CERTIFICATION PROPOSAL

NORTH ALAMO REGIONAL WASTEWATER COLLECTION AND TREATMENT PROJECT
HIDALGO COUNTY, TEXAS

Submitted: May 20, 2016
CERTIFICATION PROPOSAL

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HIDALGO COUNTY, TEXAS

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EXECUTIVE SUMMARY

NORTH ALAMO REGIONAL WASTEWATER COLLECTION AND TREATMENT PROJECT
HIDALGO COUNTY, TEXAS

Project: The proposed project includes the construction of wastewater collection and treatment system infrastructure for the residents of six colonias\(^1\) located northwest of the City of Donna in Hidalgo County, Texas and the installation of yard-line connections from the home to the Wastewater Collection System (WWCS) as well as the decommissioning of existing on-site wastewater disposal systems for up to 400 homes (the “Project”).

Project Objective: The purpose of the Project is to provide access to and use of 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 and treatment infrastructure, contributing to the reduction of water pollution and the risk of waterborne diseases.

Expected Project Outcomes: The environmental and human health outcomes anticipated for the Project include:

- Provide access to wastewater collection and treatment services for 400 homes, of which up to 318 new residential connections will be installed through TWDB-EDAP\(^2\) funding, and 82 will be installed through NADB-BEIF funding.
- Eliminate untreated or inadequately treated wastewater discharges of approximately 0.17 million gallons per day (mgd).\(^3\)

Population Benefitted: 1,616 residents at the Project area of Hidalgo County, TX.\(^4\)

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

2 Source: Texas Water Development Board (TWDB), Economically Distressed Areas Program (EDAP).

3 Based on Project’s Facility Engineering Plan, anticipated flows have been calculated using 100 gallons per capita per day and an infiltration rate of 50 gallons per acre per day.

4 Based on 400 residential connections and an average household of 4.04 inhabitants per home as established in the Project’s Facility Engineering Plan.


BEIF Grant: US$1,896,456.

## Uses & Sources of Funds (US$)

<table>
<thead>
<tr>
<th>Uses</th>
<th>Amount</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction related to Regional Wastewater treatment plant (WWTP)*</td>
<td>$3,965,353</td>
<td>33.7</td>
</tr>
<tr>
<td>Construction related to WWCS (Force Mains – Gravity Sewer Lines)*</td>
<td>2,136,532</td>
<td>18.1</td>
</tr>
<tr>
<td>Construction related to Lift Stations A, B, C and WWTP Main Lift Station*</td>
<td>1,172,060</td>
<td>10.0</td>
</tr>
<tr>
<td>Construction related to Residential Connections**</td>
<td>1,425,321</td>
<td>12.1</td>
</tr>
<tr>
<td>Construction related to Colonia El Charro #2 WWCS, Residential Connections and Lift Station D</td>
<td>1,529,400</td>
<td>13.0</td>
</tr>
<tr>
<td>Contingency</td>
<td>1,365,980</td>
<td>11.6</td>
</tr>
<tr>
<td>Supervision</td>
<td>183,528</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$11,778,174</strong></td>
<td><strong>100.0</strong></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Sources</th>
<th>Type</th>
<th>Amount</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas Water Development Board</td>
<td>Grant</td>
<td>$9,154,000</td>
<td>77.7</td>
</tr>
<tr>
<td>Texas Water Development Board</td>
<td>Loan</td>
<td>646,000</td>
<td>5.5</td>
</tr>
<tr>
<td>NAWSC</td>
<td>Equity</td>
<td>81,718</td>
<td>0.7</td>
</tr>
<tr>
<td>NADB-BEIF Construction Assistance***</td>
<td>Grant</td>
<td>1,896,456</td>
<td>16.1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>$11,778,174</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

* Includes costs related to engineering fee, staking, testing and inspection.

