CERTIFICATION PROPOSAL

WASTEWATER COLLECTION SYSTEM IMPROVEMENTS – DISCONNECTION FROM STORM WATER SEWER NUEVO LAREDO, TAMAULIPAS

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EXECUTIVE SUMMARY

WASTEWATER COLLECTION SYSTEM IMPROVEMENTS – DISCONNECTION FROM STORM WATER SEWER NUEVO LAREDO, TAMAULIPAS

Project consists of the rehabilitation of the sewer collection system in order to prevent the flow from going to the storm water drainage system.

The Project will eliminate exposure to untreated wastewater discharges by replacing deteriorated/ collapsed sewer collection infrastructure, which is currently connected to storm water drains and discharges without treatment to the Rio Grande, contributing to the reduction of pollution and the risk of waterborne diseases.

The environmental and human health outcomes anticipated for the project include the elimination of

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Project Type

The Project falls within the eligible category of domestic wastewater collection.

Project Location

The Project is located in the city of Nuevo Laredo, Tamaulipas, Mexico, immediately adjacent to the U.S.-Mexico border.

Project Sponsor and Legal Authority

The project sponsor is the local utility, the Municipal Water and Sewer Services Commission of Nuevo Laredo (COMAPA, by its initials in Spanish), which provides drinking water, wastewater collection and treatment services to Nuevo Laredo, Tamaulipas. COMAPA's legal authority is stated on decree No. 167 of the 58 Legislature of the State of Tamaulipas. The document published on December 26, 2002, established the creation of a public water utility (COMAPA) independent of the municipality, with legal authority and assets, whose objective is to provide water, wastewater collection and treatment services to the City of Nuevo Laredo.

2.1.1. Project Description

Geographic Location

The Project is located in the city of Nuevo Laredo, in the northern part of the state of Tamaulipas at the western end of the Rio Grande Plains, and directly across the Rio Grande from TJETBT1 0 0 1 90.02

General Community Profile

According to the 2010 Mexican census, the Municipality of Nuevo Laredo has a population of 384,033, which represents 11.7% of the state's population.[2] Between 2000 and 2010, Nuevo Laredo experienced an average annual growth rate of 1.56%, slightly lower than that of the country (1.8%).[3]

In terms of economic activity, Nuevo Laredo has benefited from the North American Free Trade Agreement (NAFTA), signed in 1994. Since then, it has experienced steady economic growth, particularly in the commercial and industrial sectors, where there has been an increase in production and the transportation of goods and services, thus turning Nuevo Laredo into the most important inland corridor and port of entry on the entire continent. With almost 36% of all international trade goods and merchandise to the U.S., Canada, Mexico, Central America and South America, passing through Nuevo Laredo's ports of entry, the city registers a daily average of 1,500 railway crossings, 4,255 export shipments and 4,306 import shipments.[4]

According to the latest economic census, manufacturing constitutes the most important sector in Nuevo Laredo, generating 33.6% of the municipality's gross domestic product (GDP) and employing 28.8% of its working population. Transportation, shipping and storage services

[2] Source: *m m* (2010 general population and housing census), Mexican national statistics institute, *G m m m* (INEGI).
[3] Source: National population council, *m m m m* (CONAPO), 2011.
[4] Source: 2011-2013 Municipal Development Plan of Nuevo Laredo.

together represent the second largest sector, generating 27.2% of the Municipality's GDP and employing 13.8% of its work force. Commerce represents 18.7% of its economy and contributes with 25.8% of total employment. Overall, Nuevo Laredo's economy constitutes 5.5% of the State's GDP. [5]

The status of public services in Nuevo Laredo is described below:

Coverage	98%		
Supply source	Rio Grande		
Number of hookups	105,416		
Coverage	96%		
Number of connections:	103,426		
Coverage	79%		
Treatment facilities**			
	International	Activated sludge	1,300 lps (29.7 MGD)
	Northwest	Activated sludge	200 lps (4.6 MGD)
Collection coverage	99%		
Final disposal	Landfill		
Coverage	80%		

* Source: Nuevo Laredo water utility, COMAPA-Nuevo Laredo, May 2012.
** Sufficient capacity exists to treat 100% of wastewater collected.
*** Source: 2011-2013 Nuevo Laredo Municipal Development Plan.

