



— BUREAU OF —
RECLAMATION

Water Infrastructure Improvements for the Nation Act of 2016 (Public Law 114-322), Title I Water Resources Development Section 4009(c):

Feasibility Study Review Findings
*Department of Interior, Bureau of Reclamation's Title
XVI Program*

June 2024

Prepared for

**Committee on Energy and Natural Resources of the Senate
Committee on Natural Resources of the House of Representatives**

Prepared by

U.S. Department of the Interior, Bureau of Reclamation

Mission Statements

The U.S. Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated Island Communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Title XVI: Feasibility Study Review Findings

Introduction

This report is provided in accordance with Public Law (P.L.) 114-322 the Water Infrastructure Improvements for the Nation (WIIN) Act of 2016, Title I Water Resources Development, Section 4009(c) and the Infrastructure Investment and Jobs Act – Title IX Western Water Infrastructure (P.L. 117-58). Authorized under P.L. 102-575, in 1992, the Bureau of Reclamation (Reclamation) established the Title XVI Program (Title XVI) that provides cost-shared grant funding for the planning, design, and construction of non-Federal water reclamation and reuse projects. Originally, Title XVI funding was limited to congressionally authorized water reclamation and reuse projects. Then in 2016, the passage of the WIIN Act authorized Reclamation to provide funding for water reclamation and reuse projects without a project-specific congressional authorization.

As required under Section 4009(c) of the WIIN Act, projects are eligible to compete for funding after a project sponsor completes a feasibility study and Reclamation determines that it meets the programmatic requirements outlined in the Reclamation Manual Directives and Standards WTR 11-01. WTR 11-01 is designed to provide structured guidance for feasibility study reviews and to meet feasibility study legislative requirements. This includes:

- The feasibility study report meets the requirements of a feasibility study as defined under Section 1604 of P.L. 102-575, as amended.
- The feasibility study, and the process under which the study was developed, comply with Federal laws and regulations applicable to feasibility studies of Title XVI projects.
- The project is technically and financially feasible and provides a Federal benefit in accordance with the Reclamation laws.

Feasibility Reviews and Determinations

Section 4009(c) of the WIIN Act requires the Secretary to submit a report to Congress that describes the results of feasibility reviews. Figure 1 below is a summary of the 12 feasibility study reviews that have occurred since the last Feasibility Study Review Findings report was transmitted to Congress. All 12 feasibility studies were determined to meet the requirements of WTR 11-01.

City of Banning	City of Cheney	City of Dodge City	City of Forth Worth	City of Hutto	City of Pharr
Project Title: Wastewater Treatment Plant and Recycled Water Upgrades Estimated Project Costs: \$93,487,328	Project Title: Water Reclamation Project Estimated Project Costs: \$21,823,000	Project Title: City of Dodge City Wastewater Reuse Evaluation Estimated Project Costs: \$57,000,000	Project Title: Mary's Creek Reclaimed Water System Estimated Project Costs: \$263,184,000	Project Title: City of Hutto Title XVI Feasibility Report Estimated Project Costs: \$217,281,000	Project Title: Potable Reuse Augmentation of Raw Water Reservoir Title XVI Feasibility Study Estimated Project Costs: \$70,300,000
Indian Wells Valley Groundwater Authority	Orange County Water District	Project 7 Water Authority	Santa Clarita Valley Water Agency	Truckee Meadows Water Authority	West Bay Sanitary District
Project Title: Recycled Water Project Title XVI Feasibility Study Estimated Project Costs: \$137,440,000	Project Title: Per- and Polyfluoroalkyl Substances (PFAS) Removal Program Estimated Project Costs: \$172,000,000	Project Title: Title XVI Water Reclamation and Reuse Program Feasibility Study Estimated Project Costs: \$167,088,000	Project Title: Water Recycling Facility Estimated Project Costs: \$116,050,000	Project Title: OneWater Nevada Advanced Purified Water Program American Flat Feasibility Study Estimated Project Costs: \$103,000,000	Project Title: Bayfront Recycled Water Project Estimated Project Costs: \$72,900,000

Figure 1: Summary of the 12 feasibility studies reviewed by Reclamation since the last Feasibility Study Review Findings report was transmitted to Congress.

Title XVI: Feasibility Study Review Findings

As a result of meeting requirements outlined in WTR 11-01, these projects, as defined by the feasibility study, are now eligible for planning, design, and construction funding through the competitive Title XVI grant program. Reclamation uses annual competitive funding opportunities to allocate funds available for the Title XVI Program. The total Federal funding received may not exceed 25 percent of the total project cost, up to the per project Federal funding cap identified in the Title XVI WIIN Act funding opportunity.

