CERTIFICATION AND FINANCING PROPOSAL

RESIDENTIAL WASTEWATER CONNECTIONS IN ROSA AZUL SUBDIVISION CITY OF SOCORRO, TX

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EXECUTIVE SUMMARY

RESIDENTIAL WASTEWATER CONNECTIONS IN ROSA AZUL SUBDIVISION CITY OF SOCORRO, TEXAS

Project: The proposed project consists of the installation of yard-line connections from the home to the wastewater collection system (WWCS), as well as decommissioning of existing on-site wastewater disposal systems for up to 278 homes, within the Rosa Azul subdivision located in the City of Socorro, Texas and served by the Lower Valley Water District (the "Project").

Objective: The purpose of the Project is to provide access to first-time wastewater services in unserved areas and eliminate exposure to untreated or inadequately treated wastewater discharges by connecting the homes to new wastewater collection infrastructure, contributing to the reduction of water pollution and the risk of waterborne diseases.

Expected Outcomes: The Project is expected to generate environmental and human health benefits related to the following Project outcomes:

- Provide access to wastewater collection and treatment services for up to 278 homes.
- The installation of up to 278 residential wastewater service connections and the decommissioning of, at least, the same number of on-site systems.
- Eliminate untreated or inadequately treated wastewater discharges of approximately 0.1 million gallons per day (mgd).[1]

Population to Benefit: 996 residents of the Rosa Azul subdivision area of the City of Socorro, Texas.[2]

Sponsor: Lower Valley Water District (the "LVWD" or "Utility").

Project Cost: US$590,750

NADB Grant: Up to US$500,000 through the Community Assistance Program (CAP), not to exceed 90% of the Project cost.[3]

[1] Based on the project sponsor's minimum design criteria, anticipated flows have been calculated using 100 gallons per capita per day (gpd).
[2] Estimate based on 278 residential connections and an average household of 3.58 inhabitants per home as established in the Project's Finding of No Significant Impact document dated February 8, 2018.
[3] The proposed grant amount includes construction, supervision and related Project costs.

Uses and Sources of Funds:
(US$)

Uses	Amount	%
Construction*	$ 590,750	100.0
TOTAL	**$ 590,750**	**100.0**

Sources	Amount	%
LVWD	$ 90,750	15.0
NADB CAP grant	500,000	85.0
TOTAL	**$ 590,750**	**100.0**

*The Project sponsor will provide supervision services.

Project Status:

Key Milestones	Status
Environmental clearance - WWCS	Complete
Final design	Complete
Procurement	Complete
Construction period	Estimated period of 6 months

CERTIFICATION AND FINANCING PROPOSAL

RESIDENTIAL WASTEWATER CONNECTIONS IN ROSA AZUL SUBDIVISION CITY OF SOCORRO, TEXAS

1. PROJECT OBJECTIVE AND EXPECTED OUTCOMES

The proposed project consists of the installation of yard-line connections from the home to the wastewater collection system (WWCS), as well as decommissioning of existing on-site wastewater disposal systems for up to 278 homes (the "Project"), benefiting an estimated 996 residents. The purpose of the Project is to provide access to first-time wastewater services in unserved areas and eliminate exposure to untreated or inadequately treated wastewater discharges by connecting the homes to new wastewater collection infrastructure, contributing to the reduction of water pollution and the risk of waterborne diseases.