Project Scope and Design

The Project consists of rehabilitating and replacing the collapsed concrete sewer lines/collectors and disconnecting any interconnections there may be with the storm water drains. The implementation of the proposed project will avoid untreated wastewater discharges to the Rio Grande, contributing to the reduction of pollution and the risk of waterborne diseases. This project for wastewater collection system disconnections to the storm water system will benefit the entire population of the city of Nuevo Laredo, Tamaulipas, but also populations downriver of Rio Grande could be benefited.

[5] Source: INEGI, 2009 economic census; basic municipal data provided by the Municipality of Nuevo Laredo.

The Project's final design was developed pursuant to the wastewater collection technical standards issued by Tamaulipas's Secretariat of Infrastructure and Urban Development, and the technical specifications contained in the Water, Wastewater Collection and Treatment Manual prepared by the National Water Commission of Mexico (CONAGUA, by its initials in Spanish). The design, also complies with Official Mexican Standard NOM-001-CNA-1995 "Sanitary Sewage System – Specifications for Hermeticity." Final designs were reviewed by BECC and NADB, and validated by CONAGUA.

The project includes the installation of sewer lines, approximately 11,777 meters (38,638 ft) of 8 inches diameter PVC pipelines; 293 meters (961 ft) of 12 inches diameter PVC sub-collectors; 566 meters (1,857 ft) of 18 inches PVC sub-collectors; 1470 meters (4,823 ft) of 24 inches diameter PVC sub-collectors; and 162 meters (532 ft) of 18 inches PVC sub-collectors

The rehabilitated wastewater collection system will discharge by gravity into an existing collector that will convey wastewater flows (approximately 231 lps or 5.2 MGD) to the International Wastewater Treatment Plant which has sufficient treatment capacity to receive the additional flows. Currently the flows received at the international treatment plant are 22.3 MGD (1,000 lps and the total treatment capacity is 29 MGD (1,300 lps).

There are six main storm water drains that are affected by this project. Following is a list of the six locations (See attached Figure 2):

1. Niños Heroes Storm Drain
2. Lincoln Storm Drain
3. Guatemala Storm Drain
4. 5 de Febrero Storm Drain
5. Monterrey Storm Drain
6. 20 de Noviembre Storm Drain

Construction of this system is projected to be complete in less than a year. The components of the Project include construction (e.g., trenching, pipe laying, soil stockpiling, covering pipes with stockpiled soil, operation of construction equipment) of the proposed wastewater collection network and the disconnection to the existing storm water system which discharges to the Rio Grande.

The final design includes the implementation of green building practices as part of the technical construction specifications. For example, the final design specifies the use of materials suitable for the project and that guarantee durability at a low cost; it also specifies the use of materials from the region to avoid transportation costs and emissions.

The final design specifications describe the availability of materials such as joints, manholes, pipes, packages etc, and its characteristics so the contractors have the option to make the best selection of materials and specifications.

The following figure shows the location of the proposed project components.