** Includes costs related to engineering fee and inspection.

*** BEIF funding breakdown is US$1,529,400 for construction, US$183,528 for contingencies and US$183,528 for supervision.
CERTIFICATION PROPOSAL

NORTH ALAMO REGIONAL WASTEWATER COLLECTION AND TREATMENT PROJECT
HIDALGO COUNTY, TEXAS

1. ELIGIBILITY

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

Project Location
The Project is located in the northwestern area of the City of Donna in Hidalgo County, Texas, approximately twelve miles north of the U.S.-Mexico border. The Project is within the border region defined as 100 kilometers (62.5 miles) of the U.S.-Mexico International border.

Project Sponsor and Legal Authority
The public-sector Project sponsor is the North Alamo Water Supply Corporation ("NAWSC" or the "Utility"). The North Alamo Water Supply Corporation is a member-owned, non-profit corporation incorporated pursuant to the Texas Water Code Chapter 67, and the provisions of the Texas Business Organizations Code applicable to member-owned member-controlled non-profit corporations for the purpose of furnishing potable water utility service. NAWSC has legal authority through the Certificates of Convenience and Necessity (CCN's) 10553 and 20645 to develop, operate and maintain water and wastewater system infrastructure within designated areas of Willacy, Cameron and Hidalgo Counties. The Project area is specifically located within the CCN 20645 service area.

2. CERTIFICATION CRITERIA

2.1. TECHNICAL CRITERIA

2.1.1. Project Description

Geographic Location
The Project area is located in the northwestern area of the city of Donna in Hidalgo County, Texas. Figure 1 shows the approximate location of the Project.
General Community Profile

According to the U.S. Census Bureau, as of 2014, Hidalgo County’s estimated population was 806,447 inhabitants with an estimated average annual growth rate of 1.77% for the previous 4 years period. The County’s economic activity is largely based on farming, manufacturing, international trade with Mexico and services.

The estimated Median Household Income (MHI) for Hidalgo County was US$34,952 in 2014 with 34.6% of its residents living below the poverty level. Comparatively, the MHI for the State of Texas was US$52,576 and 17.7% of the state’s population lived below the poverty level. NAWSC provides water and wastewater services to several areas of Hidalgo County. The Corporation’s CCN boundary encompasses 973 square miles and either surrounds or is adjacent to 16 cities and/or communities that operate public water systems, including the Project area in which the utility currently provides water to the residents. The status of public services in the NAWSC service area is described in the following table.

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6 Ibidem.
Table 1
NAWSC BASIC PUBLIC SERVICES AND INFRASTRUCTURE

<table>
<thead>
<tr>
<th>Water System</th>
<th>95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water coverage:</td>
<td>95%</td>
</tr>
<tr>
<td>Water supply source:</td>
<td>Rio Grande (7 water treatment plant) /brackish water wells (4 reverse osmosis plants) total capacity = 20.4 mgd (894 lps)</td>
</tr>
<tr>
<td>Number of hookups:</td>
<td>43,044</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wastewater Collection System</th>
<th>7.6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage:</td>
<td></td>
</tr>
<tr>
<td>Number of connections:</td>
<td>3,285</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wastewater Treatment</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service coverage:</td>
<td></td>
</tr>
<tr>
<td>Treatment facilities:</td>
<td></td>
</tr>
<tr>
<td>WWTP</td>
<td>Type</td>
</tr>
<tr>
<td>------</td>
<td>-----------</td>
</tr>
<tr>
<td>La Sara</td>
<td>Lagoon System</td>
</tr>
<tr>
<td>San Carlos</td>
<td>Lagoon System</td>
</tr>
<tr>
<td>Hargill</td>
<td>Lagoon System</td>
</tr>
<tr>
<td>Monte Alto</td>
<td>Lagoon System</td>
</tr>
</tbody>
</table>

WWTP = Wastewater treatment plant; mgd = million gallons a day; lps = liters per second

**Local Wastewater System Profile**

Residents within the Project area currently use on-site septic tank/drain field systems with a few dwellings being served by other types of on-site systems. Most of the on-site wastewater disposal systems were installed prior to Hidalgo County’s adoption of model subdivision rules and septic tank design standards. Due to population density, small lot sizes, high water tables, and poor storm water drainage, the majority of these systems are generally not considered to be in compliance with regulatory requirements. In a considerable portion of the Project area, a health hazard likely exists, particularly during wet weather. On April 24, 2012, the Texas Department of Health issued a Nuisance Findings Determination for the 6 subdivisions in the project area. Therefore, the need for a different method of wastewater treatment and collection is necessary. Based on this, the Project was prioritized for funding with Category 1 conditions, including non-compliant, failing on-site systems, through the US-Mexico Border Water Infrastructure Program. However, due to funding constraints, NAWSC will target only six subdivisions for the current Project investment.

