



# **CERTIFICATION PROPOSAL**

## **MESILLA WATER SYSTEM IMPROVEMENTS PROJECT MESILLA, NEW MEXICO**

*Submitted: October 5, 2015*

## CERTIFICATION PROPOSAL

### MESILLA WATER SYSTEM IMPROVEMENTS PROJECT MESILLA, NM

#### INDEX

<b>EXECUTIVE SUMMARY</b> .....	2
<b>1. ELIGIBILITY</b> .....	4
<b>2. CERTIFICATION CRITERIA</b>	
2.1 Technical Criteria	
2.1.1. Project Description .....	4
2.1.2. Technical Feasibility .....	8
2.1.3. Land Acquisition and Right-of-way Requirements .....	9
2.1.4. Management and Operations .....	9
2.2 Environmental Criteria	
2.2.1. Compliance with Applicable Environmental Laws and Regulations .....	9
2.2.2. Environmental Effects/Impacts .....	11
2.3 Financial Criteria .....	13
<b>3. ACCESS TO PUBLIC INFORMATION</b>	
3.1 Public Consultation .....	13
3.2 Outreach Activities .....	14

## EXECUTIVE SUMMARY

### MESILLA WATER SYSTEM IMPROVEMENTS PROJECT MESILLA, NEW MEXICO

<b>Project:</b>	The proposed project consists of the construction of three new waterlines in the Mesilla water system. The new waterlines will provide new hookups to 12 residences and add looping to improve the distribution system (the “Project”).
<b>Project Objective:</b>	The purpose of the Project is to increase access to potable water service, improve service reliability and eliminate stagnate conditions that negatively impact water quality, contributing to the reduction of the risks associated with waterborne diseases.
<b>Expected Project Outcomes:</b>	The Project is expected to generate environmental and human health benefits related to the following outcomes: <ul style="list-style-type: none"><li>• Increase access to safe and reliable drinking water services to 12 households;</li><li>• Maintain compliant water quality by eliminating the potential for stagnate water conditions.</li></ul>
<b>Population Benefitted:</b>	1,450 residents of Mesilla, New Mexico. <sup>1</sup>
<b>Project Sponsor:</b>	The Town of Mesilla.
<b>Project Cost:</b>	US\$761,646.
<b>NADB Grant:</b>	US\$698,115.

---

<sup>1</sup> Based on 604 residential connections as reported by the utility and an average household of 2.40 as reported in [http://factfinder.census.gov/faces/nav/jsf/pages/community\\_facts.xhtml](http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml) accessed 04/23/2015.

BOARD DOCUMENT BD 2015-28  
 CERTIFICATION PROPOSAL  
 MESILLA, NEW MEXICO

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

<b>Uses</b>	<b>Amount</b>	<b>%</b>
Construction, contingencies, supervision and taxes	\$761,646	100.0
<b>TOTAL</b>	<b>\$761,646</b>	<b>100.0</b>
<b>Sources</b>	<b>Amount</b>	<b>%</b>
NMED* (grant)	\$ 63,531	8.3
NADB-BEIF (grant)	698,115	91.7
<b>TOTAL</b>	<b>\$761,646</b>	<b>100.0</b>
*New Mexico Environment Department		

# CERTIFICATION PROPOSAL

## MESILLA WATER SYSTEM IMPROVEMENTS PROJECT MESILLA, NEW MEXICO

---

### 1. ELIGIBILITY

---

#### **Project Type**

The Project falls within the eligible sector of drinking water.

#### **Project Location**

The Project is located in the Town of Mesilla, Doña Ana County, New Mexico, approximately 35 miles (55 kilometers) from 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 Town of Mesilla Utilities Department (MUD), the project sponsor, is a public sector utility that provides services to the Town of Mesilla and adjacent unincorporated areas. The Town of Mesilla has the right to provide water services as granted by New Mexico Codes, Chapter 3 – Article 23 Public Utilities, 3-23-1 through 3-23-10.