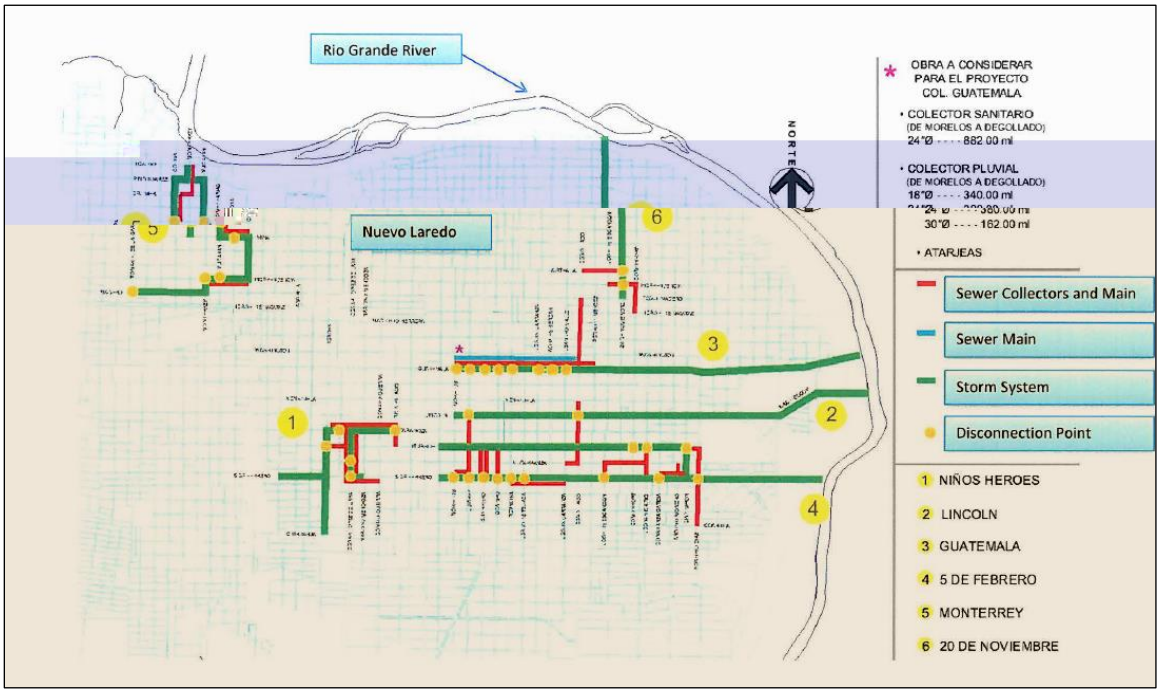


Table 2 shows the proposed schedule for project implementation milestones.

U.S. Environmental Clearance Authorization (NEPA)	Completed
Funding Commitments	Completed
Procurement	Anticipated: Quarter 3 and 4, 2012
Construction Period	Anticipated Completion: Quarter 1, 2013

Figure 3 shows the anticipated construction schedule for each of the project components. The initial phases of 2 project components were completed in 2011.

1 Ninos Heroes I Etapa																						
2 Ninos Heroes II Etapa																						
3 Lincoln I Etapa																						
4 Lincoln II Etapa																						
5 Monterrey																						
6 5 de Febrero																						
7 20 de Noviembre																						
8 Guatemala																						

2.1.2. Technical Feasibility

Design Criteria

Final Designs were developed pursuant to technical specifications contained in the Water, Wastewater Collection, and Treatment Manual prepared by CONAGUA's Deputy General Directorate for Technical Affairs Directorate and Official Mexican Standard NOM-001-CNA-1995 "Sanitary Sewerage System – Specifications for Hermeticity."

Selected Technology

As part of the project development, various routing and materials alternatives were evaluated based on the following parameters:

- Capital and O & M Cost
- Material
- Reliability
- Environmental Impact
- Social/Community Acceptance
- Topography

The analysis considered the use of pipe materials in compliance with norms and current regulations. High density polyethylene and PVC pipes were evaluated according to the soil type.

Sewer pipe diameters were calculated using slopes and velocities accordingly to avoid silt and at the same time avoid over excavation and/or the use of lift stations that might increase costs. Maximum flow rate, full build-out in the project areas and treatment capacity was also considered for pipe diameter requirements in order to avoid oversized pipelines. Pipe layout was designed based on existing right of ways, according to urban land use plan.

Based on the design criteria mentioned above, an alternative was selected and final design was developed, considering the environmental impacts and mitigation measures.

2.1.3. Land Acquisition and Right-of-way Requirements

The project will replace existing deteriorated infrastructure; therefore, all sewer lines and sub-collector will be constructed within existing municipal rights-of-way and easements. The utility will request the corresponding permits and licenses to construct in the right of ways and for street closures at the startup of the construction process

2.1.4. Management and Operations

Management, construction, and operation of the proposed project will be responsibilities of the project sponsor that has the necessary resources and staff available for these purposes. The sponsor has an Operation and Maintenance manual that includes the primary tasks needed to ensure a proper operation of the system and to prevent breakdowns in the proposed infrastructure.

COMAPA serves approximately 103,000 water hook-ups and wastewater connections in the Nuevo Laredo metropolitan area, and has an appropriate Operation and Maintenance plan. The utility is organized in various departments, including: Planning, Wastewater Treatment, Operation and Maintenance, Construction, and Administration.

The project sponsor has a pretreatment program to control industry and small businesses discharges in coordination with Tamaulipas's Environmental Protection Agency. The pretreatment program complies with the BEIF program requirements.

The Project will eliminate approximately 5.2 MGD (231 lps) of untreated wastewater discharges occurring due to deteriorated/ collapsed sewer collection infrastructure, which is currently connected to storm water drains and discharges without treatment to the Rio Grande, contributing to the reduction of pollution and the risk of waterborne diseases.