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7 Source: Information provided by NAWSC, December 2015.
8 Calculation based on water and sewer connection data provided by NAWSC, 2015.
9 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.
In 2012, as part of this Project scope, the NAWSC received funding from the Texas Water Development Board (TWDB) under the Economically Distressed Areas Program (EDAP) for the planning, acquisition, design, and construction of a sanitary collection system to serve the wastewater collection and treatment needs of the Project area. The EDAP-funded components include the construction of sewer lines, force mains, installation of new wastewater lift stations, and the construction of a regional Wastewater Treatment Plant (WWTP). Wastewater generated in the Project area will be treated by the proposed 0.5 mgd WWTP. The estimated average flow from the Project area is expected to be 167,000 gallons per day (gpd). The entire system will be constructed primarily in existing rights-of-way (ROW); easements have been obtained where needed. Additionally, in order to confirm the structural design and construction process, EPA Project Development Assistance Funds (PDAP) were used to carry-out a comprehensive geotechnical study within the Project area.

Since funding provided in the construction grant under the EDAP program is not enough for the completion of the wastewater collection and treatment infrastructure within these initial six colonias including the connection from the house to the collection system and the decommissioning of all septic tank systems or cesspools, the NAWSC has requested funds from the EPA-BEIF program administrated by the North American Development Bank (NADB) to complete the funding structure for the Project.

**Project Scope**

The Project consists of a wastewater collection system (WWCS) for the Project area shown in Figure 1. The proposed WWCS will provide first-time access to 400 homes in six colonias: Alberta Acres, El Charro # 2, Isaac’s Subdivision, L. J. # 1, Muniz Subdivision, and Tower Road Estates. The Project includes gravity sewer collection lines, lift stations, and force mains along with the installation of yard-line connections for up to 400 homes or an estimated 1,616 residents and the decommissioning of the on-site wastewater disposal systems. The proposed collection system will transport wastewater to the proposed 0.50-mgd "Carrousel Oxidation Ditch" Wastewater Treatment Plant.

Project components include:

- Installation of five new wastewater lift stations;
- Approximately 11,755 linear feet of 8-inch PVC force mains;
- Approximately 13,180 linear feet of 10-inch PVC force mains;
- Approximately 4,760 linear feet 18-inch PVC gravity sewer lines;
- Approximately 8,200 linear feet 10-inch PVC gravity sewer lines;
- Approximately 18,953 linear feet 8-inch PVC gravity sewer lines;
- Installation of 88 Manholes;
- Construction of 0.50 mgd Wastewater Treatment Plant "Carrousel Oxidation Ditch";
- Up to 400 sewer yard-line connections and decommissioning of all on-site sanitary systems inside the residential property.

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
location that is permitted to receive such waste. Thereafter, the septic tanks are, typically, crushed and filled-in with sand to the surface level of the natural ground or, in some situations; the septic tank must be completely removed from the property. Properties may have more than one septic tank; in these cases, the contractor will decommission all on-site sanitary systems inside the residential property.

The following figure shows the schematic for the sewer residential hookup.

Figure 2
SCHEMATIC FOR THE SEWER RESIDENCIAL HOOKUP

The figure 3 shows the schematic for decommission of the existing on-site sanitary systems.

Figure 3
SCHEMATIC FOR SEPTIC TANKS DECOMMISSION
The following figure shows the location of the proposed Project components.

