CERTIFICATION PROPOSAL

IMPROVEMENTS TO THE INTERNATIONAL OUTFALL INTERCEPTOR: RELOCATION LATERAL CONNECTIONS AND EROSION PROTECTION IN NOGALES, ARIZONA

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EXECUTIVE SUMMARY

IMPROVEMENTS TO THE INTERNATIONAL OUTFALL INTERCEPTOR: RELOCATION OF LATERAL CONNECTIONS AND EROSION PROTECTION IN NOGALES, ARIZONA

Project: The proposed project consists of the abandonment of five substandard lateral connections to the International Outfall Interceptor (IOI), three of which will be relocated to the nearest manhole on the IOI, as required for the implementation of the IOI rehabilitation project under development by the U.S. International Boundary and Water Commission (IBWC), as well as erosion protection for vulnerable segments of the IOI within the Nogales Wash at Produce Row Bridge, located in Nogales, Arizona (the "Project").

Objective: The purpose of the Project, within the context of the IBWC's IOI rehabilitation project, is to reduce the human health risks associated with waterborne diseases caused by exposure to untreated or inadequately treated wastewater and to eliminate potential surface water and groundwater contamination.

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

- Improve wastewater collection infrastructure and services for up to 4,540 existing residential connections,[1] benefitting approximately 19,770 residents.[2]
- Reduce the risk of pipeline failure in the IOI, preventing the potential discharge of 15.2 million gallons per day (mgd) or 665 liters per second (l/s) of untreated or inadequately treated wastewater to the Nogales Wash, consisting of:
    - Approximately 12.2 mgd (534 l/s) of transboundary wastewater discharges from Nogales, Sonora;[3] and
    - Approximately 3.0 mgd (131 l/s) of wastewater discharges from the U.S.
- Protect vulnerable segments of the IOI and other municipal infrastructure by providing bank and erosion protection in the Nogales Wash consistent with the 100-year flood standard,

[1] Source: City of Nogales, Arizona.
[2] Source: U.S. Census QuickFacts, City of Nogales, Arizona, April 1, 2020.
[3] Source: Measured by IBWC at existing IOI Manhole No. 2.

for approximately 2,000 lineal feet of the IOI and other adjacent infrastructure.

Population to Benefit: 19,770 residents in the City of Nogales, Arizona.

Sponsor: City of Nogales, Arizona.

Estimated Project Cost: US$2,810,000.

NADB Funding: US$2,810,000 grant from the Border Environment Infrastructure Fund (BEIF) funded by the U.S. Environmental Protection Agency (EPA).

Uses and Sources of Funds: (US$)

Uses	Amount	%
Construction *	$ 2,810,000	100.00
TOTAL	**$ 2,810,000**	**100.00**
Sources	**Amount**	**%**
NADB-BEIF (EPA grant)	$ 2,810,000	100.00
TOTAL	**$ 2,810,000**	**100.00**

*Includes construction, contingencies, and construction management.

Project Status:

Key Milestones	Status
Environmental clearance – U.S.	Complete – Categorical Exclusion issued April 4, 2021
Final design IOI lateral connections and erosion protection	Complete – September 2021
Preconstruction notification to U.S. Army Corps of Engineers	Complete – October 2021
Procurement	Anticipated in 4th quarter of 2021
Construction	Estimated period of 7 months

CERTIFICATION PROPOSAL

IMPROVEMENTS TO THE INTERNATIONAL OUTFALL INTERCEPTOR: RELOCATION OF LATERAL CONNECTIONS AND EROSION PROTECTION IN NOGALES, ARIZONA

1. PROJECT OBJECTIVE AND EXPECTED OUTCOMES

The proposed project consists of the abandonment of five substandard lateral connections to the International Outfall Interceptor (IOI), three of which will be relocated to the nearest manhole on the IOI, as well as erosion protection for vulnerable segments of the IOI within the Nogales Wash at Produce Row Bridge, located in Nogales, Arizona. (the "Project"). The Project will be implemented in coordination with an IOI rehabilitation project under development by the International Boundary and Water Commission (IBWC). The purpose of the Project to reduce the risk of pipeline failures in the IOI, thereby preventing the potential discharge of approximately 15.2 million gallons per day (mgd) or 665 liters per second (l/s) of untreated or inadequately treated wastewater to the Nogales Wash and thus helping reduce water pollution and the risk of waterborne diseases. As a result, the Project will improve wastewater collection infrastructure and services for up to 4,540 existing residential wastewater connections.