---

### 2. CERTIFICATION CRITERIA

---

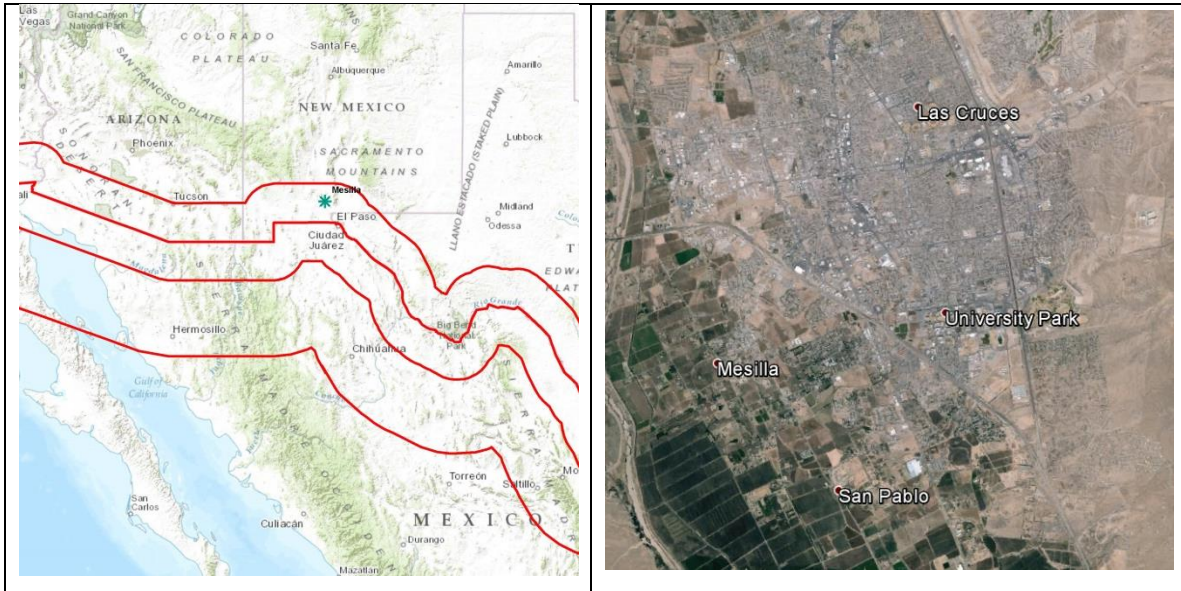
#### 2.1. TECHNICAL CRITERIA

##### 2.1.1. Project Description

#### **Geographic Location**

The Town of Mesilla is located approximately 2 miles (3 kilometers) southwest of the city of Las Cruces, in Doña Ana County, New Mexico. The coordinates of the town center are 32° 16'28"N and 106° 47'44"E. The new waterlines will provide services to three (3) separate areas: Valle Grande Road, Los Arenales Road, and Snow Road. All of the new lines will connect to existing waterlines.

Figure 1  
PROJECT VICINITY MAP



**General Community Profile**

According to the 2010 US census data the population of Mesilla is 2,196. The median household income (MHI) for Doña Ana County is \$38,462, and 25.8% of the county’s population lives below the poverty line. In comparison, New Mexico’s statewide MHI is \$44,886, and 19.5% of the state’s population lives in poverty.<sup>2</sup>

The status of public services in the Town of Mesilla is described in Table 1 below.

<sup>2</sup> Source: <http://quickfacts.census.gov/qfd/states/35/35013.html> --accessed April, 21, 2014.

**Table 1**  
**BASIC PUBLIC SERVICES AND INFRASTRUCTURE**

<b>Water System</b>			
Coverage*	~ 82%		
Supply source	Mesilla operates two active wells (400 and 600 gpm) in the Mesilla Basin Aquifer.		
Number of hookups	693 connections: 604 residential and 88 commercial		
<b>Wastewater Collection</b>			
Coverage**	~42%		
Number of connections:	498 connections, 413 residential, 85 commercial		
<b>Wastewater Treatment</b>			
Coverage	100%		
Treatment Facilities	<b>Plant</b>	<b>Type</b>	<b>Capacity</b>
	Jacob A Hands WWTP (Las Cruces)	Dual Process	13.5 mgd
<b>Solid Waste</b>			
Collection coverage***	100%		
Final disposal	Landfill		
<b>Street Paving</b>			
Coverage***	95%		

\* Estimated from the combined connections of Jornada Water Co. and Mesilla Utility Department's reported 789 residential water connections and 980 occupied housing units reported in the 2010 U.S. Census.

\*\* Estimated from Mesilla Utility Department's reported 413 residential sewer connections and 980 occupied housing units reported in the 2010 US Census.

\*\*\* As reported by the Mesilla Utility Department.

**Local Water and Wastewater Systems**

The MUD provides water services to approximately 604 residential connections including 32 connections outside the city limits. The Jornada Water Company provides water services to an additional 185 residences in Mesilla. Approximately 82 percent of the Town's residents have access to water provided by one of the two utilities and others have private wells. Only outlying areas such as the current Project areas lack water services.