**Figure 4**  
**PROJECT AREA**

The entire Project is expected to require two years for full construction. In order to have an immediate use of the NADB-BEIF construction funds, a self-sufficient phase of the Project was identified. This phase includes gravity sewer collection lines for the Colonia El Charro 2; one lift station, and force main; the installation of yard-line connections for up to 82 homes; and the decommissioning of the on-site wastewater disposal systems. When this Project phase is completed, it is likely that the new WWTP will not yet be constructed and in operation; therefore, the wastewater collected from the Colonia El Charro 2 will be temporarily conveyed to the Donna WWTP via an existing NAWSC lift station located at the Donna High School. NAWSC and the City of Donna have an inter-local agreement to treat wastewater flows up to 0.2 mgd. The Donna WWTP has enough capacity to receive the additional wastewater flow to be generated at the Colonia El Charro 2.

The BEIF Project phase consists specifically of:

- Installation of one new wastewater lift station;
- Approximately 13,180 linear feet of 10-inch PVC force mains;
- Approximately 2,070 linear feet 10-inch PVC gravity sewer lines;
- Approximately 2,920 linear feet 8-inch PVC gravity sewer lines;

10 Donna WWTP has a treatment capacity of 2.7 mgd, currently is receiving 1.4 mgd and the additional flow from the High School and Colonia El Charro 2 will be an average of 0.03 mgd for a total flow of 1.43 mgd.
• Installation of 18 manholes;
• Up to 82 sewer yard-line connections and decommissioning of all on-site sanitary systems inside the residential property.

The Project phase proposed to be funded by BEIF is shown in the figure 5.

![Figure 5 BEIF PROJECT PHASE](image)

Construction of the Project is intended to begin the first quarter of 2016, with funds from TWDB, and is expected to be complete in the first quarter of 2018. It is estimated that once the contract for the Project phase funded by NADB-BEIF receives the notice to proceed, it will take approximately 16 months to complete the construction process. Potential factors affecting the Project completion timeline, such as issues with weather or delivery of the materials, were taken into account. The following milestone dates have been estimated.

<table>
<thead>
<tr>
<th>Key Milestones</th>
<th>Status</th>
</tr>
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<tbody>
<tr>
<td>Procurement – Project (TWDB Funds)</td>
<td>Fourth quarter of 2015</td>
</tr>
<tr>
<td>Construction period – Project (TWDB Funds)</td>
<td>24 months from the notice to proceed (NTP).</td>
</tr>
<tr>
<td>Procurement – BEIF Project phase</td>
<td>Anticipated third quarter of 2016</td>
</tr>
<tr>
<td>Construction period – BEIF Project phase</td>
<td>16 months from the NTP.</td>
</tr>
</tbody>
</table>
2.1.2. Technical Feasibility

**Design Criteria**

The design of the WWCS and WWTP conforms to the standards of the (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. 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.

**Selected Technology**

The NAWSC evaluated and considered various alternatives to address the infrastructure needs of the Project Area. The Facility Engineering Plan (FEP) considered three general options for addressing the wastewater inadequacies including: *improve or replace on-site systems; construct a new regional wastewater treatment plant and collection system; and construct a new wastewater collection system and tie into an existing treatment system.*

The new wastewater treatment plant and collection system option was selected and four treatment options and two collection system options were further evaluated. Alternatives for wastewater treatment included: *facultative lagoon with stabilization lagoons; phased isolation ditch; package wastewater treatment plant (SEQUOX Process) and Carrousel® oxidation ditch wastewater process.* The recommended wastewater treatment facility is a 0.5 mgd *Carrousel oxidation ditch* combined with secondary clarification because this option represents the lowest present value option which meets the discharge regulations. The facility is anticipated to include a lift station with mechanical bar screen, chlorine contact tank and chlorination equipment, cascade discharge structure, rapid dewatering sludge drying beds and other associated equipment, control systems and standby power necessary for a complete treatment system.

The wastewater collection system options considered for the alternative analysis were: *Conventional gravity sanitary sewer collection systems with lift stations and; Vacuum sewer collection system.* Due to staff familiarity with conventional collection systems and lower cost of construction, the recommended wastewater collection system is a conventional gravity system, comprised of gravity collection lines, force mains, and five new lift stations.