2.2.1. Compliance with Applicable Environmental Laws and Regulations

Applicable Laws and Regulations

The Project is subject to domestic environmental clearance authorization in accordance with the Regulations of the State of Tamaulipas Law of Environmental Protection, determined through the Secretariat of Urban Development and the Environment of Tamaulipas (SEDUMA). Additionally, the potential contributions of monetary resources from the Border Environment Infrastructure Fund (BEIF), supported by federal appropriations to the U.S.-Mexico Border Water

Infrastructure Program of the U.S. Environmental Protection Agency (EPA), requires that the transboundary impacts of the Project be examined in compliance with the U.S. National Environmental Policy Act (NEPA).

The project must also assure the ability of the infrastructure and utility service to meet the following applicable environmental laws and regulations applied to proper operation of the infrastructure:

- _____, which establishes the maximum permissible levels of contaminants for wastewater discharges into urban or municipal wastewater collection systems.
- _____, which establishes the leak tightness conditions that must be met by wastewater collection systems

Environmental Studies and Compliance Activities

In accordance to the Regulations of the State of Tamaulipas Law of Environmental Protection regarding the environmental impacts of the project, the SPA officially determined by official document No. SEDUMA/001021/2011 issued September 26, 2011 that the rehabilitation of the sewer collection system-disconnection to the storm sewer project for Nuevo Laredo does not require an authorization with respect to environmental impact (MIA).

Since the project will be developed in already disturbed areas, the consultation with the National Anthropology and History Institute (Instituto Nacional de Antropología e Historia, INAH) is not required. No cultural or historical resources are expected to be disturbed; however, should any cultural resources be found, construction tasks will be deferred until an assessment is performed by the INAH.

Pursuant to the NEPA process, a transboundary impact study was previously developed and submitted for consideration to the United States Environmental Protection Agency (EPA) "Environmental Assessment for the Proposed Improvement of the Water Treatment and Distribution System and The Wastewater Treatment and Collection System for the City of Nuevo Laredo, Tamaulipas, Mexico". The study included the rehabilitation and expansion of the sewer collection system among other projects. The public review period for the environmental study and corresponding Finding of No Significant Impact (FONSI) was opened on March 13, 2004. A FONSI was issued by the EPA, establishing that the project will not result in significant environmental impacts that may affect the United States border area.

While the current project was included within the previously issued Environmental Assessment, an additional environmental review is required because conditions may have changed since the last environmental assessment was conducted. A corresponding Categorical Exclusion application was submitted for consideration to the EPA. EPA approved the Categorical Exclusion on July 11, 2012.

Pending Environmental Tasks and Authorizations

There are no pending authorizations.

Compliance Documentation

The following formal authorizations have been obtained for the Project:

- Mia Waiver(Official Document SEDUMA/001021/2011, September 26, 2011).
- CONAGUA Validation (Official Document BOO.00.R07.05.04-066/09, March 18, 2009).
- Categorical Exclusion issued July 11, 2012.