2. ELIGIBILITY

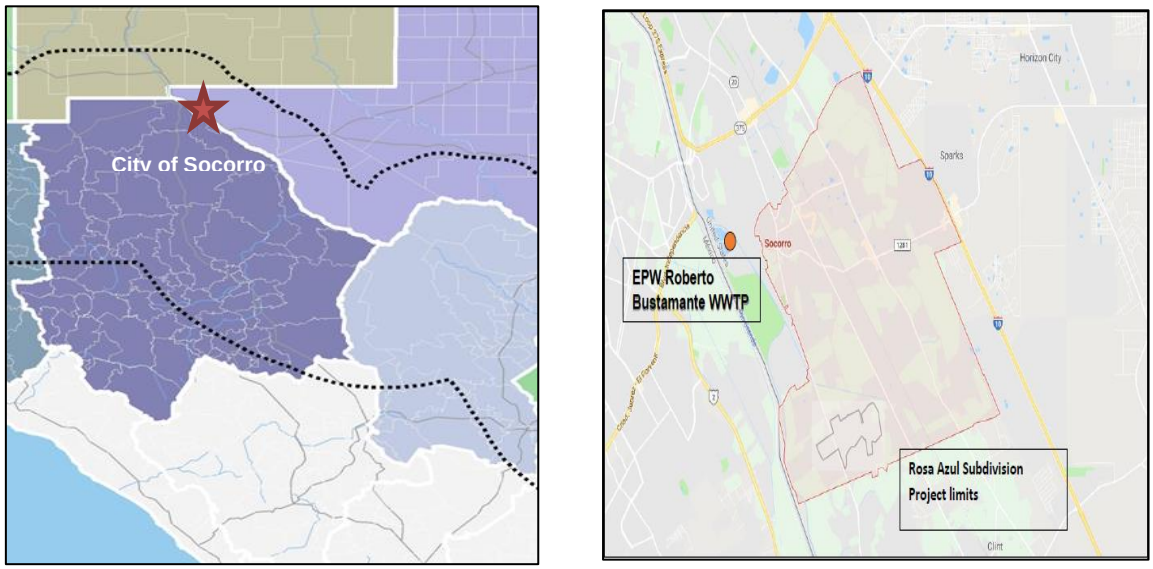
2.1. Project Type

The Project falls within the eligible category of wastewater collection and treatment.

2.2. Project Location

The Project will be implemented in the City of Socorro in El Paso County, Texas, approximately one mile north of the U.S.-Mexico border and 15 miles from El Paso. Its geographical coordinates are between 31°39'16.41"N, 106°18'11.93"W (31.654558, −106.303314). Figure 1 shows the approximate location of the Project.

Figure 1
PROJECT LOCATION MAP



2.3. Project Sponsor and Legal Authority

The public-sector Project sponsor is the Lower Valley Water District (the "LVWD" or "Utility"). The utility was created in 1986, as a municipal utility district to provide water, wastewater, and solid waste services to an area of approximately 210 square miles, east of the city limits of El Paso. The legal authority for the formation and operation of municipal water districts is provided by Texas Water Code Ann. § 49. LVWD has legal authority through the Certificate of Convenience and Necessity (CCN) P0948 to develop, operate and maintain water and wastewater system infrastructure within the City of Socorro, the Town of Clint, and several unincorporated areas.

3. CERTIFICATION CRITERIA

3.1. Technical Criteria

3.1.1. General Community Profile

With much of LVWD's population living in unincorporated communities not specifically identified in the available census data, the Project sponsor estimates that there are over 93,000 people living within the District boundaries. According to the U.S. Census Bureau, as of 2019, the City of Socorro's estimated population was 34,370 residents with an estimated average annual growth

rate of 7.2% for the previous 10-year period.[4] The installation of yard-line connections will directly benefit an estimated 996 people living in the Rosa Azul subdivision area of the City of Socorro.[5]

The economy of the City of Socorro is based on sales and office employees, construction workers, builders, and service providers. In 2019, an estimated 26.9% of the population was living below poverty level.[6]

The status of public services in the LVWD service area, which includes the City of Socorro, is described in the following table:

Table 1
LVWD BASIC PUBLIC SERVICES AND INFRASTRUCTURE

Water System	
Coverage	90%
Water supply source	Hueco-Bolson Aquifer purchased from El Paso Water (EPW)
Number of hookups	18,925
Wastewater Collection	
Coverage	75%
Number of connections	15,788
Wastewater Treatment	
Coverage	100%
Treatment facilities	EPW Roberto Bustamante WWTP

Source: Lower Valley Water District

Local Wastewater System

LVWD owns and operates the water distribution system and the WWCS, serving the residents within the District and CCN boundaries including the incorporated cities of Clint and Socorro. The District has inter-local agreements with El Paso Water (EPW) to purchase bulk potable water and the wastewater collected by LVWD is conveyed to wastewater conveyance and treatment facilities owned and operated by EPW. Currently, all wastewater collected by the District is treated at the EPW Roberto Bustamante Wastewater Treatment Plant (WWTP). As described in Table 1, above, while LVWD has approximately 90% coverage for drinking water service, the District's WWCS provides service to about 75% of the homes.

Residents in the Rosa Azul subdivision, located in the City of Socorro, use substandard on-site septic systems as their only means to manage wastewater. The on-site systems are in poor condition and frequently experience odor problems, back-ups, and risk contaminating the shallow groundwater common to this area. To address the problem, the LVWD is currently in the process of constructing a new public WWCS for the Rosa Azul subdivision to replace the existing on-site septic systems.