The recommended wastewater treatment facility site is a 30 acre property located on Minnesota Road approximately 1.5 miles east of Val Verde Road. Approximately 10 acres of this site are required to build this phase. The proposed gravity and force mains are anticipated to be installed within existing road right-of-ways.

Furthermore, in order to identify the most appropriate technology, NAWSIC evaluated technical options pursuant to the following factors:

- Proposed layout of the sewer lines
- Required connection points for the system components
• Investment cost
• Operation and maintenance cost
• Reliability of the materials and equipment
• Sustainable practices

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. Peak flow rates and maximum instantaneous flow rates were taken into consideration in order to avoid overflows. The analysis also considered using various pipe materials in compliance with applicable standards and regulations. Polyethylene, PVC, and asbestos-cement pipes were evaluated, and their characteristics and suitability for the soil type were reviewed. For the proposed Project, PVC was the selected material for wastewater collection and residential connections, which has proven to be reliable.

Additionally, EPA Project Development Assistance Funds (PDAP) were used to assist NAWSC with collecting residential income data using EDAP approved survey forms (door-to-door-surveys) to determine the eligibility of the households targeted for the installation of connection infrastructure through NADB-BEIF. Data gathered in these surveys was used to complete funding assessment, tables and maps and for the preparation of construction plans, specifications and contract documents for the Project.

2.1.3. 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. Along with the door to door surveys, “Rights of Entry” forms were signed by each house owner to allow the contractor to have temporary easements for the work to be completed inside their property.

Included in the total number of homes to be connected are homes where the sewer collection infrastructure is located in NAWSC rights-of-way, the collection system will also be constructed in easements that are owned or have been acquired by NAWSC.

2.1.4. Management and Operations

Management and operation of the proposed wastewater collection and treatment Project will be the responsibility of the Utility. The sponsor has an O&M manual that includes routine tasks as well as procedures to address unexpected conditions needed to ensure a proper operation of the system. NAWSC currently serves approximately 43,044 water hookups and 3,285 wastewater connections in its service area. The Utility is organized in three main departments, including: Water, Wastewater, and the supporting areas of Customer Service, Human Resources, Purchasing, Finance and Communications. The additional wastewater services will be supported by a wastewater user rate of no more than $27.00 per connection and is expected to average around $22.00 as a monthly charge. The impacts of the proposed Project to the O&M budget and procedures have been reviewed and considered sustainable.
In accordance with funding program requirements, the utility is responsible for demonstrating the regular application of a pretreatment program. On May 10, 2011, NAWSC adopted the Water and Wastewater Tariff which includes rules, regulations, pretreatment provisions and fees for the Utility, regulating sewer use, sewer construction and industrial wastewater discharges. The NAWSC has a Wastewater Department which administers the regulations to control pollutants discharged from Commercial and Industrial Users (IUs) which may pass through or interfere with the Utility’s Owned Treatment Works (UOTW). The Wastewater Department administers and enforces the regulations in order to protect NAWSC’s wastewater collection systems, treatment plants, and workers.

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.

Additionally, due to funding participation for the Project through TWDB’s EDAP, the Director of the Project Engineering and Review section must also consider the environmental effects of the Project and issue an environmental clearance authorization in accordance with State law.

**Environmental Studies and Compliance Activities**

Pursuant to environmental assessment requirements of Sections 363.14 and 363.16 of the Texas Water Development Board (TWDB) Rules, NAWSC prepared on October 2013 the document named: “Environmental Assessment TWDB Project #10430- North Alamo Regional Wastewater Treatment Plant”. TWDB issued the corresponding memorandum of approval on November 12, 2013, stating that “no significant adverse environmental impacts should result from completion of the project”.

Since the Project is subject to regulations under NEPA; an Environmental Information Document (EID) was prepared for the Project. The EID discloses the environmental impacts that would result from the implementation of the Project. The document presents an assessment of the Project alternatives related to the following areas for environmental consequences:

- 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 in March 25, 2015, determining that implementation of the proposed Project, will not result in significant impacts to the environment. Although the EA concluded that there will be no significant adverse impacts on the environment, mitigation measures were established in the document to address temporary, minor adverse impacts during construction and are enforceable under the FONSI. These measures are provided, in summary, in Section 2.2.2. below, and available for detailed review in the official FONSI document.