Prior to receiving Federal funding, the project must comply with all applicable environmental laws, including the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), and before any construction begins, all project sponsors must demonstrate that it is financially capable of funding the non-Federal portion of project construction costs and all operation, maintenance, and replacement costs, pursuant to Reclamation Manual Directives and Standards WTR-11-02.

Project Summaries

Provided below is a summary of the 12 projects that include the projects sponsors, location, project description, and total estimated project costs.

City of Banning

Project: Wastewater Treatment Plant and Recycled Water Upgrades

Location: Banning, California

Review Completed: January 31, 2024

The City of Banning evaluated options to strengthen its water supply portfolio by using local water supply to meet non-potable water demands. The selected project consists of Phase I of an overall effort in the City to implement recycled water upgrades. Phase I will upgrade the City's existing wastewater treatment plant to recycled water standards and build pipelines to transport recycled water to customers currently using groundwater from non-potable wells. Upgrades at the wastewater treatment plant will include a membrane bioreactor facility and chlorine disinfection tank. This project will provide seasonal flexibility to meet demands and reduce the City's reliance on imported water from the Sacramento San Joaquin River Delta by providing up to 1,191 acre-feet of recycled water annually.

Total Estimated Project Costs: \$93,487,328

City of Cheney

Project: Water Reclamation Project

Location: Cheney, Washington

Review Completed: December 17, 2021

The City of Cheney considered the feasibility of upgrading its wastewater treatment plant to produce reclaimed water for landscape and turf irrigation. The selected project includes upgrades to the existing wastewater treatment plant to add tertiary filtration and ultraviolet disinfection, a new reclaimed water pump station, and the installation of an approximately three-mile reclaimed water transmission line to distribute reclaimed water to irrigation sites. The project will allow the City to reduce expected aquifer decline by reducing groundwater withdrawals 1 million gallons per day and replacing it with reclaimed water during the irrigation season.

Total Estimated Project Cost: \$21,823,000

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City of Dodge City

Project: City of Dodge City Wastewater Reuse

Location: Dodge City, Kansas

Review Completed: January 19, 2024

City of Dodge City evaluated alternatives for aquifer recharge to promote groundwater sustainability and continued economic development. The selected Managed Aquifer Recharge (MAR) project includes a pump station, force main, MAR wastewater treatment plant, a treatment process that will include anaerobic-anoxic-aerobic biological nutrient removal, membrane bioreactor, UV disinfection, soil-aquifer treatment, and discharge infrastructure to provide treated effluent wastewater into the dry Arkansas Riverbed. The Arkansas Riverbed will recharge the Ogallala Aquifer and create 4,147 acre-feet per year in additional groundwater resources at existing City wells.

Total Estimated Project Cost: \$57,000,000

City of Fort Worth

Project: Mary's Creek Reclaimed Water System

Location: Fort Worth, Texas

Review Completed: May 11, 2023

The City of Fort Worth evaluated the feasibility of a direct, non-potable reclaimed water system in the City's western service area that will utilize effluent from the Mary's Creek Water Reclamation Facility. The selected alternative will include the Mary's Creek Water Reclamation Facility, reclaimed water pump station, elevated storage tank, and a pipeline that will serve a local source of reclaimed water to irrigation and industrial customers. This project will postpone the need to expand potable water treatment infrastructure and provide up to 6,277 acre-feet of recycled water per year.

Total Estimated Project Cost: \$263,184,000

City of Hutto

Project: City of Hutto Title XVI Feasibility Report

Location: Hutto, Texas

Review Completed: November 30, 2023

The City of Hutto investigated alternatives to reclaim and reuse wastewaters from the City's wastewater treatment facilities. The feasible alternative selected outlines a phased expansion approach for the Hutto South Wastewater Treatment Plant from 2.5 million gallons per day to 6.0 million gallons per day in Phase 1. The expansion includes implementation of a reclaimed water system and the establishment of an automated water vending fill station for reclaimed water users to supplement the City's existing potable water supply. Reclaimed water at the expanded plant will provide reclaimed water for construction use, residential and commercial irrigation, and industrial use. This expansion project is expected to produce up to 6,721 acre-feet of recycled water per year in an area where a water deficit is anticipated as early as 2025.

Total Estimated Project Cost: \$217,281,000

City of Pharr

Project: Potable Reuse Augmentation of Raw Water Reservoir

Location: Pharr, Texas

Review Completed: June 23, 2023

The City of Pharr evaluated potable reuse augmentation to diversify its water supply portfolio. The feasible alternative selected is a 6 million gallons per day water reclamation strategy to augment the City's raw water reservoir. Tertiary wastewater effluent will be treated to potable standards at a water purification plant consisting of micro-filtration, reverse osmosis, and ultraviolet disinfection. The product water will be stored on site, and then pumped to the City's raw water reservoir to blend with the existing water supply. The project will provide up to 6,721 acre-feet of water per year where water supply deficits are anticipated by 2030.