[4] Source: U.S. Census Bureau Quick Facts Web accessed on August 19, 2020.
[5] Estimate based on 278 residential connections and an average household of 3.58 inhabitants per home as established in the Project's Finding of No Significant Impact document dated February 8, 2018.
[6] Source: U.S. Census Bureau Quick Facts Web accessed on August 19, 2020.

Construction for the WWCS in the Rosa Azul subdivision began August 5, 2019 and is expected to reach substantial completion on February 28, 2021. The WWCS was divided into three (3) phases, with phases one and two reaching substantial completion on May 21, 2020 and August 7, 2020, respectively. Both phase one and two are ready to begin installation of yard-line connections and decommissioning of existing on-site wastewater disposal systems. Phase three WWCS construction initiated on August 10, 2020. The WWCS installation is being funded with a Clean Water State Revolving Fund loan, overseen by the Texas Water Development Board (TWDB).

The new wastewater infrastructure constructed in the Rosa Azul subdivision connects to LVWD's existing WWCS along Peters Road and Socorro Road. The flows will be conveyed to the EPW Roberto Bustamante WWTP as shown in Figure 1, above. The LVWD and EPW have an interlocal agreement to treat up to 20 MGD, of LVWD's wastewater. Currently, LVWD discharges, on average, 6 MGD to the Bustamante plant for treatment. The design for the Rosa Azul subdivision considers an estimated flow of 100,000 gpd, which will have a minimal impact on existing wastewater treatment infrastructure. The Roberto Bustamante WWTP has capacity for 39 MGD and its currently treating 29 MGD.

The cost of completing household connections to the new WWC infrastructure was not included in the WWCS construction costs. Currently, the total cost to install the connection and decommission the on-site system will be in excess US$2,000, which is typically the responsibility of the resident. However, to relieve this financial hardship from the economically-distressed population served by the new infrastructure, LVWD is seeking CAP funds to pay 85% of this cost, which will expedite access to critical basic services and support the Project's overall environmental objective.

3.1.2. Project Scope

The Project consists of the installation of yard-line connections to redirect the wastewater disposal from on-site systems to the new infrastructure, for up to 278 homes or an estimated 996 residents to be served by the three phases of the WWCS construction project. Additionally, the current on-site systems will be decommissioned as part of the contracted work.

Decommissioning involves the removal of sludge from the septic system by a licensed Texas Commission on Environmental Quality (TCEQ) hauler. The sludge is removed and taken to a facility that is permitted to receive such waste. Thereafter, the on-site systems are, typically, crushed and filled-in with sand to the surface of the natural ground or, in some situations, the septic tank must be completely removed from the property. A few properties may have more than one septic tank; in these cases, the contractor will decommission all on-site sanitary systems inside the residential property.

Figure 2 shows the schematic for the residential sewer hook-up and septic tank decommissioning process.