Pending Environmental Tasks and Authorizations

There are no environmental authorizations pending.

Compliance Documentation

The following authorizations have been obtained for the Project:

• Memorandum for the no significant adverse environmental impacts for the “Environmental Assessment TWDB Project #10430- North Alamo Regional Wastewater Treatment Plant”, Signed on November 12, 2015 by TWDB.


2.2.2. Environmental Effects/Impacts

Existing Conditions and Project Impact – Environment

Currently, Project area residents have drinking water services but they lack wastewater collection services. Residents living in this area use on-site septic tanks or open cesspools for their wastewater disposal needs. Most of the existing septic tank systems are substandard due to improper design, inadequate construction, and poor owner maintenance. The results of a survey of the wastewater disposal methods in the area indicate almost 100% of the systems have already failed or are in the process of failing due to disrepair caused by design flaws or lack of proper maintenance.
The soils in the Project area are also not conducive to proper operation of septic tank systems, and exhibit severe limitations due to slow absorption and percolation rates. Population density and small lot sizes exacerbate the problem. Additionally, the relatively flat topography of the area is prone to flooding which mixes with raw wastewater stored in open cesspools or discharged from septic tanks, and flows into local yards, streets, and other low lying areas. The raw wastewater entering both surface and groundwater threaten the overall water quality in the region. The problems associated with system overflows, backups, and raw wastewater discharges are causing a public health hazard in the Project area due to the release of various pathogens into the environment from improperly treated wastewater. The Texas Department of State Health Services issued an opinion that a nuisance existed in the project area, considered dangerous to the public health and safety. Therefore, the need for a different method of wastewater treatment and collection is required.

The wastewater collection system will eliminate approximately 0.17 mgd 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.

The following are the expected Project environmental benefits:

- Provide access to wastewater collection and treatment services for 400 homes, of which up to 318 new residential connections will be installed through TWDB-EDAP funding, and 82 will be installed through NADB-BEIF funding;
- Eliminate untreated or inadequately treated wastewater discharges of approximately 0.17 mgd.

**Mitigation of Risks**

Although implementation of the Projects will have no significant adverse impacts on the environment, mitigation measures were established to address temporary, minor adverse impacts during construction. Potential impacts during construction include the following:

- The local air basin will be temporarily impacted by 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 resources could be temporarily impacted by construction storm water runoff.
- Threatened and endangered species may be disturbed.

In summary, the mitigation measures include the following:

- Best Management Practices (BMP) and compliance with local ordinances to reduce the temporary impacts of construction.
The NAWSC is responsible for continued coordination with both the U.S. Fish and Wildlife Service (USFWS) and the Texas Park and Wildlife (TPWD) to insure that protected species and their designated habitat in the area will not be adversely impacted by construction.

If cultural materials are encountered during construction, work will stop immediately in the general area of the discovery, and the funding recipient will immediately notify the State Historic Preservation Office (SHPO) of the discovery.

The NAWSC is responsible for continued coordination with the TCEQ, and must obtain and abide by any/all necessary permits to insure that ground water resources in the area will not be adversely impacted by the construction.

All vehicles and equipment used in the construction of this project must comply with federal regulations concerning the control of air pollution from mobile sources.

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 Resources Conservation**

The Project contributes to improved water resource management and conservation, by protecting surface and ground water from inadequately treated sewage discharges conveying it to the new WWTP for treatment. The WWCS has been designed for energy efficiency, utilizing gravity and high efficiency pumps to convey the collected wastewater flows.

**No-action Alternative**

The no-action alternative was not considered because the consequences of not developing the Project included the following:

- Non-compliance with environmental and health-related directives developed by the EPA, and the Texas Department of Health.
- Non-compliance with federal- and state-mandated environmental protection laws, rules, and regulations developed to protect human health and the environment.
- Continued pressure for municipal services in areas with rapidly expanding, minority, and lower-income populations.
- Increasing potential for surface water and groundwater contamination from untreated or poorly treated sewage discharged at the surface and the potential degradation of Rio Grande water quality.
- The health and safety of the Project area residents and people of the Hidalgo County would be negatively impacted through lack of adequate wastewater collection and treatment services.
Existing Conditions and Project Impact — 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:\(^{11}\)

- 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 Hidalgo County, Texas.

