



**CERTIFICATION AND FINANCING PROPOSAL**

**DRINKING WATER SYSTEM IMPROVEMENTS PROGRAM:  
METER REPLACEMENT  
SUNLAND PARK, NM**

*Submitted: April 12, 2013*

# CERTIFICATION AND FINANCING PROPOSAL

## DRINKING WATER SYSTEM IMPROVEMENT PROGRAM: METER REPLACEMENT SUNLAND PARK, NEW MEXICO

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## EXECUTIVE SUMMARY

### DRINKING WATER SYSTEM IMPROVEMENT PROGRAM: METER REPLACEMENT SUNLAND PARK, NEW MEXICO

<b>Project:</b>	The project consists of the purchase and installation of new water meters in the Camino Real Rural Utility Authority's drinking water system, for the communities of Sunland Park and Santa Teresa in Doña Ana County, New Mexico (the "Project").
<b>Project Objective:</b>	The purpose of the Project is to increase access to sustainable potable water service through improved water resource management and overall system operation, which will increase the financial sustainability of the utility and service reliability, as well as help conserve a natural resource.
<b>Expected Project Outcomes:</b>	<p>The Project is expected to generate benefits related to the following Project outcomes:</p> <ul style="list-style-type: none"><li>• The new meter system will help conserve water by improving the utility's ability to detect leaks, audit water usage, and accurately meter usage at each connection. The anticipated target for billing efficiency is 85% or greater.</li><li>• The new meter system will also improve the operational efficiency of the utility. Approximately 240 man hours are required to read the existing meter system manually. The Project will save nearly 90 man hours associated with meter reading activities.</li></ul>
<b>Population Benefitted:</b>	7,000 residents of Doña Ana County, New Mexico. <sup>1</sup>
<b>Project Sponsor:</b>	Camino Real Rural Utility Authority (CRRUA)
<b>Project Cost:</b>	US\$750,000
<b>NADB Grant:</b>	US\$450,000 from NADB's Community Assistance Program (CAP)

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<sup>1</sup> Based upon 2,150 meters and 3.25 residents per connections.

BOARD DOCUMENT BD 2013-17  
 CERTIFICATION AND FINANCING PROPOSAL  
 CAP GRANT, SUNLAND PARK, NM

**Uses & Sources of  
 Funds:**  
 (U.S. dollars)

Uses	Amount	%
Purchase and Installation of meters*	\$ 750,000	100.0
<b>TOTAL</b>	<b>\$750,000</b>	<b>100.0</b>
Sources	Amount	%
NADB CAP	\$450,000	60.0
CRRUA contribution	\$300,000	40.0
<b>TOTAL</b>	<b>\$750,000</b>	<b>100.0</b>

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

# CERTIFICATION AND FINANCING PROPOSAL

## DRINKING WATER SYSTEM IMPROVEMENTS PROGRAM: METER REPLACEMENT SUNLAND PARK, NEW MEXICO

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### 1. ELIGIBILITY

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#### ***Project Type***

The Project falls within the eligible sector of drinking water.

#### ***Project Location***

The Project is located in Doña Ana County, New Mexico, immediately adjacent to the U.S. Mexico border. It will serve the communities of Sunland Park and Santa Teresa.

#### ***Project Sponsor and Local Authority***

The public sector Project sponsor is the local water and wastewater utility, Camino Real Rural Utility Authority (CRRUA or the "Sponsor"). CRRUA is an independent, legal, and separate governmental entity created jointly by Doña Anna County and the City of Sunland Park pursuant to the provisions of the New Mexico Joint Powers Act (11 1 1 et seq. NMSA 1978). CRRUA is authorized to own, operate and maintain public water and wastewater systems and to provide public water and wastewater utility services, and is responsible for developing infrastructure improvement projects.