Figure 2
RESIDENTIAL SEWER HOOK-UP AND SEPTIC TANK DECOMMISSIONING

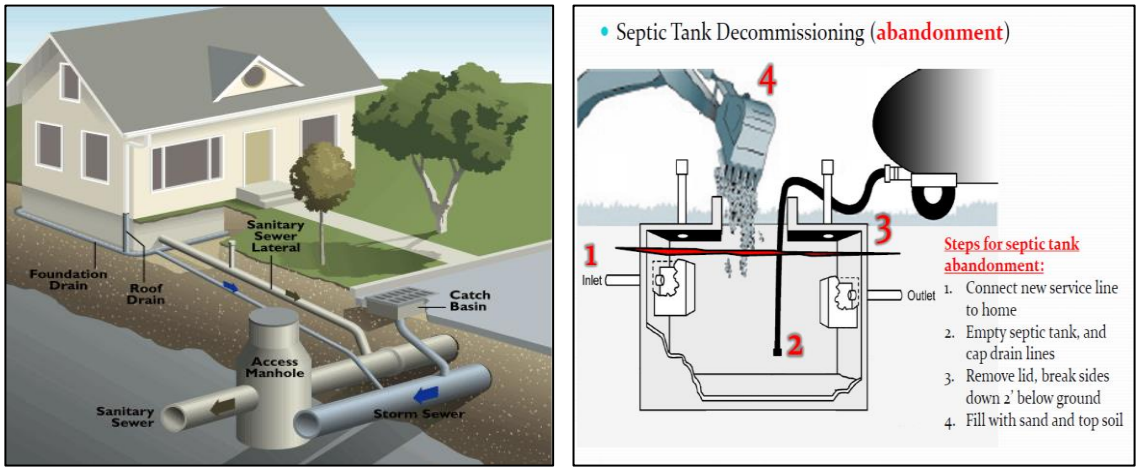
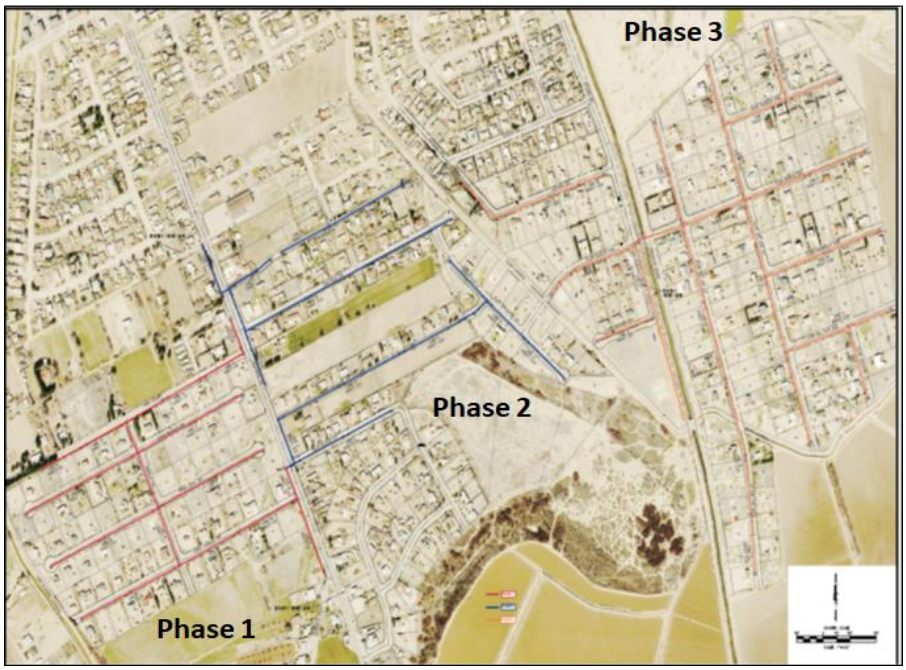


Figure 3 shows the three phases of the WWCS project. Connections and subsequent decommissioning of on-site system will be completed for the 278 existing homes in the Project area.

Figure 3
PROJECT AREA



3.1.3. Technical Feasibility

The design of the Rosa Azul subdivision WWCS, including the yard-line connections, conforms to the standards set forth in the Texas Administrative Code, Title 30 - Environmental Quality, Part 1, TCEQ, Chapter 217 - Design Criteria for Domestic Wastewater Systems. The TCEQ sets standards for design, submittals, operations, maintenance, construction, and safety. The applicable design standards include the sewer sizing, pipe slopes, minimum pipe cover, manhole sizing and spacing, pipe materials, pipe bedding, etc. The TCEQ standards have been developed to ensure that the sewage will flow through the system with an adequate velocity, and to minimize operations and maintenance needs. Additionally, the residential wastewater connections have been designed in compliance with Section 312 of the 2015 International Plumbing Code and have considered the pipe size, slope and varying depth of WWCS pipe installation.

The LVWD evaluated and considered various alternatives to address the infrastructure needs of the Project Area. During hydraulic modeling and the final design process for the WWCS, technical options for pipe diameter, material and alignment were evaluated. The entire Rosa Azul WWCS will flow by gravity. The new system will connect to the existing sewer system, which uses both gravity lines and lift stations with force main. This is important to consider in the installation of the residential connections.

Residential wastewater service connections consist of a sloped 4-inch PVC pipe between the wastewater main in the street and the residence so that wastewater will flow from the house to the main by gravity. The pipe diameter was selected using appropriate slopes and velocities to prevent pipe silting and clogging, septic conditions, over-excavation, or the need for pumping facilities that could increase Project costs. For the proposed Project, PVC was the selected material for wastewater collection system infrastructure and residential yard-line connections, which has proven to be reliable. Clean-outs and vents are provided in accordance with standard practice and building code requirements.

3.1.4. Land Acquisition and Right-of-Way Requirements

All work will be conducted within the easements/utility rights-of-way and will not require the purchase of any additional land or easements. Right of Entry forms were signed by each homeowner to allow the contractor to have temporary easements for the works to be completed inside the property line.