<table>
<thead>
<tr>
<th>Disease</th>
<th>Number or Annual Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2014</td>
</tr>
<tr>
<td>Amoebiasis</td>
<td>10</td>
</tr>
<tr>
<td>Campylobacteriosis</td>
<td>77</td>
</tr>
<tr>
<td>Cryptosporidiosis</td>
<td>5</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>3</td>
</tr>
<tr>
<td>Salmonellosis</td>
<td>159</td>
</tr>
<tr>
<td>Shigellosis</td>
<td>46</td>
</tr>
</tbody>
</table>

Source: Texas Department of State Health Services. [https://www.dshs.state.tx.us/idcu/](https://www.dshs.state.tx.us/idcu/)

Transboundary Effects

Due to the proximity of the Hidalgo County with Mexican cities such as Reynosa or Rio Bravo, Tamaulipas, there are frequent border crossings between these communities. The construction of wastewater collection infrastructure, in these currently unserved areas, will have a direct positive impact on the health of residents of the Project area, Hidalgo County, and throughout the entire region, since these actions will help reduce the risk for waterborne diseases caused by exposure to untreated discharges. Additionally, the Project's implementation will reduce the potential for contamination of shared bodies of water, including the Rio Grande.

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2.3. FINANCIAL CRITERIA

2.3.1 Uses and Sources of Funds

The total estimated cost of the Project is US$11,778,174, which includes funding for construction, contingency, and supervision costs. The Project meets all BEIF program criteria and has been approved by EPA for a BEIF grant of up to US$1,896,456 for construction related to the Colonia El Charro #2 WWCS, residential connections and lift station D to complete the financing of the Project. Table 5 presents a breakdown of total Project costs, as well as the source of funds.

Table 5
USES AND SOURCES OF FUNDS
(US$)

<table>
<thead>
<tr>
<th>Project Component</th>
<th>Amount</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction related to Regional WWTP</td>
<td>$3,965,353</td>
<td>33.7</td>
</tr>
<tr>
<td>Construction related to WWCS (Force Mains - Gravity Sewer Lines)</td>
<td>2,136,532</td>
<td>18.1</td>
</tr>
<tr>
<td>Construction related to Lift Stations A, B, C and WWTP Main Lift Station*</td>
<td>1,172,060</td>
<td>10.0</td>
</tr>
<tr>
<td>Construction related to Residential Connections**</td>
<td>1,425,321</td>
<td>12.1</td>
</tr>
<tr>
<td>Construction related to Colonia El Charro #2 WWCS, Residential Connections and Lift Station D</td>
<td>1,529,400</td>
<td>13.0</td>
</tr>
<tr>
<td>Contingency</td>
<td>1,365,980</td>
<td>11.6</td>
</tr>
<tr>
<td>Supervision</td>
<td>183,528</td>
<td>1.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$11,778,174</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sources</th>
<th>Type</th>
<th>Amount</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas Water Development Board</td>
<td>Grant</td>
<td>$9,154,000</td>
<td>77.7</td>
</tr>
<tr>
<td>Texas Water Development Board</td>
<td>Loan</td>
<td>646,000</td>
<td>5.5</td>
</tr>
<tr>
<td>North Alamo Water Supply Corporation</td>
<td>Equity</td>
<td>81,718</td>
<td>0.7</td>
</tr>
<tr>
<td>NADB-BEIF Construction Assistance***</td>
<td>Grant</td>
<td>1,896,456</td>
<td>16.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$11,778,174</td>
<td>100</td>
</tr>
</tbody>
</table>

* Includes costs related to engineering fee, staking, testing and inspection.
** Includes costs related to engineering fee and inspection.
*** BEIF funding breakdown is US$1,529,400 for construction, US$183,528 for contingencies and US$183,528 for supervision.
3. PUBLIC ACCESS TO INFORMATION

3.1. PUBLIC CONSULTATION

BECC released the Draft Project Certification Proposal for a 30-day public comment period beginning April 18, 2016. The following documents were made available, upon request:

- Finding of No Significant Impact Issued by EPA Region-6 (March 25, 2015).
- Nuisance report by the Texas Department of Health Services (April 24, 2012).
- Public Participation Report including Public Meeting Minutes, pictures, articles and materials.