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### 2. CERTIFICATION CRITERIA

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#### 2.1. TECHNICAL CRITERIA

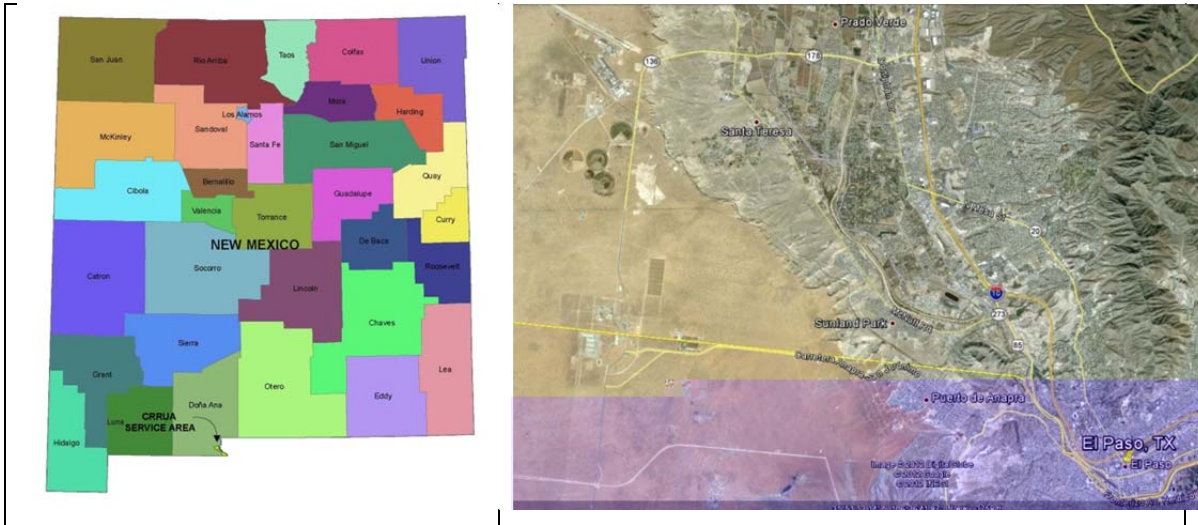
##### 2.1.1. Project Description

#### ***Geographic Location***

Doña Ana County is located in south central New Mexico, where it borders El Paso County to the east and the Mexican state of Chihuahua to the south. Sunland Park is situated on the Mexican border about a half mile north of Anapra, Chihuahua, and about eight miles northwest of the city of El Paso, Texas, while the small community of Santa Teresa lies about five miles northwest of Sunland Park.

The CRRUA service area begins at the U.S. Mexico border in Sunland Park, New Mexico and extends north for approximately five miles. Figure 1 shows the location of the Project service area.

**Figure 1**  
**PROJECT VICINITY MAP**



**General Community Profile**

According to 2010 U.S. census data, the population of the city of Sunland Park was 14,106, and the population of Santa Teresa was 3,690, having grown at an average annual rate of nearly 1% over the last ten years.<sup>2</sup>

The economic activities of both communities are based primarily on trade and services. The economically active population of Sunland Park is estimated to be 8,350 persons. Per the 2010 census, the estimated median household income (MHI) in Sunland Park is US\$23,171, compared to the state average of US\$43,820. Based on U.S. census data, 47.2% of Sunland Park's population is living below the poverty level, compared to 18.4% of the state population.<sup>3</sup>

The status of public services in Sunland Park is described in Table 1 below.

<sup>2</sup> Source: U.S. Census Bureau; <http://quickfacts.census.gov/qfd/states/35/3575640.html>

<sup>3</sup> Source: U.S. Census Bureau.

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

<b>Water System</b>			
Coverage	94%		
Supply source	CRUAA operates 12 wells in the Rio Grande River Basin		
Number of hookups	5,464		
<b>Wastewater Collection</b>			
Coverage	94%		
Number of connections:	5,464		
<b>Wastewater Treatment</b>			
Coverage	100%		
Treatment facilities	Plant	Type	Capacity
	South	Extended aeration & activated sludge	2.0 mgd
	North	Extended aeration	0.5 mgd
	West Mesa	Extended aeration	0.3 mgd
<b>Solid Waste</b>			
Collection coverage	100%		
Final disposal	Landfill		
<b>Street Paving</b>			
Coverage	Not available		

Source: CRRUA  
 mgd = millions of gallons a day

**Water Meter System**

CRRUA's existing water meters are antiquated and do not have the capabilities typically associated with modern metering systems. The meters must be read manually, do not have any data storage capabilities, and cannot be integrated with the billing system. Reading all of the system's meters requires 240 man hours per month.<sup>4</sup> Due to the utility's limited resources, man hours have to be diverted from more important activities related to the utility's operations and maintenance. The data collected from the existing meters provides only one monthly reading and is not integrated with billing software, resulting in an inability to monitor water usage patterns or help detect leaks. Anticipated benefits of the meter replacement program include automated meter readings integrated with data collection and billing software.