Mesilla's Sanitary Sewer System provided services to 498 sewer connections in the core area of the Town. In areas with lower population densities, residents use on-site systems such as septic tanks. Homes in the Project area use approved septic systems. Adding new sanitary services was not considered in the scope of this Project. Problems have not been identified with the existing on-site systems and the cost per connection for adding new sanitary services would be prohibitive. The MUD provides wastewater collection services only; wastewater is treated at the City of Las Cruces' Jacob A Hands facility.

The community relies on groundwater from the Mesilla Bolson Aquifer for its water supply. It currently operates 2 wells with a combined production capacity of nearly 1,000 gallons per minute (gpm). Based on the results of a water audit of the Mesilla system the community's

water supply capacity greatly exceeds current demand. The water quality meets all state and federal regulatory requirements.

The purpose of the Project is to increase access to potable water service, increase service reliability and eliminate stagnate conditions that negatively impact water quality, contributing to the reduction of the risks associated with waterborne diseases. Providing first time drinking water to unserved areas meets the conditions to be selected as category one priority under the U.S. Mexico Border Water Infrastructure Program.

**Project Scope**

The Mesilla Water System Improvements Project will consist of three separate water lines with the following characteristics:

- Los Arenales Loop –1,215 LF 6” waterline that will connect the existing Los Arenales line to Union Avenue line, and add one new residential connection.
- Snow Road Loop – 4,010 LF of 8” waterline creating a connection between Snow Road and Happy Valley Lane waterlines, five new residential connections will be added.
- Valle Grande Loop -- 2,590 LF of 8” waterline creating looping between waterlines along Snow and Paisano Roads, six new residential connections will benefit from this loop.

**Figure 2**  
**Mesilla Water System Improvements**





Table 2 shows the proposed schedule for project implementation milestones.

**Table 2**  
**PROJECT MILESTONES**

Key Milestones	Status
Procurement	Initiated: 4th Quarter 2015
Installation Period	Complete within six months from initiation

### 2.1.2. Technical Feasibility

#### Design Criteria

The Project design conforms to recommended standards for drinking water systems as described by the New Mexico Environment Department, Construction Programs Bureau. In general the New Mexico Standards reference the 10-state standards.<sup>3</sup>

#### Selected Technology

The following considerations were taken into account for the waterline design:

- \_\_\_\_\_: The waterline must meet regulatory requirements, as set by NMED and AWWA. These standards regulate criteria for pressure, pipe materials, joints, gate valve spacing, pipe sizing etc.
- \_\_\_\_\_: The new waterlines will serve primarily rural areas that are unlikely to develop during the life of the Project, 6- and 8-inches waterlines are sized to provide fire protection; the capacity of the water lines exceeds the anticipated daily demand over the life of the Project.
- \_\_\_\_\_: The new waterlines will eliminate dead ends in the water system, leading to improved water quality throughout the system.
- \_\_\_\_\_: The proposed system improvements are an initial phase of a series of recommended improvements. The modifications were selected in part based on the capital costs associated with each Project.
- \_\_\_\_\_: The proposed waterline improvements will have minimal impacts on the systems O&M costs. Increased demands from new service hookups will be off-set by avoiding the need to flush lines.

---

<sup>3</sup> Recommended Standards for Water Works, 1997, Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers.

### **2.1.3. Land Acquisition and Right-of-Way Requirements**

No land will be acquired for this Project. Waterlines will be installed in permanent easements and in public and private rights-of-way (ROW). The permanent easements have been obtained from land owners paralleling existing ROW. The specific easement requirements for each of the water lines are as follows:

- Snow Road – The water line will be installed within dedicated easements on private property.
- Valle Grande – The water line will be installed in dedicated easements to avoid conflicts with existing utilities.
- Los Arenales – This water line will be installed in Town of Mesilla right-of-way.

### **2.1.4. Management and Operations**

The operations and management of the proposed Project will be the responsibility of MUD. The utility will ensure that sufficient resources, training, and staff are available for the proper operation and maintenance of the new waterlines.

MUD provides both water and wastewater services, and has established procedures for operations and maintenance of both services. MUD has two Level II operators, as is required for the water system operation. The Utility's water and wastewater infrastructure dates back to the 1950s; however, the MUD was unable to provide the exact date of its construction. The utility has a total of 693 water hookups, and 498 wastewater connections.