2. ELIGIBILITY

2.1. Project Type

The Project falls within the eligible category of wastewater.

2.2. Project Location

The Project will be implemented in the city of Nogales, Arizona, which is adjacent to the U.S.-Mexico border and its sister city, Nogales, Sonora. Nogales is in the southeast region of the state of Arizona, approximately 62 miles south of the city of Tucson, Arizona. More specifically, the Project will be located directly at or in parallel to the IOI, which conveys wastewater north to the Nogales International Wastewater Treatment Plant (NIWWTP) located in Rio Rico, Arizona, roughly centered at the following coordinates: Latitude: 31°26'52.30"N and Longitude: 110°57'51.65"W. Figure 1 shows the location of the City of Nogales, AZ, and the IOI.

Figure 1
PROJECT LOCATION MAP

2.3. Project Sponsor and Legal Authority

The public-sector project sponsor is the City of Nogales, AZ (the "Sponsor" or the "City"). Pursuant to Arizona Revised Statutes (A.R.S.) 9-511 and 9-514, the City of Nogales has the legal authority to operate and maintain water treatment, storage and distribution systems, as well as wastewater collection and treatment systems. The Public Works Department of the City of Nogales is authorized to provide water and wastewater services to the community and is responsible for developing infrastructure improvement projects.

3. CERTIFICATION CRITERIA

3.1. Technical Criteria

3.1.1. General Community Profile

According to the U.S. Census Bureau, the city had 19,770 residents in 2020, which represents a 5.1% decrease since 2010.[4]

Economic activities in the city are based primarily on trade, particularly winter produce imports. The unemployment rate is approximately 14.2%.[5] The poverty level for Nogales is estimated at

[4] Source: U.S. Census Bureau, QuickFacts, April 1,2020.
[5] Source: Arizona Office of Economic Opportunity (2020).

29.7%, more than double the 13.5% poverty level estimated for the state.[6] The median household income (MHI) is estimated at US$29,339, which is nearly 50% less than the state MHI of US$58,945.[7]

The status of public services and infrastructure in Nogales, Arizona, is described in the following table.

Table 1
BASIC PUBLIC SERVICES AND INFRASTRUCTURE*

Water System			
Coverage	90% (remainder on private wells or with private service from Valle Verde Water Company)		
Supply source	Groundwater (14 wells)		
Number of hookups	5,807 (5,112 residential; 695 commercial)		
Wastewater Collection			
Coverage	90% within city limits (remainder on septic systems)		
Number of connections**	5,068 (4,540 residential; 528 commercial)		
Wastewater Treatment			
Coverage	100%		
Treatment facility	**Plant**	**Type**	**Capacity**
	Nogales International Wastewater Treatment Plant (NIWTP)	Modified Ludzack – Ettinger process	17.2 mgd

* Source: City of Nogales, Arizona.
** Some commercial sewer connections serve multiple users, and service areas outside city limits are not included (i.e., Peña Blanca, Highlands and Rio Rico).
Mgd = million gallons a day

Local Wastewater Collection System

The City of Nogales provides drinking water, wastewater collection and wastewater treatment services to city residents, as well as to three subdivisions outside the city limits.[8] Municipal utility coverage for both drinking water and wastewater are at or above 90%, with the remainder served by a small private water provider or an individual on-site well or wastewater disposal system.

The Nogales International Wastewater Treatment Plant (NIWTP) serves both Nogales, Arizona and Nogales, Sonora. The facility has a total capacity of 17.2 mgd. The city generates approximately 3.0 mgd and Nogales, Sonora 12.2 mgd.

[6] Source: Source: U.S. Census Bureau, QuickFacts, April 1,2020.
[7] Source: Ibid.
[8] The City owns and operates a package treatment plant for the community of Kino Springs, which is outside the city limits.

In compliance with Minute 273, the IBWC operates the 50-year-old IOI, which conveys wastewater from both Nogales, Arizona and Nogales, Sonora to the NIWTP via reinforced and unreinforced concrete pipe that ranges in diameter from 24 to 42 inches. Much of the pipeline lies underneath the Nogales Wash and Potrero Creek. In July 2017, the aged and deteriorating IOI ruptured just north of the city limits when one of its manholes collapsed after a severe rainstorm. The line break sent untreated wastewater gushing into Potrero Creek and triggered an emergency declaration by the Arizona Governor after elevated levels of *E.Coli* bacteria were found in the water.

