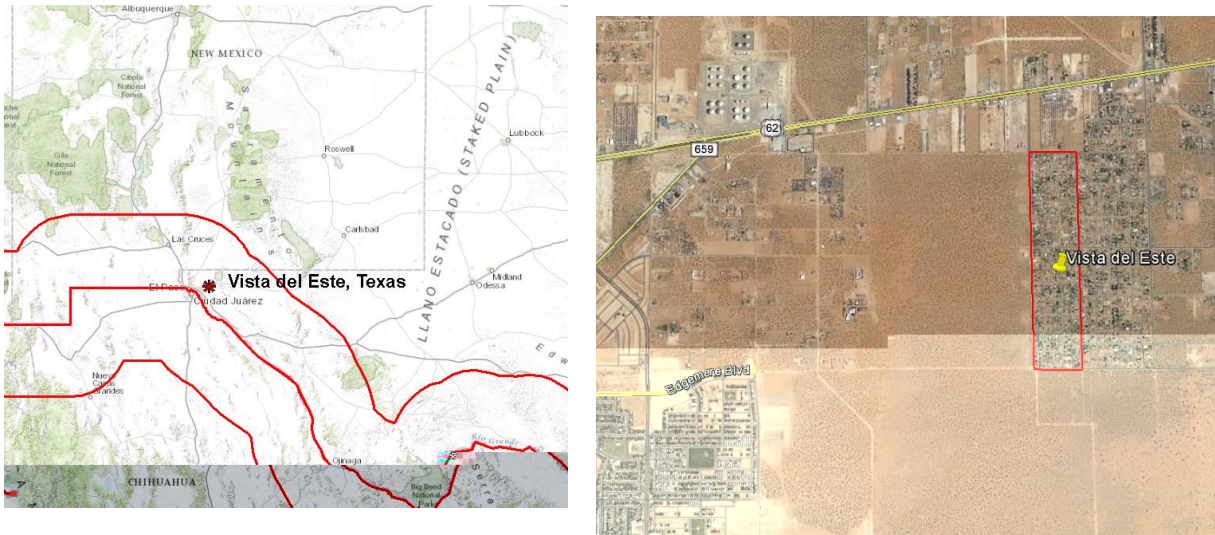
2.1. TECHNICAL CRITERIA

2.1.1. Project Description

Geographic Location

The Vista del Este Colonia is located in central El Paso County, approximately 15 miles east of the city of El Paso, as is shown in the vicinity map below. The approximate coordinates of the center of the Project area are 31^o 48'17"N and 106^o 10'58"W.

Figure 1
PROJECT VICINITY MAP



General Community Profile

According to U.S. census data, the estimated population of El Paso County is 833,487, and the average number of individuals per household is 3.14. The median household income (MHI) for El Paso County is \$40,783, and close to a quarter of its population (23.4%) is living below the poverty line. In comparison, Texas has a statewide MHI of \$52,576, and 17.2% of the state population lives in poverty.³ Census information specific to Vista del Este is limited. However, census block data from 2012 estimated that Vista del Este had an MHI of approximately \$31,800 in 2013, and that 34.8% of the population was living below the poverty line.⁴

The status of public services in Vista del Este is described in Table 1 below.

³ Source: <http://quickfacts.census.gov/qfd/states/35/35013.html>, accessed March, 9, 2016.

⁴ Source: Vista del Este Summary Report provided by El Paso County, September 4, 2014.

Table 1
BASIC PUBLIC SERVICES AND INFRASTRUCTURE

Water System	
Water coverage	~ 100%
Supply source	Hueco and Mesilla Aquifers, and Rio Grande Surface Water purchased from El Paso Water Utilities (EPWU)
Number of hookups	340
Wastewater Treatment	
Coverage	100% of septic systems in the <i>colonia</i> , permitted and inspected by El Paso County
Solid Waste	
Collection coverage	100%
Final disposal	Landfill
Street Paving	
Street paving coverage	100%

Source: El Paso County, 2016.

Local Water and Wastewater Systems

The residents of Vista del Este receive water services from El Paso County through its East Montana Water System, an enterprise fund entity. At one time, Vista del Este’s water services were provided by the Homestead Municipal Utility District (MUD). However, Homestead MUD was dissolved in 1997, and the County stepped in to take over the system. Although, the County owns and operates the Vista del Este drinking water distribution infrastructure, bulk water is purchased from El Paso Water Utilities (EPWU).

The existing water system was built with 4- and 6-inch PVC pipe and is located primarily in alleys behind residences. The alleys are typically narrow and not well maintained, hampering system maintenance and repair efforts. Additionally, some undersized lines do not comply with current standards of the Texas Commission on Environmental Quality (TCEQ), which require that water systems be constructed with 6-inch or larger PVC pipe to meet both residential demand and fire flow requirements.