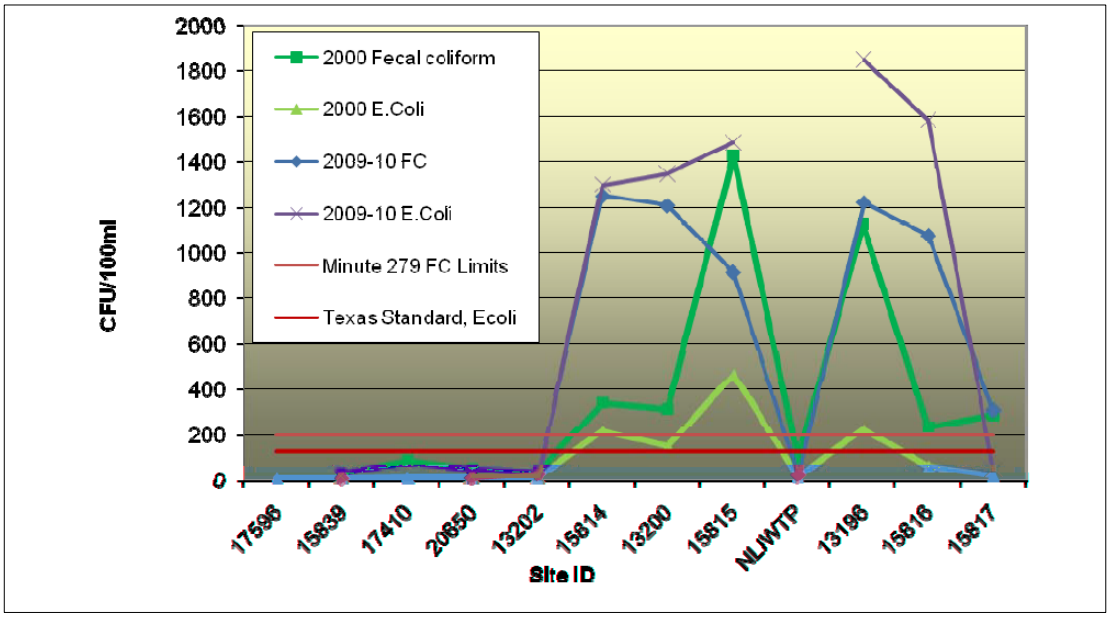
2.2.2. Environmental Effects/Impacts

Existing Conditions and Project Impact – Environmental

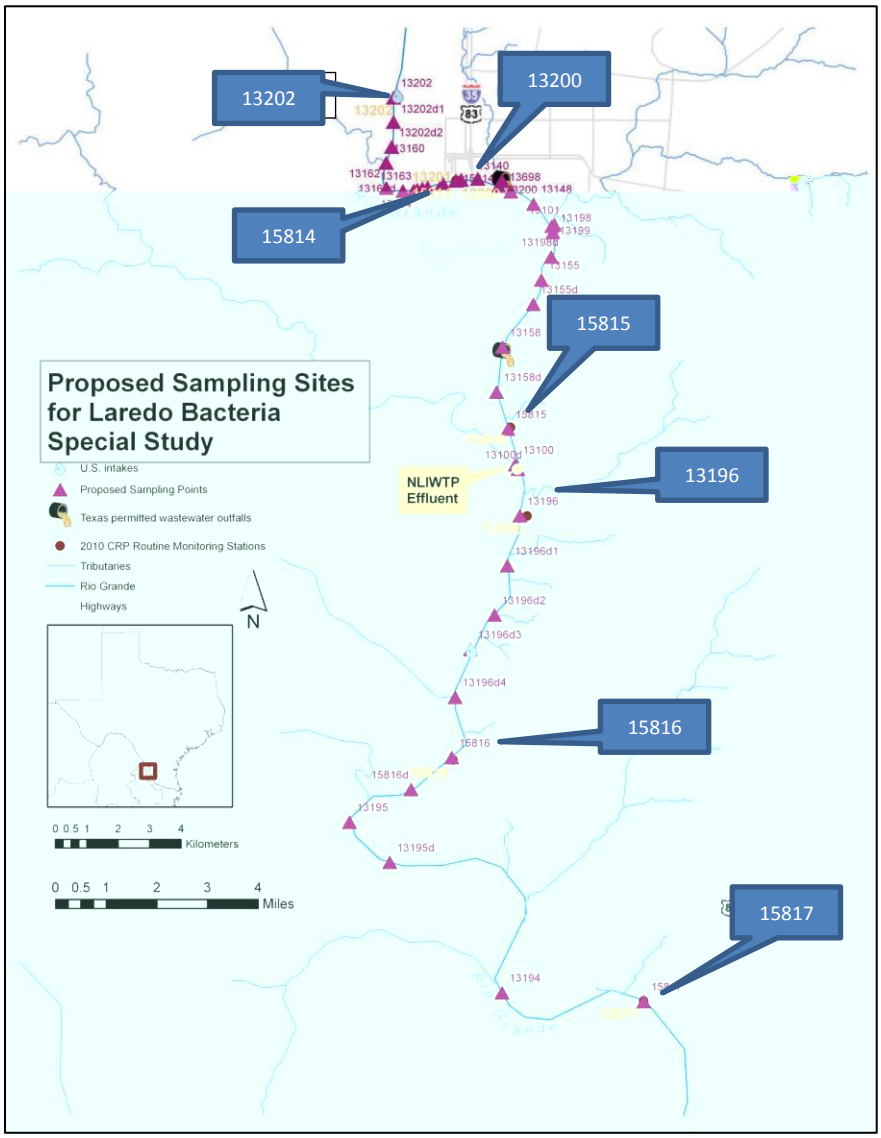
The project area experiences continuous untreated discharges and wastewater runoffs, which worsen during the rainy season, due to the interconnections between the sewer collection system and the storm water drainage system. The implementation of the proposed project will directly benefit nearly 87,000 residents of Nuevo Laredo, as well as the surrounding population.