To address the deteriorated conditions of the IOI, the IBWC awarded a contract to repair the pipeline from the U.S.-Mexico border in Nogales to the treatment plant in Rio Rico. The rehabilitation of the pipeline was divided into five phases using a cured-in-place-pipe (CIPP) technology, in which a liner is inserted into the existing pipeline, then cured to form a solid pipeline inside the old pipe. The current contract includes Phases 1, 2 and 3, which together comprise 5.3 miles of pipeline and 56 manholes.

The City of Nogales, Arizona, has five laterals connected to the IOI at intermediate points along the main line requiring improvement as part of the IBWC rehabilitation project. To implement the CIPP technology, these substandard connections must be abandoned and three of the lateral connections will need to be relocated to existing manholes prior to the upcoming IBWC project.

In addition, the proposed Project will provide erosion protection within the Nogales Wash to prevent flood or stormwater damage to the IOI along with other critical water infrastructure. The area designated for erosion protection is in the vicinity of Produce Row Bridge, which is a concern for City and County staff because historically even moderate flows have risen over the top of the bridge. The erosion risk is increased by the curves and narrowing of the channel as it jogs around the commercial buildings near the railroad tracks.

3.1.2. Project Scope

The Project consists of the following components:

1) *Abandonment and Relocation of IOI Lateral Connections*. This component will address five substandard connections to the IOI which must be cut, plugged and sealed prior to the CIPP rehabilitation project. Additionally, three of those laterals will be reconnected to existing manholes on the IOI.
2) *Nogales Wash Bank and Erosion Protection*. This component includes bank erosion protection within the Nogales Wash at critical areas that compromise the IOI and other municipal utility infrastructure. The length of this component is approximately 2,000 ft.

The location and basic details of the five sites along the IOI where substandard lateral connections must be abandoned (black lines) and/or relocated (red lines) is described below:

- *Site 1 – Historic Train Station Bathrooms* (Figure 2). The lateral connection near manhole #3 no longer conveys wastewater flows and will be abandoned. The lateral will be cut, plugged, and sealed at the IOI.

Figure 2
HISTORIC TRAIN STATION BATHROOMS

- *Site 2 – City of Nogales Public Works Parking Lot* (Figure 3). The lateral connection downstream from manhole No. 36 no longer conveys wastewater flows and will be abandoned. The lateral will be cut, plugged and sealed at the IOI. Disturbed areas will be refilled, compacted and repaved, as necessary.

Figure 3
CITY OF NOGALES PUBLIC WORKS PARKING LOT

- *Site 3 – Fleischer Park Baseball Field* (Figure 4). The lateral connection downstream from manhole No. 39 will be abandoned. A new lateral connection for the field bathrooms will be installed and connected at existing manhole No. 39. Once the new connection is complete, the existing lateral will be cut, plugged and sealed at the IOI.

Figure 4
FLEISCHER PARK BASEBALL FIELD

- *Site 4 – West Produce Row* (Figure 5). The lateral is currently connected to an obsolete manhole at the IOI. Both the connection and the non-standard manhole will be abandoned. The lateral will be relocated and connected at manhole No. 52. Due to the length and bend in the lateral pipe, an additional manhole will also be installed in the lateral pipe, prior to IOI manhole No. 52. Once the new connection is complete, the existing lateral will be cut, plugged and sealed. The final steps to decommission the existing substandard manhole will be completed as part of the IBWC CIPP project.

