CERTIFICATION PROPOSAL

COTTON VALLEY WASTEWATER COLLECTION PROJECT
EL PASO COUNTY, TEXAS

Submitted: October 17, 2014

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EXECUTIVE SUMMARY

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Project: The project consists of the design and construction of a wastewater collection system (WWCS) to provide first-time services to 78 residential connections in the Cotton Valley Colonia, located in the Lower Valley Water District (LVWD) service area in El Paso County, TX (the "Project").

Project Objective: The purpose of the Project is to increase access to safe and sanitary wastewater collection services, through the construction of a new sanitary sewer system for the Cotton Valley Colonia.

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

- Provide access to wastewater collection service for 78 new sewer connections; and
- Eliminate untreated or inadequately treated wastewater discharges of approximately 30,000 gallons per day (gpd).

Population Benefitted: 288 residents of Cotton Valley Colonia, El Paso County, Texas.[1]

Sponsor: Lower Valley Water District.

Project Cost: US $ 1,292,577

BEIF Grant: US $ 1,292,577

Uses & Sources of Funds:
(Millions of pesos)

Uses	Amount	%
Construction, supervision, contingencies, and other	$1.29M	100
TOTAL	**$1.29M**	**100**
Sources	**Amount**	**%**
NADB-BEIF (Grant)	$1.29M	100
TOTAL	**$1.29M**	**100**

* Includes costs related to construction, supervision, contingencies and taxes.

[1] Based upon 78 connections with an average of 3.69 residents per household in El Paso County.

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1. ELIGIBILITY

Project Type

The Project falls within the eligible sector of wastewater collection.

Project Location

The Project is located in the Cotton Valley, El Paso County, Texas, approximately 3.5 miles from the U.S.-Mexico border. The project is in the border region defined as within 100 kilometers (62.5 miles) of the U.S.-Mexico International Border.

Project Sponsor and Local Authority

The **public-sector** project sponsor is the Lower Valley Water District (LVWD). The district provides water, wastewater, and solid waste services. The utility was created in 1986, as a municipal utility district to provide services to a 21-square-mile area 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 serves the City of Socorro, the Town of Clint, and several *colonia* areas including Cotton Valley Colonia.

2. CERTIFICATION CRITERIA

2.1. TECHNICAL CRITERIA

2.1.1. Project Description

Geographic Location

The Cotton Valley Colonia is in El Paso County, approximately 20 miles southeast of downtown El Paso, in the Rio Grande Valley, approximately 3.5 miles from the U.S.-Mexico border. The Project's latitude and longitude are 31°37'18"N, and 106° 14'17"W, respectively. Figure 1 shows the approximate location of the project.

Figure 1
PROJECT VICINITY MAP

General Community Profile

The Cotton Valley Colonia is a small residential community within Socorro's city limits. The community is primarily a bedroom community for neighboring towns and the City of El Paso. Census data specifically for the Cotton Valley Colonia is not available. The area's population has been estimated at 288 based upon the number of new connections and an average of 3.69 inhabitants per residential unit in the City of Socorro.[2]

The estimated Median Household Income (MHI) in the City of Socorro is $31,863, in comparison to the State average of $50,920. Census figures report that 28.5% of the city's population lives below the poverty line, versus 17.0% for the Texas statewide average.

LVWD provides water, wastewater collection and solid waste collection services. LVWD owns and operates the water distribution system, and the wastewater collection system. LVWD purchases all of its water from El Paso Water Utility (EPWU); it does not have its own water source. Likewise, it does not own a wastewater treatment facility. All of the district's wastewater is treated at the EPWU's Bustamante WWTP. The status of public services in LVWD is described in Table 1 below.

[2] U.S. Census data -- http://quickfacts.census.gov/qfd/states/48/4868636.html

Table 1
BASIC PUBLIC SERVICES AND INFRASTRUCTURE

Water System			
Water coverage	~90%		
Supply source	Hueco-Bolson Aquifer purchased from EPWU		
	15,632		
Wastewater Collection			
Coverage	~75%		
Number of connections:	12,843		
Wastewater Treatment			
Coverage*	100%		
Treatment facilities	Plant	Type	Capacity
	EPWU Roberto Bustamante WWTP	Extended aeration activated sludge	39 MGD
Solid Waste			
Collection coverage	~90%		
Final disposal	Landfill		
Street Paving			
Street paving coverage	85%		

* Service coverage for wastewater treatment equals the percentage of discharges collected through the centralized collection infrastructure that are treated by a centralized wastewater treatment facility.

Project Scope

Currently residents of Cotton Valley are connected to the LVWD's water system, and use on-site treatment such as septic tanks to manage residential wastewater. Cesspools may exist, but have not been identified. Area residents have complained to LVWD about septic overflows, failing tanks, and strong odors.