In order to qualify for BEIF funds, a rate study was performed for the utility and it has adjusted its rates according to the study's analysis. The increased rates will enable the utility to operate as a self-sustaining entity, prior to the rate adjustment the water system was subsidized from the Town of Mesilla's general funds.

## **2.2. ENVIRONMENTAL CRITERIA**

### **2.2.1. Compliance with Applicable Environmental Laws and Regulations**

#### **Applicable Laws and Regulations**

The Project is subject to the 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.

The Safe Drinking Water Act (SDWA) is the primary law regulating public water systems. In agreement with the SDWA, the EPA has published regulatory requirements setting limits on contaminants allowed in drinking water.

In the State of New Mexico the NMED Drinking Water Bureau has primacy to enforce the SDWA. The State Drinking Water Rules integrate the federal regulations with specific state requirements.<sup>4</sup> MUD is in full compliance the applicable regulations.

**Environmental Studies and Compliance Actions**

Since the Project will be receiving federal funds it is subject to regulations under NEPA. An Environmental Information Document (EID) was developed and submitted to the US-EPA for NEPA review in November 2013.

The EID evaluates the potential environmental impacts that would result from the implementation of alternatives considered including the proposed action. To obtain a FONSI the proposed Project is evaluated for potential environmental consequences and methods for mitigating the effects are made. If the Project's environmental impacts are determined to be immaterial then a FONSI is issued. The EID addresses each of the following environmental areas:

- 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

Based on the findings and conclusions of the EID, EPA Region 6 prepared an Environmental Assessment (EA) and a Finding of No Significant Impact (FONSI), which was issued on July 31, 2014.

---

<sup>4</sup> <http://www.nmenv.state.nm.us/dwb/regulations/>

### **Pending Environmental Tasks and Clearances**

There are no pending environmental tasks or authorizations.

### **Compliance Document**

An EPA Finding of No Significant Impact (FONSI) was issued July 31, 2014.

## **2.2.2 Environmental Effects / Impacts**

### **Existing Conditions and Project Impact – Environmental**

Currently residents in the Project area rely on private wells as their water source. During periods of extended drought these wells are vulnerable to going dry, forcing area residents to haul water for domestic use. Health risks associated with hauled water are typically the result of containers being inadequately sterilized or due to cross-contamination when the container has been used for hauling other materials besides potable water. Although regulations exist for water containment practices, enforcement against individual residential users is extremely difficult.

Network loops created by the Project will improve system operations. Currently water stagnates in sections of the system where waterlines dead end. Water stagnation can lead to issues with disinfection by-product formation and decay, microbial growth, temperature increases and discoloration. To avoid stagnation, waterlines are flushed, resulting in water losses and additional operation and maintenance requirements. The new network loops will conserve water -- leading to a more sustainable water system.

The Project will enhance environmental health along the border by providing access to reliable potable water for 12 new hookups, and improve water quality throughout the system by eliminating stagnate water with added looping.

---

The environmental studies developed for the Project have not identified any significant risks or concerns, since the Project will be constructed in previously disturbed areas. There are no 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.

---

The Project contributes to improved water resource management and conservation. This Project’s development included a water audit to help the community identify deficiencies in its water system. The water audit has enabled MUD to better track its water production and sales, thus preventing water losses.

The new water lines will be installed to meet NMED standard criteria for water systems. Meeting the NMED’s criteria will help to ensure that the water line will have a long service life with minimal repairs. The added looping will help the utility’s operational efficiency by eliminating the need to flush lines regularly.

---

The No-Action alternative was not considered viable. Failing to implement the Project will result in residents lacking reliable water services, and will ultimately obligate them to haul water again in the future.

**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 4 shows waterborne disease statistics for the State of New Mexico.

**Table 4  
 WATERBORNE DISEASE STATISTICS FOR NEW MEXICO**

Disease	Number of Annual Cases Per 100,000 Residents				
	2006	2007	2008	2009	2010
Campylobacteriosis	19	18	17	16	17
E. Coli (STEC)	2.1	1.9	2.3	1.6	2.3
Giardiasis	4	5.7	5	5.7	5.2
Hepatitis A	0.8	0.6	0.9	0.5	0.2
Shigellosis	8.5	5.1	7.3	4.2	7.8

**Source:** New Mexico Department of State Health Services, Infectious diseases in Mexico 2011 Annual Report, values estimated from graphic data.

**Transboundary Effects**

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

### 2.3. FINANCIAL CRITERIA

The total estimated cost of the Project is US \$761,646 which includes the funding for purchase and installation of water line infrastructure such as pipeline, gate valves and fire hydrants. The Project Sponsor requested US\$698,115.