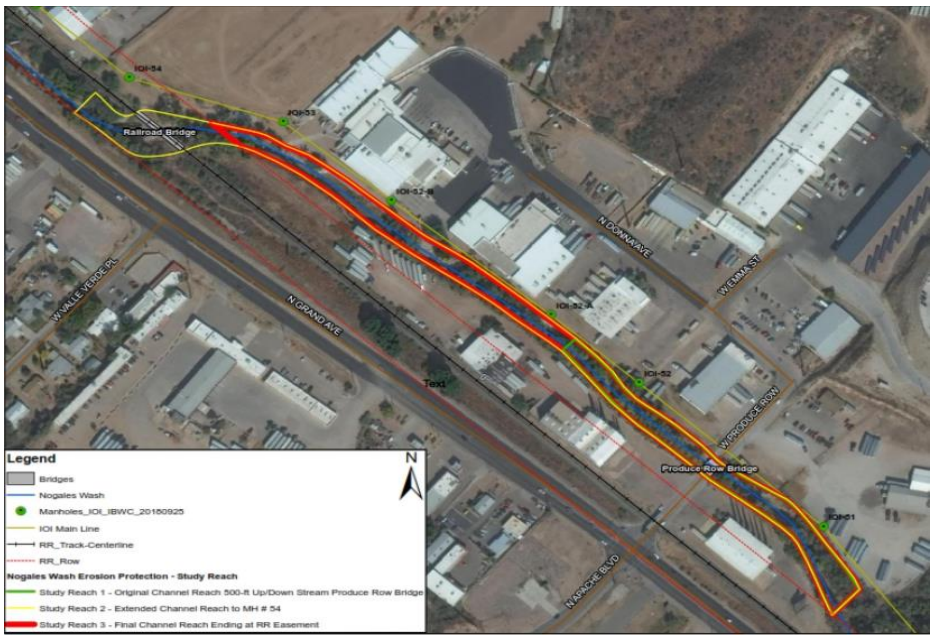
Figure 5
WEST PRODUCE ROW

- *Site 5 – Chamberlain Warehouse* (Figure 6). The lateral connection downstream from manhole No. 52A will be abandoned. The lateral will be extended, including the installation of two bends and clean-outs, and reconnected to the IOI at manhole No. 52B. Once the new connection is complete, the lateral will be cut, plugged and sealed at the previous IOI connection.

Figure 6
CHAMBERLAIN WAREHOUSE

Bank and erosion protection will be provided within the Nogales Wash near Produce Row Bridge. It consists of grouted rock riprap at critical areas along the east bank of the Wash that could compromise the IOI infrastructure and the City's water main, which services nearly 50% of the city. Additional bank protection is required along the west bank to prevent lateral migration within the Project area. The total length of this component is approximately 2,000 feet, as shown in Figure 7.

Figure 7
NOGALES WASH BANK AND IOI EROSION PROTECTION NEAR PRODUCE ROW BRIDGE



The Nogales Wash in the Produce Row Bridge area is overlapped by private property. Therefore, the required temporary construction easements for access, along with the necessary public drainage easements, were identified in the final design. Additionally, the erosion protection activities fall under Nationwide Permit (NWP) 33 of the U.S. Army Corps of Engineers (USACE) for temporary construction, access and dewatering, as determined during a pre-submittal meeting in July 2021. A Preconstruction Notification (PCN) was filed to comply with Section 404 of the Clean Water Act (CWA) corresponding to USACE, as well as with Section 401, which corresponds to the Arizona Department of Environmental Quality (ADEQ). The Project will not impact the waters of the United States Jurisdictional Delineation (JD). All proposed improvements are outside the JD.

3.1.3. Technical Feasibility

Specifications and design standards are based on the standard practices followed by the City of Nogales Public Works Department for its sewer system. The City uses ADEQ Bulletin 11: Minimum Requirements for Design, Submission of Plans and Specifications of Sewage Works (1978), for

design standards, minimum slopes, alignment and other design considerations. The City also uses the sewage works standards of the Maricopa Association of Governments (MAG) and the Pima Association of Governments (PAG) interchangeably for details.

The final designs of the proposed infrastructure projects were completed in accordance with regulatory requirements. The final design documents were reviewed by the City of Nogales, the Santa Cruz County Flood Control District (SCCFCD), ADEQ, IBWC and NADB.

For the lateral connections, prior studies and the scope of work developed for this Project considered potential alternatives for each site. The evaluation of alternatives included:

- A preference for wastewater flow conveyance to an existing manhole on the IOI.
- All lateral connection will be via a new 8" PVC pipe.
- New manholes can be constructed as needed.
- Each lateral connection should include:
  - Process flow schematics;
  - Preliminary layout drawing; and
  - Plugging and abandonment details.

The City of Nogales assisted the consultant with the final design for the relocation of laterals by potholing all the existing lateral connections to the IOI and, when an existing lateral connection could not be located by this method, dye testing was done and confirmed that the existing laterals were connected to the city's sewer main and not the IOI. All proposed lateral relocations are within existing easements or a public right of way.