In accordance with the "Bacteria Characterization in Segment 2304 near Laredo, Texas, Prepared by the USIBWC in Cooperation with the Texas Commission on Environmental Quality (TCEQ), March, 2011", there are high bacteria concentrations in the Rio Grande at Laredo-Nuevo Laredo area. " *m* *m* *m*
G *m* *m* *m*
m *m* *m* *m*
m *m* *m m* *m m*
m *m* *m*
G *m*

The following figure shows the increment of bacteria concentration at the Nuevo Laredo-Laredo area, the sampling locations are shown in the figure 5.



[6] Bacteria Characterization in Segment 2304 near Laredo, Texas, prepared by the USIBWC in cooperation with the TCEQ, March 2011 (page 12).



and discharged directly to the Rio Grande by replacing sewer collection system infrastructure to appropriate convey wastewater to the International WWTP to receive adequate treatment prior to discharge into this river. By eliminating the raw wastewater flows to the storm water system, the proposed project will reduce the risks of groundwater and surface water contamination as well as exposure for human contact.

[7] Bacteria Characterization in Segment 2304 near Laredo, Texas, prepared by the USIBWC in Cooperation with the TCEQ, March 2011 (Page 17).

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Minor environmental impacts are anticipated from implementation of the project, provided that the tasks are implemented in accordance with adequate construction practices.

Potential impacts will be present during the construction phase and include the following:

- Fugitive dust emissions
- Gas emissions from construction machinery
- Temporary roadway blockages, presence of workers in the area

Mitigation measures that needs to be practiced:

- Application of treated wastewater to reduce fugitive dust emissions
- Vehicle tune ups to reduce emissions
- Placement of warning signs to prevent potentially hazardous situations

The environmental impact resulting from the project implementation will be positive overall, given that this project will contribute to the elimination of raw wastewater discharges to the Rio Grande, reducing water contamination and improving the quality of life of area residents by curtailing potential health hazards.

m m m

The final design includes the implementation of green building practices as part of the technical construction specifications, including installation of pipes following minimum slope and accessing fill material from near-by locations.

Wastewater will be collected and conveyed to the International WWTP to improve its quality, so as to reduce aquifer contamination and human health hazards resulting from the direct discharges of raw wastewater to streams.

Existing Conditions and Project Impact – Health

According to the "World Health Organization Water, Sanitation and Hygiene Links to Health FACTS AND FIGURES – *updated November 2004," sanitation projects can have the following benefits to human health:

- Improved sanitation reduces diarrhea morbidity by 32%.
- Access to safe water and sanitation facilities and better hygiene practice can reduce morbidity from ascariasis by 29%.

Project implementation is expected to contribute to the improvement of the water quality of the Rio Grande and reduce the risk of exposure to untreated discharges, contributing to a reduction of the number of cases of waterborne diseases in the project area.

Waterborne diseases are caused by pathogenic microorganisms that may be directly transmitted as a result of inadequate wastewater disposal practices and unsafe water supplies. Waterborne diseases may be caused by protozoan, viruses, bacteria, and intestinal parasites.

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. The following table shows waterborne disease statistics for the city of Nuevo Laredo. As shown below, the number of cases of diseases such as Typhoid or Paratyphoid fevers has dropped throughout the years despite the population's growth. It is expected that projects to improve the wastewater collection services will contribute to improve the community's public health.

Diarrhea/Gastroenteritis	13,596	12,392	14,271	13,946	15,027
Hepatitis	81	52	33	20	36
Giardiasis		7	74	49	10
Amoebiasis	329	341	486	314	227
Typhoid	1044	501	502	520	496
Paratyphoid fever	605	401	179	314	389

Source: Secretariat of Health, Epidemiological Surveillance Coordinating Unit, General Morbidity, New Cases. Nuevo Laredo

Transboundary Effects

The transboundary impact existing in the Rio Grande is well documented with one of the primary sources established is the untreated discharges resulting from the cross-connections of the Nuevo Laredo wastewater infrastructure to the storm water drainage system. The presence of pollutants in the transboundary water body has gained the attention of local, State, National and Bi-national agencies. In BECC's consultation with both sections of the International Boundary and Water Commission (IBWC/CILA), CILA assisted BECC and the sponsor to clarify the existing untreated flows and the potential reduction anticipated by the Project. Along with other maintenance actions by COMAPA to address these conditions, the implementation of the project will help to eliminate nearly 100% of the identified untreated discharges.