3.1.5. Project Milestones

Construction of the WWCS for the Rosa Azul subdivision initiated on August 5, 2019 and is expected to reach final completion on February 28, 2021. The first two of three phases of the WWCS construction are ready to begin installation of yard-line connections and decommissioning of existing on-site wastewater disposal systems. It is estimated that once the contract for residential connections funded by CAP receives the notice to proceed, it will take approximately 6 months to complete. Table 2 describe the Project milestone dates.

Table 2
PROJECT MILESTONES

Key Milestones	Status
Environmental clearance - WWCS	Complete (2/8/2018)
Final design	Complete (8/9/2018)
Procurement*	Complete (5/25/2018)
Construction period	Estimated period of 6 months

*On-call contract for system-wide residential connection installation.

3.1.6. Management and Operation

The construction, operations and management of the proposed Project will be the responsibility of LVWD. The utility provides both water distribution and wastewater collection services and has established procedures for operations and maintenance for both systems. Interlocal agreements between LVWD and EPW have been established that allow LVWD to purchase potable water from EPW and to send collected wastewater flows to EPW for treatment.

LVWD was established in 1986 as a municipal water district and has worked to expand its water and wastewater systems to provide services throughout its service area. As of July 31, 2020, the utility provides service to approximately 18,925 water connections and 15,788 wastewater hookups. To provide adequate services to its customers the utility maintains a highly trained operations and engineering staff, including three certified wastewater operators.

The LVWD is constantly applying for grant and loan funding from local, state, and federal agencies to expand and improve their water and wastewater systems for the 210 square miles within the District's boundaries. The WWCS for the Rosa Azul subdivision was constructed with a loan from TWDB. NADB has certified three previous projects with LVWD, two projects were successfully implemented with Border Environmental Infrastructure Fund (BEIF) program funds for wastewater collection and residential hook-ups. In the case of the third project proposed for wastewater collection and treatment in the community of Cuadrilla, the utility decided to change the approach and scope to the project and, therefore, plan to implement the project with their own funds.

3.2. Environmental Criteria

3.2.1. Environmental and Health Effects/Impacts

A. Existing Conditions

Residents in the Rosa Azul subdivision, located in the City of Socorro, use substandard on-site septic systems as their only means to manage wastewater. The on-site systems are in poor condition and frequently experience odor problems, back-ups, and risk contaminating the shallow groundwater common to this area.

Waterborne diseases are caused by pathogenic microorganisms that are transmitted because of inadequate wastewater disposal practices and unsafe water supplies. An individual may become ill after drinking water that has been contaminated with these organisms; coming into contact with untreated wastewater; 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 statistics for El Paso County, Texas.

Table 3
WATERBORNE DISEASE STATISTICS FOR El PASO COUNTY, TEXAS

Disease	Number of Cases/Year				
	2012	2013	2014	2015	2016
Intestinal Amoebiasis	1	4	1	4	3
Campylobacteriosis	45	51	58	71	63
Cryptosporidiosis	2	1	3	2	3
Shigellosis	60	31	23	24	39

Source: Texas Health and Human Services Automated Epidemiological Surveillance System, accessed May 9, 2019 (https://www.dshs.texas.gov/idcu/default.shtm).

B. Project Impacts

The Project will help protect the health of residents and the local aquifer by collecting the wastewater generated in the Rosa Azul subdivision for proper treatment and decommissioning existing septic systems. The wastewater will be conveyed to the Roberto Bustamante WWTP for treatment, a facility with a solid record of meeting all regulatory requirements.

Specifically, the Project is expected to generate environmental and human health benefits related to the following outcomes:

- Provide access to wastewater collection and treatment services for up to 278 homes.
- The installation of up to 278 residential wastewater service connections and the decommissioning of, at least, the same number of on-site systems
- Eliminate untreated or inadequately treated wastewater discharges of approximately 0.1 million gallons a day (mgd). [7]

C. Transboundary Impacts

Due to the proximity of this community to the cities of El Paso y Ciudad Juarez, Mexico, there are frequent border crossing between cities. The proposed Project will have a positive impact on the health of residents of the City of Socorro, El Paso and Ciudad Juarez, and the entire region, since the Project will help to reduce the risk or waterborne diseases caused by exposure to surface ponding of untreated or inadequately treated discharges or potential contamination of the local drinking water or irrigation wells. Additionally, the implementation of the proposed Project will

[7] Based on the final engineering report, anticipated flows have been calculated using 100 gpd.

reduce the potential for contamination of local and shared water bodies, such as the Rio Grande/Rio Bravo River.