Appropriate slopes and velocities to prevent silting and clogging in the pipes, as well as to allow accessibility for maintenance by the City of Nogales, were also considered in the Project design. Peak and maximum instantaneous flow rates were used to determine the necessary pipe diameter and slope.

For the erosion protection component, the following requirements were considered in the evaluation of the proposed bank stabilization alternatives:

- Protect the banks from erosion that would compromise or damage the existing IOI infrastructure running parallel to the east bank of the Nogales Wash.
- Protect other infrastructure (such as bridges, roads, waterlines, etc.) and reduce impacts of 100-year flood events.
- Avoid increasing the 100-year floodplain water surface elevations and channel velocity and minimize new channelization, considering that models show overbank flooding will occur during the 100-year flood event.
- Perform scour calculations according to the methodology outlined in the City of Tucson's Standard Manual for Drainage Design and Floodplain Management. Erosion protection improvements will require a concrete toe down wall to scour depth.

- Select design and construction methods to minimize impacts on the riparian channel and banks and the Waters of the United States.

For erosion control, gabions, transition mats and grouted rock riprap were considered the best alternative due to constructability constraints, as well as the erosive velocities in the Nogales Wash. A Stormwater Pollution Prevention Plan (SWPPP) is required and will be prepared prior to construction to limit sedimentation and pollution from the site. Alternatives were evaluated for temporary construction and permanent site impacts. the Least Environmentally Damaging Best Practical Alternative (LEDBPA) was identified to comply with the NWP process.

3.1.4. Land Acquisition and Right-of-Way Requirements

All infrastructure required for the lateral connections to the IOI will be installed within existing municipal easements and rights of way. No additional land or rights of way acquisition will be required. However, the erosion protection component will require public drainage easements and temporary construction easements. Legal descriptions have been prepared for all easements, and the City has secured the legal access required for construction and the long-term operation and maintenance of the infrastructure.

3.1.5. Project Milestones

Once the notice to proceed is issued, construction is expected to take approximately seven months to complete. Table 2 provides a summary of the critical Project milestones and their respective status.

Table 2
PROJECT MILESTONES

Key Milestones	Status
Environmental clearance	Complete – Categorical Exclusion issued April 4, 2021
Final design IOI lateral connections and erosion protection	Complete – September 2021
Preconstruction notification (PCN) to U.S. Army Corps of Engineers	Complete – October 2021
Procurement	Anticipated in 4th quarter of 2021
Construction	Estimated period of 7 months

3.1.6. Management and Operation

The Nogales Public Works Department consists of three sub-areas: Planning & Zoning, Engineering and Utilities (Sanitary Sewer and Water Divisions). The Utilities Division serves approximately 5,807 water hookups and 5,068 wastewater connections and has certified operators for both water and wastewater services.

Management of the Project will be the responsibility of the Utilities Division, which has sufficient resources and experienced technical staff available for that purpose. Procurement for construction will be conducted by the City's Procurement Office, which has experience in competitive bidding activities for infrastructure projects. The City of Nogales Sewer Division has established procedures that identify routine operation and maintenance tasks for the sewer lines.

Routine maintenance for the Nogales Wash bank and erosion protection includes periodic rodent control, weed control, crack repair and debris/trash removal. These periodic inspection and maintenance tasks are estimated to cost less than $7,000.00 per year. Although these are new tasks for the Utilities Division, existing personnel has the experience and skills to perform the activities without any additional training.

IBWC is currently performing operation and maintenance activities at the Nogales International Wastewater Treatment Plant and IOI. Additionally, IBWC will oversee the IOI CIPP improvement project.

3.2. Environmental Criteria

3.2.1. Environmental and Health Effects/Impacts

A. Existing Conditions

The IOI has exceeded its useful life and showing signs of structural deterioration, including corrosion, cracks, wall penetrations and erosion of the IOI invert. Because of this deterioration, the IOI has been experiencing operational problems, such as accumulation of debris, groundwater inflow and infiltration and root intrusion, which has resulted in pipeline/manhole failures and untreated discharges to the Nogales Wash that pose risks for human contact and contamination of groundwater and soil. To address these conditions, IBWC is implementing a cured-in-place-pipe repair of the IOI. However, prior to using this technology, all direct connections to the pipeline must be removed and either abandoned or relocated to a nearby manhole.