Due to the proximity of Nuevo Laredo with the city of Laredo in the United States, there are frequent border crossings between cities. The elimination of wastewater collection systems connections from the stormwater system will have a positive impact on the health of residents of both Nuevo Laredo and Laredo and the surrounding areas since these actions will reduce the risk of waterborne diseases caused by exposure to untreated wastewater discharges.

2.3.

The total estimated cost of the Project is US$5,007,720, which includes the funding for construction, supervision, contingencies and Value Added Tax (VAT). Funding sources for the project include grant funding from Mexico and U.S. EPA funds administered by NADB as the Border Environment Infrastructure Fund (BEIF). Table 4 presents a breakdown of total Project costs, as well as the ***proposed*** sources of funds.

Construction, contingencies, supervision, and VAT	$5,007,720	100
TOTAL	$5,007,720	100
Mexico (Grant)	$2,109,812	42
NADB-BEIF Construction Assistance (Grant)	$2,897,908	58
TOTAL	$5,007,720	100

BECC released the project certification proposal for a 30-day public comment period beginning June 15, 2012. The following list of Project documents is available for public access:

- Final Design, Wastewater Collection systems rehabilitation for the following sewer mains: Niños Heroes I Step, Niños Heroes II Step, Lincoln I Step, Lincoln II Step, Monterrey, 5 de Febrero, 20 de Noviembre, and Guatemala.
- MIA Waiver (Official Document SEDUMA/001021/2011, September 26, 2011).
- CONAGUA Validation (Official Document BOO.00.R07.05.04-066/09, March 18, 2009).

The 30-day public comment period ended on July 16, 2012. One comment in favor of the Project was received from the Rio Grande International Study Center in Laredo, Texas.

The project sponsor has an established public participation process which includes an appointed advisory board, regularly scheduled meetings to share anticipated utility investments and decisions, and an established forum, through internet and other media, for sharing these items with the general public. Additionally, the general manager of the utility has presented proposed utility improvements, including efforts to address the necessary infrastructure disconnections and replacements, with local organizations.

Project information has also been made available to community residents through general newsletters and media coverage of the Municipality's investment plans. In addition, as required for projects funded with contributions from federal programs such as APAZU, public outreach efforts are formally conducted; therefore, the community is informed about utility investments on an annual basis in accordance with the funded projects from this program.

Public meetings were conducted for the previously certified wastewater collection improvements project (2004 certification) as well as the NADB-loan funded storm water system construction project (2006 certification). These meetings held April and May 2004 and July and August 2005 presented broad project information which included improvements to address similar conditions as the currently proposed project. In the largest meeting, more than 1,200 residents attended.

Additionally, relevant information on the issue appeared in numerous press articles. The following are just a few examples:

- http://www.elmanana.com.mx/notas.asp?id=288991
- http://www.elmanana.com.mx/notas.asp?id=288702
- http://www.ibwc.gov/crp/documents/LareDOS_article_May2011.pdf
- http://www.elmanana.com.mx/notas.asp?id=284645
- http://www.elmanana.com.mx/notas.asp?id=284506
- http://www.ibwc.gov/CRP/documents/USIBWC_QAPPAppendixG_Laredo_bacteriaspecialstudy.pdf

Due to the current federal election period, government entities are prohibited from conducting public meetings to promote project investments. Based on this regulation, the Sponsor is not able to comply with the typical public meeting requirements of the BEIF program for this project prior to certification consideration. EPA has agreed to waive this requirement in consideration of BECC's recommendation based on the following:

- The publication of this project proposal will provide a forum to invite public comments.
- The Project sponsor has existing public information practices that have included information relevant to the proposed project investment.
- The previously held public meetings for certified projects described necessary investments to address similar conditions as seen for this project with nearly 100% support offered by meeting attendees.
- As demonstrated by the relationship established through the current NEPA environmental clearance process, the investments proposed with this project are similar in nature and within the same project area as the previously certified projects.
- No new user fees or other financial impacts to residents will be necessary to support the proposed project.

- Media coverage related to the existing conditions of untreated discharges has been well documented.