**Table 3**  
**USES AND SOURCES OF FUNDS**

Uses	Amount	%
Construction, contingencies, supervision, and taxes	\$761,646	100.0
<b>TOTAL</b>	<b>\$761,646</b>	<b>100.0</b>
Sources	Amount	%
NMED (grant)	\$ 63,531	8.3
NADB-BEIF (grant)	\$698,115	91.7
<b>TOTAL</b>	<b>\$761,646</b>	<b>100.0</b>

The Project complies with all BEIF and PDAP criteria. Therefore, NADB proposes providing a BEIF grant for up to US\$698,115 to the town of Mesilla Utility Department.

---

---

## 3. ACCESS TO PUBLIC INFORMATION

---

---

### 3.1. PUBLIC CONSULTATION

BECC published the draft certification proposal for a 30-day public comment period beginning August 26, 2015. The following Project documents were available, upon request, for public access:

- Mesilla Environmental Information Document, Phase I Water System Improvements Souder Miller and Associates, September 2013.
- Finding of No Significant Impact, Drinking Water Infrastructure Construction Project Proposed by the Town of Mesilla for BECC Activities, Located in Doña Ana County, New Mexico, July 1, 2014.
- Final Design for Town of Mesilla Snow Road, Valle Grande Road, & Los Arenales Road Water System Improvements Project, Souder Miller and Associates, July 2014.
- Public Participation Report including Public Meeting minutes, pictures, and materials
- Final Report – Water Audit and Meter Management, Mesilla NM, JBS Water Inc. April 2014

The public comment period ended on September 25, 2015, with no comments received.

### 3.2. OUTREACH ACTIVITIES

Mesilla has conducted outreach efforts to communicate the Project goals, benefits, costs, and impacts. The community's public outreach efforts 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 April 23, 2013. The steering committee developed a public participation plan and periodically met to help the Utility to disseminate information regarding the Project. Public meetings were held to make the Project's technical and financial information available for public review.

The first public meeting notice was posted at the Utility and published May 24, 2013 in the Las Cruces Sun News. The meeting was held on June 26, 2013 at the Mesilla Community Center to fulfill the program's NEPA requirements.

The second public meeting notice was published at the Mesilla Town Hall starting on August 10, 2015. Additionally, the utility notified residents directly impacted by the Project, that the public meeting would be held. The meeting took place on August 18, 2015, and included information related to the financial impacts of the Project on the community.

The results of the water audit, performed in association with this Project, were presented to the public at town council meetings. The water audit recommended rate increases in order to make the utility self-sustaining. The proposed rate increases were described to the community in a separate public meeting held on July 28, 2014.

A media search for new articles related to the Project was performed, and the following articles were found:

- [http://www.lcsun-news.com/ci\\_23082600/mesilla-approves-public-participation-plan-water-system-improvements](http://www.lcsun-news.com/ci_23082600/mesilla-approves-public-participation-plan-water-system-improvements)  
(Published on April 22, 2013, discussed the Town of Mesilla's commitment to participate in the BEIF program to obtain funds for the Project.)
- [http://www.lcsun-news.com/las\\_cruces-news/ci\\_26238470/water-rates-residents-businesses-mesilla-likely-will-increase](http://www.lcsun-news.com/las_cruces-news/ci_26238470/water-rates-residents-businesses-mesilla-likely-will-increase)  
(Published on July 29, 2014, discussed recommendations from the Water Audit Process to the Town of Mesilla to raise water rates.)
- [http://www.lcsun-news.com/las\\_cruces-news/ci\\_26248252/proposed-water-rate-increase-mesilla-is-questioned](http://www.lcsun-news.com/las_cruces-news/ci_26248252/proposed-water-rate-increase-mesilla-is-questioned)  
(Published on August 30, 2014, discussed recommendations from the Water Audit Process to the Town of Mesilla to raise water rates.)

- [http://www.lcsun-news.com/News/ci\\_26494844/Mesilla-trustees-approve-increase-in-monthly-water-rates](http://www.lcsun-news.com/News/ci_26494844/Mesilla-trustees-approve-increase-in-monthly-water-rates)  
(Published on September 8, 2014, discussed rate increases resulting from analysis performed as part of the Water Audit Process.)

No opposition to the Project was identified in the media search, and the articles demonstrated that the public was updated regarding development of the Project. Additionally, public meetings were held to invite public comments related to the Project's environmental, technical and financial aspects.