Replacing the existing system is a priority for El Paso County because it is undersized for current demand, has limited accessibility and is plagued with leaks and line breaks. The utility reports four to six breaks annually with roughly one million gallons lost per break. During the first six months of 2016, the County repaired three line breaks. In addition to large water losses from line breaks, the leakage from pipe joints is also significant according to the El Paso County Public Works Department. Water losses may account for as much as a third of the system’s total demand and have a significant financial impact on the County, since it still has to pay EPWU for the water.

The community currently does not have access to sanitary sewer services, and residents rely upon compliant on-site systems such as septic tanks to manage their wastewater. The septic systems are permitted and regularly inspected by county health officials to ensure that they are in good working order. Additionally, to address long-term needs, EPWU is working with Texas

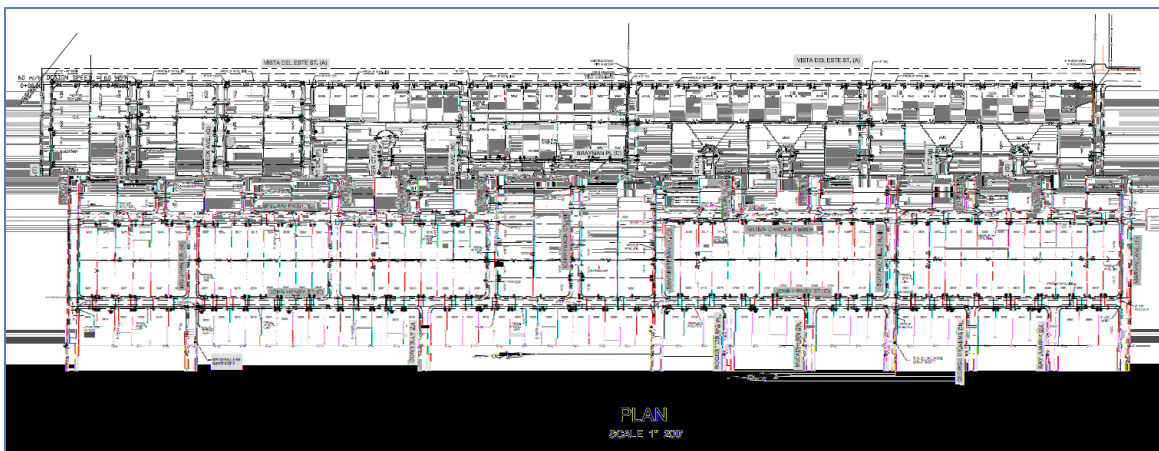
Water Development Board (TWDB) to provide wastewater collection services to the community as part of a regional project, to address sanitary service needs in unincorporated areas just east of the City of El Paso.

The purpose of the Project is to increase access to sustainable drinking water services, increase service reliability, and eliminate line breaks and leaks that negatively impact water resources. Improving the reliability of drinking water services helps prevent water quality and public safety issues.

Project Scope

The Project consists of replacing all waterlines within the area bound by Vista de Este Road, Greg Road, John Henry Street and Marvin Lane, as shown in Figure 2, below.

**Figure 2
OVERALL LAYOUT OF VISTA DEL ESTE SERVICE AREA**



The Project includes the following components:

- 20,317 linear feet (LF) of 8-inch PVC waterline;
- 6,652 LF of 6-inch PVC waterline;
- 36 fire hydrants; and
- 340 metered service connections

All 340-service connections will need to be replaced because they are installed from the back of the homes to the distribution lines located in the alley ways. The new service connections will need to be installed and connected to the new street-side distribution system. Existing meters will be relocated to the street-side during construction. The system only has a limited number of fire hydrants due to the location of the current infrastructure and substandard line sizes; therefore, new hydrants will need to be installed in accordance with regulatory requirements and safety standards.

The Project will include all the work required for fully functional waterlines, such as pressure testing for leaks and chlorine disinfection after installation. Any roadway disturbed during

construction will be repaired. Except on cul-de-sacs, the system has been designed to be completely looped

- Operating and Maintenance (O&M) Costs – The proposed waterline improvements will reduce the O&M costs of the system. Moving the new system to the street right-of-way will eliminate obstructions that hinder repairs to the current system due to its location in inaccessible alleyways. Moreover, the new system will eliminate repair costs associated with leaks and line breaks, as well as the unrecoverable costs of paying EPWU for lost water.

2.1.3. Land Acquisition and Right-of-Way Requirements

No land will be acquired for this Project. Waterlines will be installed entirely in public rights-of-way. The existing waterlines will be abandoned in place.