The Cotton Valley WWCS project will construct a new wastewater collection system, to provide first-time sanitary sewer services to the residents for Cotton Valley. Area septic systems will also be decommissioned as part of this project. The entire system will be constructed primarily in existing right-of-way (ROW), easements have been obtained where needed. Most of the project will be constructed along the edge of the ROW in unpaved areas to minimize repaving. Based on LVWD's experience in similar projects some homes in the area may have more than one septic system. In that case, the home owner will be responsible for decommissioning additional septic systems.

The project will connect to LVWD's existing wastewater collection infrastructure along North Loop Road. Collected wastewater will be treated at EPWU Robert Bustamante WWTP. The LVWD and EPWU have an interlocal agreement to treat up to 20 MGD, of LVWD's wastewater at the Bustamante WWTP. Currently LVWD discharges on average 2 MGD to the Bustamante plant for treatment. The estimated average flow from the Cotton Valley Colonia will be 20.6 gallons

per minute (gpm), the impact of this project on existing wastewater treatment infrastructure will be minimal. The Robert Bustamante WWTP has capacity for 39 MGD and currently treats 29 MGD of wastewater.

The proposed Cotton Valley WWCS will serve 78 residential connections in Cotton Valley Colonia. The system will consist of the following elements.

- 740 LF of 18 inch PVC SDR 35 Sewer Pipe
- 1,430 LF of 12 inch PVC SDR 35 Sewer Pipe
- 3,470 LF of 8 inch PVC SDR 35 Sewer Pipe
- 23 – 48 inch Diameter Concrete Manhole Structures
- 78 Service laterals and connections
- Decommissioning of 78 septic system

Figure 2
COTTON VALLEY PROJECT SERVICE AREA

Table 2 shows the proposed schedule for project implementation milestones.

Table 2
PROJECT MILESTONES

Key Milestones	Status
Procurement	Anticipated: Fourth quarter 2014
Installation Period	Complete within eight months from NTP

2.1.2. Technical Feasibility

Design Criteria

The design of the Cotton Valley wastewater collection system conforms to the standards of the Texas Commission on Environmental Quality (TCEQ) (Chapters 217 and 317: Design Criteria for Domestic Wastewater Systems, August 28, 2008, and Design Criteria for Sewerage Systems, January 6, 2005 respectively). The TCEQ sets standards for design, submittals, operations, maintenance, construction and safety. Since this is a gravity sewer project 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 insure that the sewage will flow through the system with an adequate velocity, and to minimize operations and maintenance needs.

Selected Technology

The entire Cotton Valley sewer line will use gravity flow, the new system will connect to an existing sewer system, which uses both gravity lines and lift stations with force main. The pipeline will consist of PVC SDR 35 Sewer Pipe, and concrete manholes which conform to AWWA standards as specified by TCEQ.

The gravity wastewater collection system was selected for the following reasons:

- *Highly Reliability*: Residential gravity systems typically have long service lives with minimal maintenance.
- *Capital Costs*: Proposed system requires relatively shallow trenching, simplifying construction and minimizing costs.
- *Operational Costs*: The project is a completely gravity driven system, no additional energy costs, operations costs will be limited to maintenance cleaning and repairs.
- *Available Wastewater Infrastructure*: The system will connect to existing collection and treatment infrastructure.

2.1.3. Land Acquisition and Right-of-Way Requirements

The majority of the system will be installed in existing right-of-way, which will require paving and traffic control permits from the City of Socorro. Two easements are required to make the connection from the planned Cotton Valley Sewer lines to LVWD existing WWCS. Both easements have been obtained.

2.1.4. Management and Operations

The construction, operations and management of the proposed project will be the responsibility of LVWD. As the managing authority, LVWD will insure that sufficient resources, training, and staff are available to ensure the proper operation of the new wastewater collection system.

LVWD provides both water and wastewater services, and has established procedures for operations and maintenance for both systems. The Utility was established in 1986 as a municipal water district, since that time the utility has worked to expand its water and wastewater systems to provide services throughout the its service area. Approximately 15,600 water connections and 12,800 wastewater hookups receive service through LVWD. The district covers approximately 210 square miles and includes communities of San Elizario, Clint, Socorro, Sand Hills and several *colonias*. In order to provide adequate services to its customers the utility maintains a highly trained operations and engineering staff. The operations and maintenance of the Cotton Valley WWCS should not represent any extraordinary challenges for the LVWD staff.

Interlocal agreements between LVWD and EPWU have been established that allow LVWD to purchase water from EPWU, and to send its wastewater to EPWU for treatment. Since the EPWU is the ultimate service provider for wastewater treatment LVWD complies with the pretreatment regulations of the EPWU; described in EPWU's rules and regulations No. 9 posted at: http://www.epwu.org/pdf/rules_regs.pdf.