<sup>4</sup> Source: CRRUA, October 2012.

**Project Scope and Design**

The Project will consist of replacing approximately 2,150 meters. Project components include:

- Meter reading equipment: Two drive by receivers, one hand held receiver, and two laptops.
- Data collection and billing software; and
- Meters: An estimated 2,150 meters and related interface units and box lids.

Figure 2 shows the meters that have been identified for replacement during the current phases of the Project. Meters will be replaced following the existing meter reading routes, beginning at the southern end of the Project area.

**Figure 2  
 PROJECT PHASING MAP**

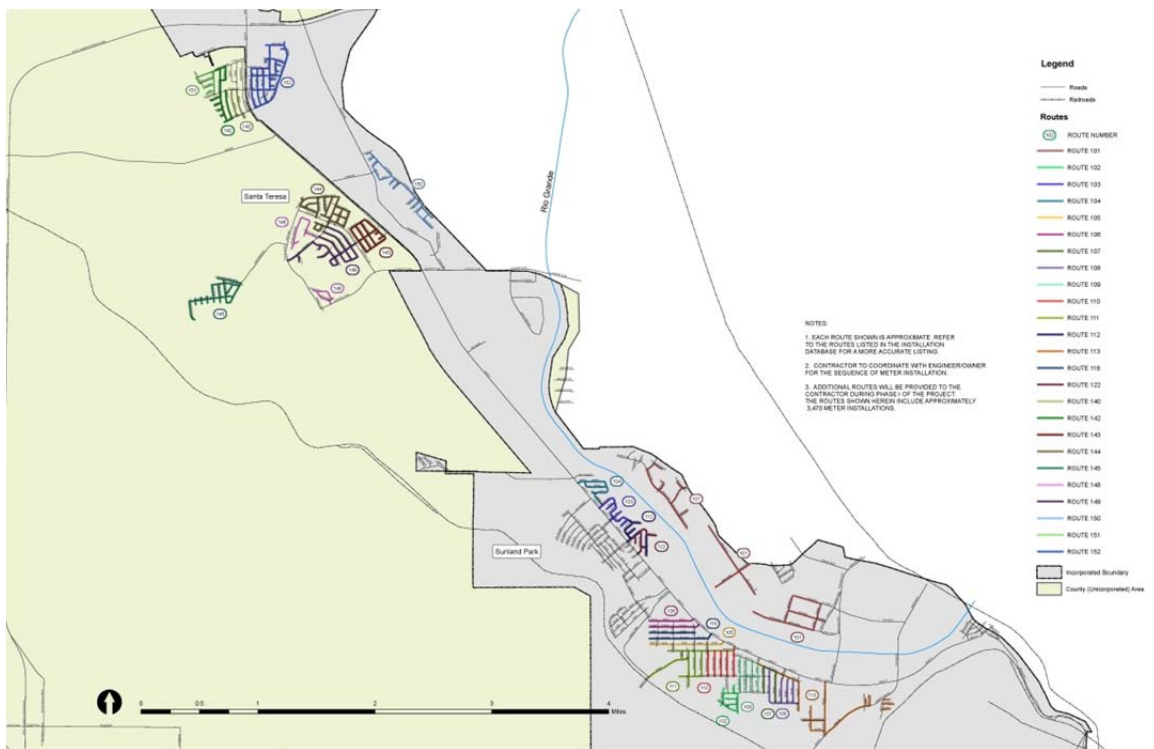


Table 2 shows the proposed schedule for Project implementation milestones.