2.1.4. Management and Operations

The operations and management of the proposed Project will be the responsibility of El Paso County through the East Montana Enterprise Fund. The County will ensure that sufficient resources, training and staff are available for the proper operation and maintenance (O&M) of the new waterlines. Moreover, replacing the existing system will result in fewer repairs and maintenance issues, leading to reduced O&M requirements.

The County is only responsible for Vista del Este's water services. The County currently employs three operators with level "C" training, which meets the regulatory requirements for operating drinking water distribution infrastructure, and is in the process of hiring a fourth operator.

The County estimates that for every pipe break at least one million gallons of water is lost. The County provided repair records from 2013 through 2015, which showed an average of five line breaks annually. The average repair costs for that period were nearly US\$3,000, and the cost of the lost water was US\$8,600. Eliminating line breaks is expected to save the utility approximately US\$11,600 annually. Considering the expected savings, after Project implementation, O&M expenses for the Vista del Este neighborhood are anticipated to be approximately US\$230,554, while overall O&M expenses managed by the East Montana Enterprise Fund are estimated at US\$2.4 million. An adjustment in user rates is not required as a result of the Project.

2.2. ENVIRONMENTAL CRITERIA

2.2.1. Compliance with Applicable Environmental Laws and Regulations

Applicable Laws and Regulations

The Project will be constructed within public rights-of-way; therefore, there are no local, state or federal environmental clearance laws applicable to the Project.

The Safe Drinking Water Act (SDWA) is the primary law regulating public water systems. In accordance with the SDWA, the U.S. Environmental Protection Agency (EPA) has published regulatory requirements setting limits on contaminants allowed in drinking water. EPWU consistently meets drinking water quality standards for the water purchased by the County for the Project. No specific water quality issues have been identified within the existing distribution system for the area.

Environmental Studies and Compliance Actions

The contractor will be responsible for disposing of construction debris properly and for implementing a Storm Water Pollution Prevention Plan (SWPPP) during construction activities.

Pending Environmental Tasks and Clearances

There are no pending environmental tasks or authorizations.

Compliance Documents

None required.

2.2.2. Environmental Effects / Impacts

Existing Conditions and Project Impact – Environmental

Currently, residents in the Project area rely on an inadequate distribution system for their water service. The existing system has reached the end of its service life and is undersized, giving rise to leaks from joints and frequent line breaks. The proposed Project will directly benefit 340 residential connections, by eliminating service disruptions and reducing water losses. The overall environmental impact of this project will be positive, as it will improve the reliability and safety of the water distribution system and conserve water. The following benefits to human health and the environment have been identified.

- Increase access to safe and reliable drinking water services to 340 households;
- Eliminate water losses from line breaks (approximately 5 million gallons annually); and
- Eliminate service interruptions (4 to 6 annually).

Mitigation of Risks

The Project will be constructed in previously disturbed areas; therefore, no significant environmental impacts are anticipated during its construction. Minor adverse effects are anticipated during construction include:

- Local air quality will be temporarily impacted by increased dust, emissions of carbon monoxide, nitrous oxide, and sulfur dioxide emissions due to vehicles and equipment used during construction.
- Noise levels may be elevated during construction activities. This impact is short in duration, concentrated in the work area and most directly affects workers in the area.

- Surface water quality could be temporarily impaired by storm water runoff carrying additional sediment and waste from the construction site.

These negative impacts during construction can be minimized through the use of best management practices, including:

- Activities to protect air quality include spraying water over disturbed areas to reduce fugitive dust and regular vehicle maintenance to reduce emissions.
- To reduce the impact of noise pollution, work will be permitted during a standard work day only.
- The SWPPP will include measures, such as creating sediment basins, limiting traffic to designated areas to reduce site disturbances, diverting storm runoff from the work area, and quickly re-stabilizing areas that have been disturbed once the pipeline is laid.

Natural Resource Conservation

Replacing the existing system will prevent water losses from leaks and line breaks, conserving a critical resource in a drought prone region.

No Action Alternative

The no-action alternative was not considered viable, given the poor condition of the current system. Failing to implement the Project will lead to further deterioration of the water system, resulting in ongoing leaks and breaks with unacceptably high water losses, service interruptions for residents and high O&M costs for the County.

Existing Conditions and Project Impact – Human Health

Waterborne diseases are caused by pathogenic microorganisms that are transmitted as a result of inadequate wastewater disposal practices or unsafe water supplies. An individual may become ill after drinking water that has been contaminated with these organisms; eating uncooked foods that have been in contact with contaminated water; or through poor hygiene habits that contribute to the dissemination of diseases by direct or indirect human contact. Table 3 shows waterborne disease statistics for El Paso County, Texas.