2.2. ENVIRONMENTAL CRITERIA

2.2.1. Compliance with Applicable Environmental Laws and Regulations

Applicable Laws and Regulations

The Project is subject to the formal environmental clearance process included in the National Environmental Policy Act (NEPA). In considering funding from the US-Mexico Border Water Infrastructure Program, the Project was reviewed in accordance with the U.S. National Environmental Policy Act (NEPA), 42 USC §§4321-4370f. In accordance with NEPA, Council on Environmental Quality (CEQ) regulations found at Title 40 CFR §§1500.1-1508.28, and EPA NEPA regulations at 40 C.F.R. Part 6, EPA Region 6 completed the environmental review and clearance process.

Environmental Studies and Compliance Actions

The Project is subject to regulations under NEPA; therefore an Environmental Information Document (EID) was prepared for the Project. The EID addresses the environmental impacts that would result from the implementation of the proposed action specific concerns addressed in the NEPA process include:

- Air quality, odors, and greenhouse gas emissions
- Noise impacts

- Water quality, hydrology and floodplain impacts
- Biological resources and wetland impacts
- Cultural and historic resource impacts
- Geology and soils impacts
- Municipal and public service impacts
- Public health, hazards and waste management
- Socioeconomic conditions
- Land use and planning
- Transportation and circulation
- Utilities and service systems, and
- Environmental justice

The EID for the project was completed and submitted for NEPA review in July 2013, and a letter of Categorical Exclusion for the project was issued on December 2, 2013.

The categorical exclusion issued for this project indicates that neither an environmental assessment nor environmental impact statement are required for this project. A categorical exclusion is issued when a "category of actions do not individually or cumulatively have a significant effect on the human environment" (§§40 CFR 1508.4 – Categorical exclusion). The categorical exclusion was issued for this project because the entire project will be installed in areas that have already been disturbed by development.

Pending Environmental Tasks and Clearances

There are no pending environmental tasks or authorizations.

Compliance Documents

The Categorical Exclusion for this project was issued on December, 2 2013 and is available for review.

2.2.2 Environmental Effects / Impacts

Currently LVWD provides Cotton Valley residents with drinking water services but they lack wastewater collection services. Most homes in the area manage their wastewater with septic tanks and a few may have cesspools. Although the area has not been cited by TCEQ, with a nuisance order, area residents have complained about failing and overflowing septic systems, and regular odor issues. Consequently, there are untreated or inadequately treated wastewater discharges and runoffs that could potentially reach surface waters within the Rio Grande basin and/or infiltrate to reach the ground water. Without the Project implementation, there is the potential for human contact with raw wastewater and organisms which are vectors for infectious diseases.

The wastewater collection system will eliminate approximately 30,000 gallons per day (gpd) of untreated or inadequately treated wastewater discharges. The risk for waterborne diseases transmission and the level of environmental contamination will be reduced as a result of the implementation of the Project. In general, septic systems become a source of groundwater contamination as they age, because they often develop leaks and do not adequately treat wastewater without regular maintenance. Failing septic systems and cesspools are also associated with the transmission of various pathogens associated with deceases such as dysentery, gastroenteritis, cholera, hepatitis A, tapeworms, etc.

Existing Conditions and Project Impact – Environmental

Residents of the project area currently rely upon on-site wastewater systems such as septic tanks. The colonia does not have known cesspools, but odor issues and overflowing septic tanks have been reported. Septic systems create the risk for human contact with raw wastewater, especially during irrigation season when groundwater levels are higher. Providing wastewater collection to the Cotton Valley area will provide the following benefits:

- Provide wastewater collection and treatment services to 78 new sewer hookups.
- Eliminate approximately 30,000 gal/day of untreated/inadequately treated wastewater.

Mitigation of Risks

No unique risks associated with this project have been identified, as the project will be constructed entirely in an area which has previously been disturbed. There are special habitats for endangered or threatened species in the project area that need protection. If threatened or endangered species are encountered during construction work will cease immediately until appropriate mitigation measures can be implemented. Minor adverse effects are anticipated during construction, but those impacts can be managed with best management practices (BMPs). Potential construction impacts 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 and concentrated to the work area and will include temporary roadway blockages; as well as presence of workers in the area.
- Surface water quality could be temporarily impaired by storm water runoff carrying additional sediment and waste from the construction site.

By following BMPs the temporary impacts due to construction will be minimized and long-term environmental impacts resulting from the Project's implementation will be positive overall.

Natural Resource Conservation

The Project contributes to improved water resource management and conservation, by protecting surface and ground water from inadequately treated sewage discharges and

conveying it to the existing Bustamante WWTP for treatment. The entire system is gravity sewer eliminating the need for external energy inputs.