**Table 2  
 PROJECT MILESTONES**

Key Milestones	Status
Procurement process	Concluded: 1 <sup>st</sup> quarter 2013
Installation period	Complete within six months of initiation



## 2.1.2. Technical Feasibility

### Design Criteria

The Project will comply with the standards established by the American Water Works Association (AWWA) for drinking water systems, and the meters will be lead free. The New Mexico Environment Department (NMED) does not have its own standards for water meters.

### Selected Technology

In considering meter system options, the Sponsor reviewed the following factors to identify the most appropriate technology:

- Accuracy in metering water consumption;
- Ability to perform drive by readings;
- Ability to integrate meter readings with billing;
- Ability to store historical data in order to analyze user consumption patterns or identify system inefficiencies;
- Compatibility with the existing system;
- Cost of the initial investment, as well as ongoing operation and maintenance costs; and
- Training requirements.

The meter package was selected from the systems made available through a procurement process conducted by the State of New Mexico. The following options were considered:

1. Badger M24 Water Meters with Orion MIU: The characteristics of this system include: capability to store four meter readings per day for each meter, assistance with leak detection, accurate to ¼ gallon per minute (gpm), a 20 year warranty, a broadcast range of 50 – 5,000 feet, collection at speeds of up to 50 mph, and software compatible with CRRUA's current system.
2. Neptune T-10 Meters with R900i MIU: The characteristics of this system include: leak and backflow detection, accurate to 1/8 gpm, a 20 year warranty, 96 day data storage, a broadcast range of 1,200 feet, collection at speeds of up to 50 mph, and software compatibility with CRRUA's existing system.

The Sponsor's consultant reviewed these options based on the factors described above and recommended the Badger meters as the best option.

## 2.1.3. Land Acquisition and Right-of-way Requirements

All work will be completed within existing water utility easements. Meter boxes are located in the sidewalks. No traffic disruptions are anticipated.

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

Management, construction, and operation of the proposed Project will be the responsibility of CRRUA, which is currently managed by the Doña Ana County Utilities Department (DAC). As the managing authority, DAC will ensure that sufficient resources, training, and staff are available for the proper operation of the new meter system.

DAC currently provides water and wastewater services to the unincorporated areas of the county and has established procedures for the operation and maintenance of both systems. During 2011 and 2012, DAC merged a portion of its water and wastewater infrastructure located in the southern most region of the county with the infrastructure assets of the City of Sunland Park to create the new regional utility, CRRUA. CRRUA has approximately 5,464 water hook ups and 5,464 wastewater connections. Its current wastewater treatment capacity is 2.8 MGD.

An Installation and Operation Manual has been obtained from the meter manufacturer and provided to the Sponsor. Maintenance of the hardware and software for the new meters may result in minor operational cost increases (approximately US\$4,000 per year); however, the reduction in man hours associated with reading the new meters will provide a significant savings to the Sponsor. Similar to the current practice, meters will continue to be read on a monthly basis. With the new meters, the Sponsor estimates that the man hours required to complete this task will be reduced from 240 hours/month to 150 hours/month.

## **2.2 ENVIRONMENTAL CRITERIA**

The water meter program will allow the utility to develop more effective conservation strategies and help with leak detection.

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

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

The Project proposal consists of replacing water meters within existing utility easements. There are no environmental laws applicable to the purchase and installation of water meters.

#### **Environmental Studies and Compliance Actions**

Due to the nature of the Project, which focuses on the purchase and replacement of water meters, no environmental studies are required by the participating funding or regulatory agencies.

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

There are no pending environmental tasks or authorizations.

#### **Compliance Documents**

Due to the nature of the Project, no environmental authorizations are necessary.

## **2.2.2 Environmental Effects / Impacts**

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

Many water connections are not properly metered, making it difficult to determine how much of the utility's water production is being used and how much is lost due to leakage. The new metering system will allow the utility to conserve water by aiding with leak detection and by promoting conservation incentives.

There are no anticipated environmental risks associated with impacts to flora or fauna stemming from the implementation or operation of this Project.

### **Mitigation of Risks**

One potential environmental risk associated with the Project could be the disposal of the existing meters. The used meters will not be sent to the landfill. CRRUA is considering the following options for disposal of the old meters:

- Meters may be sold back to the meter manufacturing companies through buy back programs;
- Smaller rural utilities are a potential market for operational meters; or
- Meters may be sold as scrap metal.