The no-action alternative was not considered viable, since the Project must be implemented for the success of IBWC's IOI rehabilitation project and to protect the IOI and other city infrastructure in the Nogales Wash. More importantly, the Project will reduce the human health risks associated with waterborne diseases caused by exposure to untreated or inadequately treated wastewater and eliminate potential surface water and groundwater contamination. Therefore, the Project is considered a high priority.

As a reference, Table 3 shows the latest waterborne disease statistics available for existing health statistics in the area, for the period 2013-2017.[9]

[9] Updated statistics have not been reported by the County due to the attention required to monitor and manage the COVID-19 pandemic.

Table 3
WATERBORNE STATISTICS FOR SANTA CRUZ COUNTY, ARIZONA

Disease	Number of Cases per Year				
	2013	2014	2015	2016	2017
Amebiasis	4	0	4	5	5
Campylobacteriosis	53	57	88	75	87
Cryptosporidiosis	1	5	4	9	11
Giardiasis	19	19	17	21	29
Shigellosis	10	9	11	20	11
Vibriosis	0	4	4	2	2

* Source: Santa Cruz County, Health Services Agency.

B. Project Impacts

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

- Improve wastewater collection infrastructure and services for up to 4,540 existing residential connections,[10] benefitting approximately 19,770 residents.[11]
- Reduce the risk of pipeline failure at the IOI, preventing the potential discharge of 15.2 mgd or 665 l/s of untreated or inadequately treated wastewater to the Nogales Wash, consisting of:
    - Approximately 12.2 mgd or 534 l/s of transboundary wastewater discharges from Nogales, Sonora;[12] and
    - Approximately 3.0 mgd or 131 l/s of wastewater discharges from the U.S.
- Protect vulnerable segments of the IOI and other municipal infrastructure by providing bank and erosion protection in the Nogales Wash consistent with the 100-year flood standard.

The Project will help prevent health problems by ensuring reliable wastewater conveyance services and eliminating the potential for untreated discharges to an open wash, thus reducing the risks of human contact and surface or groundwater contamination.

C. Transboundary Impacts

The proposed Project is expected to have an overall positive impact on the Nogales Wash, a tributary of the Santa Cruz River, which is a transboundary water body flowing from Mexico into the United States. Implementation of the Project is intended to prevent future breaks and spills, and thus prevent contamination of the river, which will help protect water resources. No negative transboundary impacts are anticipated from the Project.

[10] Source: City of Nogales, Arizona.
[11] Source: U.S. Census QuickFacts, City of Nogales, Arizona, April 1, 2020.
[12] Source: Measured by IBWC at existing IOI Manhole No. 2.

3.2.2. Compliance with Applicable Environmental Laws and Regulations

The Project will comply with the following laws and regulations:

- *Arizona Revised Statutes (A.R.S.), Title 49, Chapter 2*, aquifer protection;
- *Arizona Administrative Code (A.A.C.), Title 18, Chapter 9 (ACC R18-9)*, relating to sewage collection system regulations; and
- *Arizona Department of Water Resources (ADWR), Flood Mitigation Section, Standards for Watercourse Bank Stabilization* (*May 1998*), relating to the Nogales Wash erosion protection requirements.

Additionally, the Nogales Wash is classified as a Water of the United States as defined under the Clean Water Act; therefore, the Project Sponsor was required to consult with the U.S. Army Corps of Engineers for any applicable requirements related to a Section 404 permit.

A. Environmental Clearance

Since the Project will be receiving federal funds, it is subject to the National Environmental Policy Act (NEPA) environmental clearance process (42 USC §§4321-4370f). To be eligible for funding from the U.S.-Mexico Border Water Infrastructure Program, all projects must obtain an environmental clearance decision. EPA Region 9 completed the environmental review and clearance process for this Project, in accordance with the regulations of the NEPA Council on Environmental Quality (Title 40 CFR §§1500.1-1508.28) and with EPA NEPA regulations (40 CFR Part 6).

Based on the findings and conclusions of the technical memorandum developed for the Project, EPA Region 9 issued a Categorical Exclusion on April 4, 2021, establishing that the Project will not result in any significant negative impacts to the environment in the U.S.-Mexico border area.

