NORTH AMERICAN DEVELOPMENT BANK

PROJECT CLOSEOUT FACT SHEET

Project:	Wastewater Treatment Plant Improvements		
Location:	Patagonia, Arizona	Certification Date:	November 5, 2021
Type:	Wastewater	Operation Startup:	August 1, 2023
Population Benefitted:	772	Closeout Date:	September 24, 2026

Pre-project Conditions

The Patagonia utility provides drinking water, as well as wastewater collection and treatment services, to residential and commercial customers. Improvements to the wastewater collection system and construction of the existing wastewater treatment plant (WWTP) were completed in 2004 and were partially funded with a Border Environment Infrastructure Fund (BEIF) grant from NADBank. The wastewater collection system operates by gravity and consists of approximately four miles of 6, 8 and 10-inch gravity sewer lines, serving 464 connections. Wastewater is conveyed to the Patagonia Wastewater Treatment Plant located on the west side of Patagonia just north of state route 82. The WWTP is an extended aeration system, which includes headworks, an anoxic basin for denitrification, two aeration basins, a secondary clarifier, a three-basin chlorine contact chamber, de-chlorination and flow meter, an aerobic sludge digester and sludge processing equipment. The WWTP has a capacity of 110,000 gallons per day (gpd) and currently receives an average daily flow of 45,000 gpd. Rehabilitation of the wastewater treatment plant will improve wastewater services by eliminating the risk of discharge of up to 45,000 gpd of wastewater caused by the deteriorated treatment plant that negatively impacts the Patagonia community.

Project Objective

Reduce the human health risks associated with waterborne diseases caused by exposure to untreated or inadequately treated wastewater and to ensure compliance with effluent discharge requirements, contributing to the protection of aquatic ecosystems and water quality in the receiving water body.

Project Scope

The project consisted of rehabilitating the wastewater treatment plant with the following improvements: basin walls, secondary treatment system; chemical dosing system; coarse bubble diffuser system; sludge quick coupling





& pump piping; Phoenix belt press (propriety equipment); reuse water system; sludge dewatering conveyor; instrumentation and control components.

Project Results

Outputs	Indicator	Target in 2021 (Certification)	Actual (2023)
Improved wastewater treatment system	number	1	1

Outcomes	Indicator	Target in 2021 (Certification)	Actual (2023)
Population benefitted	number	772	772
Risk of potential wastewater discharges eliminated	million of gallons per day (mgd)	0.045	0.045
Improved wastewater connections	number	464	464
Improved quality of wastewater treated	mgd	0.11	0.11

The Town has been able to treat its wastewater flows in compliance with Arizona regulations and to comply with Occupational Safety and Health Administration standards for operator safety.

Key Project Highlights
The Project received the 2023 Project of the Year: Small Cities/Rural Communities-Environment award issued by the Arizona Chapter of the American Public Works Association (APWA). The town of Patagonia also received a Metropolitan Pima Alliance (MPA) Common Grounds Award for finding creative ways to tackle complex problems, by collaborating and working together for the betterment of the region.

Project Financing
(USD)

Sources of Funding	Estimated at certification	Actual Amount
NADBank CAP grant*	$ 500,000	$ 500,000.00
Other sources**	100,000	280,977.77
Total	**$ 600,000**	**$ 780,977.77**

* Community Assistance Program (CAP)
** Other sources included "in-kind" contributions from the Utilities' enterprise funds.

The dewatering of the project site resulted in significant delays, a change of order and increased costs. The project sponsor increased its contribution to ensure the project could be completed.