No Action Alternative

The No-Action alternative was not considered. Failing to implement actions will result in continued risks of environmental contamination, and human exposure from inadequately discharges from on-site systems. The proposed project will eliminate risks to human health and protect scarce water resources.

Existing Conditions and Project Impact – Human Health

The project is aimed at eliminating risks associated resulting from human contact with inadequately treated wastewater. According to World Health Organization (WHO) sanitation projects can have the following benefits:[3]

- Improved sanitation reduces diarrhea morbidity by 32%.
- One gram of feces may contain 10M viruses, 1M bacteria, 1000 parasitic cysts, and 100 Helminths eggs.
- 4% of global decease burden can be prevented through improved water supplies, sanitation, and hygiene.

Waterborne diseases are caused by pathogenic microorganisms that are transmitted as a result of inadequate wastewater disposal practices and 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 4 shows waterborne statistics for El Paso County, Texas.

Table 4
WATERBORNE DISEASE STATISTICS FOR EL PASO COUNTY, TX

Disease	Number or Annual Cases				
	2008	2009	2010	2011	2012
Amoebiasis	1	2	2	0	1
Campylobacteriosis	21	12	35	38	45
Cryptosporidiosis	6	1	9	2	2
Shigellosis	78	19	41	109	60

Source: Texas Department of State Health Services.

Transboundary Effects

Due to the proximity of this community to the cities of El Paso y Cd. Juarez, there are frequent border crossing between cities. The proposed project will have a positive impact on the health

[3] WHO, Water, Sanitation and Hygiene Links to Health, Facts and figures accessed March 13, 2014 http://www.who.int/water_sanitation_health/facts_figures/en/

of residents of Cotton Valles, El Paso and Juarez, and the entire region, since the project will help to reduce the risk or waterborne diseases caused by the lack of wastewater collection and treatment system.

Additionally, the implementation of the proposed project will reduce the potential for contamination of local and shared water bodies, such the Rio Grande River. According to the transboundary environmental assessment, significant impacts are not expected as a result of the project implementation. The wastewater from this project will be treated at the Bustamante WWTP, which currently treats 29 MGD, the additional wastewater from Cotton Valley represents approximately 0.1% of the current discharge.

2.3. FINANCIAL CRITERIA

The total estimated cost of the Project is US$1,076,000, which includes the funding for purchase materials, construction, supervision, and contingencies. The Project meets all BEIF program criteria and has been approved by EPA for a BEIF grant of up to US$1,076,000 for Wastewater Collection System to complete the financing of the Project. Table 4 presents a breakdown of total Project costs, as well as the source of funds.

Table 3
USES AND SOURCES OF FUNDS

Uses	Amount	%
Construction, contingencies, supervision, and other	$1,292,577	100
TOTAL	**$1,292,577**	**100**
Sources	**Amount**	**%**
NADB-BEIF Grant	$1,292,577	100
TOTAL	**$1,292,577**	**100**

3. ACCESS TO PUBLIC INFORMATION

3.1. PUBLIC CONSULTATION

BECC released the Draft Project Certification Proposal for a 30-day public comment period beginning August 22, 2014. The following Project documentation is available upon request:

- Cotton Valley Estates Environmental Information Document, ESSCO International, Inc., July 2013.
- Categorical Exclusion for Wastewater Infrastructure Construction Project Located in the Cotton Valley Estates Subdivision for Lower Valley Water District Dec. 2 2013.

- Final Design for the Cotton Valley Estates Wastewater Improvements, El Paso County, TX, ESSCO International, Inc., February 2013
- Public Participation Report including Public Meeting minutes, pictures, and materials

The public comment period ended on September 21, 2014, with no comments received.

3.2. OUTREACH ACTIVITIES

LVWD has conducted outreach efforts to communicate the Project goals, benefits, costs, and impacts. The community's public outreach effort meet the requirements of the BEIF program, activities included the use of a local steering committee, public meetings, and appropriate project information access where conducted as described in the Public Participation Plan (PPP). The following information provides a summary of the outreach activities carried out to support this Project.

The Local Steering Committee was formed on May 23rd, 2013. The steering committee developed a public participation plan and periodically met to help the Utility to disseminate information regarding the Project. The Project's technical and financial information has been made available to the public for review. Information on the Project was presented to the community during two public meetings held on July 3rd, 2013, and August 7th, 2014.

The first public meeting notice was posted at the Utility and published on June 2nd, 2013 in the *El Paso Times*. The second public meeting notice was published on August 1st, 2014. The agendas for the meetings were published on June 2, 2013 and August 1st, 2014 respectively.

BECC conducted a media search to identify potential opinion about the project. No articles were found.