Furthermore, because the Nogales Wash is classified as Waters of the United States as defined under the Clean Water Act, the consultant contracted by the Project Sponsor prepared two reports: a Preliminary Jurisdictional Delineation of Waters of the U.S. and the Nogales Wash Gila Topminnow Survey. No disturbances to the Waters of the United States are anticipated; therefore, USACE determined that the Nogales Wash bank and erosion protection component falls under a Section 404 Nationwide Permit (NWP). In compliance with NWP No. 33, a Preconstruction Notification, along with a Temporary Construction, Access, and Dewatering Plan, was submitted to USACE, who in turn sent it to ADEQ in August 2021 to register the upcoming construction activities to be performed in the Nogales Wash.

B. Mitigation Measures

Although implementation of the Project will have no significant long-term adverse impacts on the environment, mitigation measures will be established to address temporary, minor adverse impacts during construction. Potential impacts during construction include:

- Wastewater discharges resulting from the closure/relocation of pipelines.
- The local air basin may be temporarily impacted by carbon monoxide, nitrogen oxides and sulfur dioxide emissions due to vehicles and equipment used during construction.
- A temporary increase in soil erosion and particulate matter emissions may be experienced due to construction.
- Surface water resources could be temporarily impacted by stormwater runoff during the construction phase.
- Hazardous waste—such as construction debris, used oil, etc.—may be generated during the construction and operation phases.
- Potential loss of vegetation, which may be a habitat during bird migration or nesting.
- Noise levels may be elevated during construction activities; however, this impact is short term and will be concentrated in the work area. Potential impacts also include temporary roadway blockages, as well as the presence of workers in the area.

Typical mitigation measures and best management practices to be implemented during construction include:

- To avoid pollution of the Nogales Wash, wastewater discharges resulting from construction shall be pumped to the closest manhole.
- Construction debris resulting from demolition or removal of concrete pipes must be disposed of in the municipal landfill.
- Application of water to reduce the emission of dust particles and soil erosion.
- Construction to be scheduled between 8 a.m. and 5 p.m. to prevent extended disturbance from noise.
- Vehicle tune-ups to reduce emissions and noise effects.
- Placement of warning signs to prevent potentially hazardous situations.
- Hay bales or silt fences to be placed along rights of way to prevent erosion and contamination of surface water resources.
- Construction that disturbs vegetation will be avoided during nesting periods. A qualified biologist conducted a preconstruction survey within the Project area to identify any sensitive species in the area.
- All construction personnel will attend a briefing to familiarize workers with potential construction impacts and mitigation measures.

C. Pending Environmental Tasks and Authorizations

There are no environmental authorizations pending.

3.3. Financial Criteria

The total estimated cost of the Project is US$2,810,000, which includes funding for construction, supervision and contingencies. The Sponsor requested a BEIF grant to support the implementation of the Project and improve the affordability of the investment. BEIF program criteria require that the proposed Project:

- address priority human health and environmental issues with community water infrastructure;
- provide a U.S.-side benefit;
- consider maximum funding from other sources;
- consider adequate operation and maintenance provisions;
- target improvements to water quality; and
- be implemented only in jurisdictions that aim to prevent developments that lack access to water and wastewater infrastructure.

Additionally, to determine eligibility for a BEIF grant, an affordability analysis is conducted to review the cost per household (CPH) for the new or improved utility service in comparison with the community's MHI, considering 100% loan financing and with the proposed grant allocation. The higher the ratio, the less affordable the service becomes for community residents. A BEIF grant is only considered if the CPH ratio is at least 1.7% of MHI for water and wastewater service fees. For this Project, the proposed grant will help the community to maintain a CPH/MHI ratio of 3.2%, which includes the revenue requirements for funding the designated reserves.

Based on a thorough analysis of both the Project and the Sponsor, NADB has determined that the Project meets all BEIF program criteria and is recommending that the EPA approve a BEIF grant for up to US$2,810,00, to cover the construction, supervision, and contingencies costs associated with the Project. Table 4 shows a breakdown of the uses and sources of funding.