Minor impacts are anticipated during the meter installation phase such as:

- Sidewalk closures while meters are installed;
- Emissions from vehicles used during the installation phase; and
- Temporary water outages (typically less than one hour) as meters are changed at each connection.

Mitigation measures that will be practiced by CRRUA staff include:

- Placement of warning signs to prevent potentially hazardous situations;
- Emissions reduction through vehicle tune ups; and
- Mailings and/or flyers warning of anticipated water outages.

The 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. According to the guidelines of the U.S. Environmental Protection Agency (EPA), water meters are a Level I Conservation Measure, because they allow the utility to set rates based on usage, perform water audits, detect leaks, and evaluate the effectiveness of water conservation programs.<sup>5</sup>

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<sup>5</sup> Source, EPA, [http://www.epa.gov/WaterSense/docs/app\\_a508.pdf](http://www.epa.gov/WaterSense/docs/app_a508.pdf)

Based on data collected from the new meters, CRRUA will be able to fully utilize a water conservation rate structure and implement an improved leak detection program, which is anticipated to reduce unaccounted water losses and preserve water resources.

No-action Alternative

The no action alternative was not considered viable. Failing to take action will result in unaccounted for water and lost revenue for the utility, as well as significantly limits CRRUA's ability to encourage water conservation, which is inconsistent with good water management practices.

Existing Conditions and Project Impact – Human Health

The Project is aimed at improving access to sustainable potable water service.

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\$750,000, which includes the funding for purchase and installation of water meters. The Project Sponsor requested a US\$450,000 grant from NADB through its Community Assistance Program (CAP) to complete the financing of the Project. Table 3 presents a summary of total Project costs, as well as the sources of funds.

**Table 3  
 USES AND SOURCES OF FUNDS**

Uses	Amount	%
Purchase and installation of meters*	\$750,000	100
TOTAL	\$750,000	100
Sources	Amount	
NADB CAP grant	\$450,000	60
CRRUA contribution	\$300,000	40
TOTAL	\$750,000	100

\* Includes costs related to construction, contingencies and taxes

**2.3.2 Program Criteria Compliance**

The 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 drinking water project, it is considered a priority under the CAP program. Under the PAC guidelines, sponsors must cover at

least 10% of the project costs. As shown in the above table, the Project Sponsor has agreed to provide more than the minimum required.

The Project was selected through an evaluation and prioritization process using criteria mainly based on financial need, level of project readiness and number of residents to benefit. The representative degree of financial need in the project area was evaluated by comparing household income. In the U.S., the median household income (MHI) of a community was compared to the MHI of U.S. counties in the border region. For the current evaluation, the U.S. border MHI was set at US\$71,823. During the 2006-2010 period, the MHI for Sunland Park was estimated at US\$23,171, considerably below the average U.S. border MHI, as well as the state MHI of US\$43,820. According to the U.S. Census Bureau, 47.2% of residents in Sunland Park were living below the poverty level during that period.

Once funding has been approved, the Project Sponsor is ready to move forward with the purchase of the meters. Upon completion, an estimated 7,000 residents will directly benefit from improved water metering system, which supports improved water resource management and improved overall system operations, including service reliability.

### **2.3.3. Conclusion**

For the above reasons, NADB proposes providing a CAP grant for up to US\$450,000 to the Camino Real Rural Utility Authority, in accordance with the terms and conditions proposed in Annex B.

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## **3. PUBLIC ACCESS TO INFORMATION**

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### **3.1 PUBLIC CONSULTATION**

BECC published the Draft Project Certification and Financing Proposal for a 14 day public comment period beginning November 6, 2012. Two comments were received in support of the Project investment: one letter from a local residential and commercial development entity and the other from the Department of Communication and Public Works of the State of Chihuahua, complimenting the Project investment and suggesting similar projects in Chihuahua.

### **3.2 OUTREACH ACTIVITIES**

No public outreach activities were conducted or are required by the meter replacement program. The Sponsor anticipates notifying residents of the new meter program through mailings and/or flyers, which will explain the benefits of the program, its necessity, and anticipated water outages.