**Table 3
 WATERBORNE DISEASE STATISTICS FOR EL PASO COUNTY, TEXAS**

Disease	Number of Annual Cases Per 100,000 Residents				
	2010	2011	2012	2013	2014
Amebiasis	2	0	1	4	1
Campylobacteriosis	35	38	45	51	58
Cryptosporidiosis	9	2	2	1	3
Shigellosis	41	109	60	31	23

Source: Texas Department of State Health Services.

Insufficient capacity and line breaks pose a major public health risk since these conditions increase the vulnerability of the distribution system to backflow and cross-contamination

problems, which may expose residents to waterborne diseases. In order to mitigate public health risks, a boil notice could be issued. The boil notice is a public health advisory given to consumers when a community's drinking water is, or could be, contaminated. The regulatory protocol for issuing a boil notice does not occur, automatically, as a result of a line break, but is triggered by at least two positive bacterial samples taken within the same area. These samples are drawn after isolating and repairing the break followed by chlorination and charging the line. After a period of time to allow for disinfection, the line is flushed and water quality is sampled. If the sample is positive, then additional water quality sampling must be taken downstream and upstream of the break. If a second positive bacterial sample is obtained, then a boil notice is required.

One of the strategies for mitigating water quality problems is to isolate the line break as quickly as possible, minimizing pressure drops to the rest of the system and subsequent cross-contamination. While it is often challenging for the Sponsor to reach the line break for repair, it has been possible to more quickly isolate the affected area by using gate valves, typically located at the intersections.

Although the system is vulnerable to contamination, especially given the frequency of line breaks in the area, fortunately, the Sponsor reports that they have been able to manage pressures adequately during these events and there has been no need to issue boil notices in the past three years.

The Project will help prevent these problems by providing a safe and reliable water transmission and distribution system for Vista del Este residents. According to the World Health Organization, access to safe water and sanitation facilities, as well as better hygiene practices, can reduce ascariasis-related morbidity by 29%.⁷

Transboundary Effects

No negative transboundary impacts are anticipated as a result of the Project.

2.3. FINANCIAL CRITERIA

2.3.1. Uses and Sources of Funds

The total estimated cost of the Project is US\$1,564,000, which includes the acquisition of materials, construction, contingencies and taxes. The Project Sponsor has requested a US\$500,000 grant from NADB through its Community Assistance Program (CAP) to complete the financing of the Project. Table 4 presents a summary of total Project costs and the sources of funds.

⁷ Source: WHO, Water, Sanitation and Hygiene Links to Health, Facts and figures updated November 2004 (http://www.who.int/water_sanitation_health/publications/facts2004/en/).

Table 4
USES AND SOURCES OF FUNDS
 (US\$)

Uses	Amount	%
Construction, contingencies, and taxes	\$ 1,564,000	100.0
TOTAL	\$ 1,564,000	100.0
Sources	Amount	%
El Paso County	\$ 1,064,000	68.0
NADB CAP Grant	500,000	32.0
TOTAL	\$ 1,564,000	100.0

2.3.2. Program Criteria Compliance

The proposed Project complies with all CAP criteria. It is located within the U.S.-Mexico border region served by BECC and NADB, is being sponsored by a public sector entity and is in an environmental sector eligible for NADB financing. Additionally, as a water project, it is considered a priority under the CAP program. Moreover, the benefitted service area is an economically distressed area, demonstrating financial need for the proposed grant. As shown in the above table, the Project Sponsor has agreed to cover more than two-thirds of the project costs with its own funds, well above the 10% minimum required under the program.

Finally, the Project Sponsor has completed the final design, and is ready to initiate bidding for construction once funding has been approved.

2.3.3. Conclusion

For the above reasons, NADB proposes providing a CAP grant of up to US\$500,000 to the County of El Paso, Texas, for the construction of the Project.

3. PUBLIC ACCESS TO INFORMATION

3.1. PUBLIC CONSULTATION

BECC published the draft project certification and financing proposal for a 14-day public comment period beginning October 14, 2016. The following Project documents are available, upon request, for public access:

- Final Design for Vista Del Este Water Distribution System, prepared by El Paso County Road and Bridge Department, El Paso, Texas.
- Project Summary Document, prepared by El Paso County Road and Bridge Department, El Paso, Texas.

The 14 day-public comment period ended on October 28, 2016, with no comments received.

3.2. OUTREACH ACTIVITIES

The Project was discussed at the County's board meeting on March 12, 2016, in order to secure the financial support for the Project. Additionally, a media search related to the Project was conducted by BECC; however, no articles were found. No opposition to the Project has been detected.