Table 4
USES AND SOURCES OF FUNDS
(US$)

Uses	Amount	%
Construction	$ 2,810,000	100.00
TOTAL	**$ 2,810,000**	**100.00**
Sources	**Amount**	**%**
NADB-BEIF (EPA grant)	$ 2,810,000	100.00
TOTAL	**$ 2,810,000**	**100.00**

The estimated cost to rehabilitate the highest priority sections of the IOI is nearly US$40 million, which will be covered by funding managed by IBWC. Considering the overall investment to address the deteriorated conditions of this critical infrastructure, including the necessity to implement the components of this Project, the BEIF investment is less than 1% of the overall cost.

4. PUBLIC ACCESS TO INFORMATION

4.1. Public Consultation

NADB published the draft certification proposal for a 30-day public comment period beginning October 15, 2021. The following Project documentation is available upon request:

- Phase 1, *Wastewater Design of Lateral Connections to the International Outfall Interceptor (IOI) in Nogales, Arizona*, dated April 22, 2021.
- Phase 1, *Technical Memorandum for the Final Design of Eight City of Nogales Lateral Connections to the International Outfall Interceptor*, dated May 11, 2021.
- Phase 2, *Nogales Wash Bank Erosion Protection Near Produce Row Bridge in Nogales Arizona*, dated September 7, 2021.
- Phase 2, *Technical Memorandum for the Final Design of Bank Erosion Protection near Produce Row, City of Nogales, AZ*, dated August 13, 2021.
- Santa Cruz County Floodplain Use Permit (FUP) issued by Santa Cruz County Flood Control District (SCCFCD) on October 14, 2021.
- Preconstruction Notification (PCN) submitted in compliance with CWA Section 404 (USACE) and Section 401 (ADEQ) in August 2021.
- Gila Topminnow Survey completed on September 16, 2021.
- Categorical Exclusion issued by EPA on April 4, 2021.

4.2. Outreach Activities

Due to the COVID-19 pandemic, the City of Nogales conducted alternative outreach efforts to provide Project information to the residents in its service area. In lieu of the traditional public outreach requirements of the U.S.-Mexico Border Water Infrastructure Program (BWIP), Project information has been published on the City's website: Improvements to Wastewater Lateral Connections – City of Nogales (nogalesaz.gov) and notices regarding the availability of information were sent out with the City's utility bill. The online information, available in both English and Spanish, includes information about Project design, scope and benefits. As of August 2021, the site has had 522 hits, and 13 visitors had responded to the survey aimed at gauging their understanding of the Project.

NADB also conducted a media search to identify potential public opinion about the Project, as well as to detect any possible opposition from the community concerning the proposed investment. Most of the articles that feature or mention the International Outfall Interceptor (IOI) focus on the need for repairs, determining ownership of the IOI and funding for the repairs. While the problem with the IOI has been reported since 2011, the most recent articles have focused on conflicts between the City of Nogales and IBWC. In July 2020, the City and IBWC reached an agreement on funding the upgrades and repairs to the IOI. There were no specific articles regarding the scope of this proposed Project.

Below are links to the articles found, along with a brief description:

- *Nogales International* (July 31, 2020). The article describes the U.S. House of Representatives position and funding allocation clarifying the responsibility for the maintenance of the IOI, as part of a settlement between the IBWC and ADEQ. https://www.nogalesinternational.com/opinion/publishers-note-ioi-hot-potato-belongs-squarely-to-the-ibwc/article_27e9934a-d35b-11ea-88ec-674dbeef6680.html

- *Arizona Department of Water Resources website* (July 16, 2020). The article describes an agreement to set forth a comprehensive plan to mitigate future discharges of untreated wastewater into the Nogales Wash and Santa Cruz River from the aging IOI infrastructure. The $38,790,000 investment will reinforce the IOI from the U.S.-Mexico border to the treatment plant located in Rio Rico about 9 miles north of Nogales. https://new.azwater.gov/news/articles/2020-16-07

- *Nogales International* (June 30, 2020 and updated July 6, 2020). The article describes the settlement related to funding the $38.8 million in improvements to the IOI. https://www.nogalesinternational.com/news/settlement-calls-for-38-8-million-in-improvements-to-international-sewer-line/article_59c11d1a-bb15-11ea-be8a-4f8db04e3ccd.html

The activities carried out by the Project Sponsor and the articles identified above demonstrate that the public has received updates related to the infrastructure problems and need for IOI improvements. The Project Sponsor informed NADB that no comments expressing concern about the Project were received during the public outreach process, and no opposition to the Project was detected in the media search.