3.2.2. Compliance with Applicable Environmental Laws and Regulations

The Project will correct the existing non-compliant conditions of the on-site wastewater disposal systems regulated by Title 30, chapter 285 of the Texas Administrative Code. Additionally, the installation and decommissioning tasks will require a permit and inspection by the local authority. In this case, the City of Socorro has an inter-local agreement with El Paso County to oversee permitting, inspections, enforcement and decommissioning, including the proper disposal of liquid waste by a licensed septage hauler. Construction of the wastewater connection will be performed within temporary access easement provided by each property owner.

A. Environmental Clearance

Due to the nature of the proposed residential wastewater connections Project, no environmental studies or clearance actions are required.

However, the construction of the WWCS infrastructure for the Rosa Azul subdivision is funded through the Clean Water State Revolving Fund, which is administered by the TWDB, and was, therefore, subject to the National Environmental Policy Act (NEPA), 42 U.S. Code §4321 *et seq*. The Environmental Assessment (EA) prepared by TWDB identified benefits to human health achieved by improving sanitation and reducing local well-water contamination, as well as positive impacts by increasing economic opportunities and property values. Based on the findings and conclusions of the EA, TWDB issued a Finding of No Significant Impact (FONSI) on February 8, 2018, establishing that the WWCS project would not result in any significant negative impacts to the environment in the U.S.-Mexico border area. Although the WWCS is not included with the proposed Project for certification, the results are applicable to the Project, since the construction of the yard-lines will be connected to the WWCS infrastructure.

B. Mitigation Measures

Although Project implementation will have no significant adverse impact on the environment, mitigation measures have been established to address temporary and minor adverse impacts during the construction and operation of the Project. By following the best management practices described in the technical specifications of the Project, the temporary impacts due to construction will be minimized.

- Application of water to reduce the emission of dust particles and soil erosion.
- Construction will normally occur between 8 a.m. and 5 p.m. to avoid extended noise disruption.
- Vehicle tune-ups to reduce emissions and noise effects.
- Placement of warning signs to prevent potentially hazardous situations.

- The Contractor shall take appropriate measures to prevent any surface flow from entering any open excavation at any time, including flow from any defined watercourse or overland flow during or following a rainfall event or storm.
- All spillage and offensive patter to be removed from the site and disposed of shall be taken to an appropriate waste management facility in accordance with applicable norms.

The implementation of the proposed Project will be positive overall.

C. Pending Environmental Tasks and Authorizations

There are no environmental authorizations pending.

3.3. Financial Criteria

The total estimated cost of the Project is US$590,750, which includes the funding for construction of yard-line connections and decommissioning of septic systems. The Sponsor requested a grant from NADB though its Community Assistance Program (CAP), not to exceed 90% of the Project cost. Table 4 presents a breakdown of the Project costs, as well as the sources of funding.

Table 4
USES AND SOURCES OF FUNDS
(US$)

Uses	Amount	%
Construction*	$ 590,750	100
TOTAL	**$ 590,750**	**100**
Sources	**Amount**	**%**
LVWD	$ 90,750	15
NADB CAP grant	500,000	85
TOTAL	**$ 590,750**	**100**

* Includes sewer service yard-lines, decommissioning of septic/cesspool systems, and miscellaneous costs.

The proposed Project complies with all CAP criteria. It is located within the U.S.-Mexico border region served by NADB, is being sponsored by a public-sector entity and is in an environmental sector eligible for NADB financing. Additionally, the Project will provide access to first-time wastewater services in unserved areas, which is considered a priority under the CAP program. As shown in the above table, the Project Sponsor has agreed to contribute funding to cover more than 10% of the Project costs, as required under the program.

4. PUBLIC ACCESS TO INFORMATION

4.1 Public Consultation

NADB published the Draft Certification and Financing Proposal for a 14-day public comment period beginning October 21, 2020. The following Project documents are available upon request:

- New Sewer Line Connection, Design Sheet, LVWD
- Environmental Assessment and Finding of No Significant Impact, TWDB, February 8, 2018.

4.2 Outreach Activities

The Sponsor promoted the Project at several of its board meetings to report on the progress of the Project and conducted a community meeting for the Project on April 23, 2017. The meetings were open to the general public, and meeting agendas were made available beforehand. Additionally, a procurement process was already conducted for the wastewater collection system and wastewater connections contract, providing an opportunity for the public to be aware of the Project.

Additionally, a media search related to the Project was conducted; however, no articles were found. No opposition to the Project has been detected.