Total Estimated Project Cost: \$70,300,000

Indian Wells Valley Groundwater Authority

Project: Recycled Water Project Title XVI Feasibility Study

Location: Ridgecrest, California

Review Completed: November 1, 2023

The Indian Wells Valley Groundwater Authority assessed the feasibility of groundwater recharge through the tertiary and advanced treatment of recycled water and injection wells to recharge into the Indian Wells Valley Groundwater Basin. The selected treatment alternative includes reverse osmosis with subsurface injection. By expanding and upgrading the City of Ridgecrest's existing wastewater treatment facility, the project is expected to result in the recharge up to 1,654 acre-feet per year of recycled water into the groundwater basin.

Total Estimated Project Cost: \$137,440,000

Orange County Water District

Project: Per-and Polyfluoroalkyl Substances (PFAS) Removal Program

Location: Fountain Valley, California

Review Completed: July 27, 2022

The purpose of this feasibility study was to identify and evaluate components for a PFAS removal project. The proposed project consists of PFAS treatment systems for 29 groundwater production wells where the PFAS-contaminated groundwater will be treated with an ion exchange treatment technology. The treatment systems will allow the groundwater to meet state limits for perfluorooctanoic acid and bring the wells back online to produce an estimated annual water supply of 70,000 acre-feet, eliminating the need for an equivalent amount of imported water supplies.

Total Estimated Project Cost: \$172,000,000

Project 7 Water Authority

Project: Title XVI Water Reclamation and Reuse Program

Location: Montrose, Colorado

Review Completed: February 6, 2024

The Project 7 Water Authority (P7WA) evaluated treatment alternatives to reclaim impaired water from Ridgway Reservoir. The selected alternative includes a new water treatment plant, an innovative treatment train incorporating pellet softening reactors followed by ultrafiltration membranes, a raw water line from Ridgway Reservoir, and a finished water line to deliver up to 6,720 acre-feet of water per year of potable drinking water to the P7WA service area.

Total Estimated Project Cost: \$167,088,000

Santa Clarita Valley Water Agency

Project: Water Recycling Facility
Location: Fountain Valley, California
Review Completed: April 28, 2022

The Santa Clarita Valley Water Agency considered approaches to expand its recycled water program. The recommended project includes two phases. Phase 2A includes a new transmission and distribution mains to deliver recycled water from the Valencia Water Recycling Plant to the Central Park. Phase 2C includes a new transmission and distribution main to convey recycled water from the existing distribution system to new customers in the western portion of the City of Santa Clarita. The expanded distribution is expected to deliver an additional 2,976 acre-feet per year of recycled water to help meet growing municipal water needs.

Total Estimated Project Cost: \$116,050,000

Truckee Meadows Water Authority

Project: OneWater Nevada Advanced Purified Water Program American Flat Feasibility Study
Location: Reno, Nevada

Review Completed: April 25, 2022

The Truckee Meadows Water Authority, along with other OneWater Nevada partner agencies, considered the feasibility of upgrading treatment processes to produce high quality recycled water. The recommended project will produce 2,000 acre-feet of recycled water annually for groundwater recharge. Project infrastructure elements include enhanced water filtration, disinfection, storage, and pumping processes at the Reno-Stead Water Reclamation Facility; a 2 million gallons per day advanced purified water treatment facility; an advanced purified water pump station and conveyance pipeline; an advanced purified water polishing treatment facility; and groundwater injection, monitoring, and extraction wells. Project outcomes will include creating a local, drought-resilient water source, reducing reliance on the Truckee River and imported groundwater supplies for municipal water uses, and improving Truckee River water quality.

Total Estimated Project Cost: \$103,000,000

West Bay Sanitary District

Project: Bayfront Recycled Water Project
Location: Menlo Park, California
Review Completed: January 23, 2023

The Bayfront Recycled Water Project feasible alternative involves the construction of a new satellite treatment facility at its decommissioned Bayfront wastewater treatment plant site, an influent pump station and force main, recycled water distribution, pipelines, and recycled water storage facilities. Major components of the treatment system will include grit removal and fine screening, biological reactor tanks, a membrane bioreactor treatment system, and ultraviolet disinfection. The Project will offset potable water by 1 million gallons per day and deliver recycled water for irrigation, industrial purposes, firefighting, public recycled water fill stations, cooling towers, and other approved uses in the Menlo Park area and surrounding communities.

Total Estimated Project Cost: \$72,900,000