The public comment period ended on May 18, 2016, with no comments received.

3.2. OUTREACH ACTIVITIES

NAWSC conducted extensive outreach efforts to communicate the Project characteristics, including cost and fees and to obtain the support of the residents of the Project area. In accordance with the public outreach requirements of the BEIF program, activities such as the use of a local steering committee, public meetings, and appropriate project information access where conducted as described in the Public Participation Plan (PPP). Additionally, outreach efforts were conducted for the permitting process as required by TCEQ as well as for the federal environmental clearance process for the Project. The following information provides a summary of the outreach activities.
The local steering committee was formed on March 27, 2014. The steering committee included members of the community and the Utility’s staff. The steering committee developed a public participation plan and periodically met with the Project team to help the Utility to disseminate information regarding the Project. The Project’s technical and financial information was made available to the public for review. The steering committee, with assistance of the NAWSC personnel, prepared a fact sheet and a presentation on the Project. Information on the Project was presented to the community during two public meetings.

The first Public Meeting notice was posted at the Utility and published April 7, 2014 in “The Monitor.” The first public meeting was held on May 6, 2014 at the Donna North High School Lecture Hall. Based on the sign-in sheet, the meeting was attended by more than 20 individuals. This meeting informed the residents of the Project characteristics, potential funding sources, the anticipated rate structure for the new service and future household connections.

A second public meeting was held on May 4, 2016. During the meeting the community was informed of the proposed funding structure and potential environmental impacts of the Project. The meeting was attended by 23 persons showing their support and interest towards Project implementation. The meeting served as a discussion forum for the attendees and Project support was documented through 12 exit surveys conducted at the event in which 100% of the respondents expressed their understanding and support to the Project.

As part of the application process for the discharge permit for the proposed WWTP (TPDES WQ00151630010), TCEQ sent public notices to 30 property owners whose land is located either adjacent to the proposed WWTP site and/or along one mile of the recipient water body beginning from the effluent discharge point. Additionally, a public notice was published in “The Monitor” on November 3, 2013 and February 3, 2014. No comments were received by TCEQ as a result of this required process.

Finally, the Project included a 30-day public comment period with the publication of the environmental clearance finding, which initiated on March 25, 2015. No public comments were received related to the proposed Project, nor were there any identified significant environmental effects for the Project.

To further gauge public access to Project information, BECC also conducted a media search to identify any relevant news coverage or potential public opinion about the Project.

The Texas Water Development Board posted the following news release on its website:


  AUSTIN, TX (November 6, 2014) The Texas Water Development Board (TWDB) today approved by resolution financial assistance in the amount of $9,800,000, consisting of a $9,154,000 grant and a $646,000 loan from the Economically Distressed Areas Program, to the North Alamo Water Supply Corporation (Hidalgo County). The assistance will finance the construction of a new wastewater treatment plant and collection system.

During the 30-day public comment period for the Project, BECC did detect a media reference to the Project, which highlighted a concern expressed after construction activities began for the
WWTP by residents living adjacent to the site. The brief news report aired on May 9, 2016 and noted one resident’s concerns for potential odors and decreasing property values as well as a response from the Project Sponsor related to location, outreach efforts and operational performance commitments to avoid odors. Since this report, there has been no other media attention related to the Project or any further concerns.

The Project Sponsors and regulatory agency activities demonstrate that the public received comprehensive information related to the Project, including the Project’s environmental characteristics, funding structure and financial impacts to residents that will occur due to the new wastewater collection and treatment services. Overall, the vast majority of reaction to the Project has been positive.