# NAVAJO-GALLUP WATER SUPPLY PROJECT NEWSLETTER

November 2024

## COMMUNITY MEETINGS

**Project Construction Committee (PCC)**
Location: El Morro Theater Center, Gallup, NM, (or available virtually via Teams), tentatively scheduled for Thursday Jan. 23, 2025
9 a.m. - 12 p.m.

## GET IN TOUCH

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## COMMUNITY

**Navajo Nation COVID-19 Information:**
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## Navajo-Gallup Water Supply Project Deadline Update

Construction underway on the Navajo-Gallup Water Supply Project in the Santostee Chapter, south of Shiprock. Reclamation photo by Pablo Mena

The deadline to complete the Navajo-Gallup Water Supply Project was recently extended to Dec. 31, 2029, through an agreement between the U.S. Department of the Interior, the Navajo Nation, and the New Mexico Interstate Stream Commission. This extension ensures progress continues on this critical project, which has been under construction for over a decade.

### Why the extension was Needed

Delays occurred due to the acquisition and integration of the San Juan Generating Station's river pumping plant, water pipeline, and reservoir into the project. In 2019, construction was paused to evaluate how the station's water facilities could be incorporated to benefit the project, leading to the need for more time. The evaluation showed that incorporating these facilities provides short-term and long-term cost savings for the project and simplifies the future operations of the San Juan Lateral.
With all project participants in agreement, the facility was officially acquired in May 2023, and is now being included in the project's design.

### Legislative context

The project was originally authorized in 2009 under the Northwestern New Mexico Rural Water Projects Act with a completion deadline of Dec. 31, 2024. Similar deadline extensions were also granted for the other Settlement projects, the Fruitland-Cambridge and Hogback-Cudei Irrigation projects.

The proposed Navajo-Gallup Water Supply Project Amendments Act of 2023 (S. 1898 and H.R. 3977) aims to formalize the new deadline of Dec. 31, 2029. However, since legislative approval may not happen in time, the settlement parties signed a letter agreement to ensure work can continue uninterrupted.
This project is a significant step toward fulfilling water rights settlements and improving water security for the Navajo Nation and surrounding communities.

BUREAU OF RECLAMATION

If you would like to learn more, visit our website at: https://www.usbr.gov/uc/progact/navajo-gallup/

# Groundbreaking and Blessing Ceremony for Beacon Bisti N9 Lateral

On Friday, Oct. 25, representatives from the Navajo Nation performed a blessing and groundbreaking ceremony to kick-off construction on the Beacon Bisti N9 (aka BBN9 or Crownpoint) Lateral of the Navajo-Gallup Water Supply Project in New Mexico. This new pipeline being constructed by the Navajo Nation and their contractor, the Navajo Engineering Construction Authority, through a Financial Assistance Agreement with Reclamation and supplemental State Tribal Infrastructure funding, will deliver water from the San Juan Lateral to eight Navajo Chapters (Coyote Canyon, Tse'ii'ahi, Nahodishghish, Crownpoint, Little Water, Becenti, White Rock and Lake Valley) in the central portion of the project service area. After the blessing ceremony, representatives from the Navajo Nation, BBN9 Chapter officials, and Reclamation's Four Corners Construction Office broke ground on the future project in front of the nearby and recently built 1.5 million gallon water tank located at Reclamation's Bahastahl Pumping Plant #7 in the Coyote Canyon chapter area.

Representatives from the Navajo Nation and Reclamation kick-off construction on the Beacon Bisti N9 Lateral of the NGWSP during a blessing and groundbreaking ceremony held at Bahastahl Pumping Plant #7. Reclamation photo.

# The importance of quality assurance testing

**By Brad Gordanier**
**Supervisory Engineering Technician**
**FCCO Materials Group**

### What is quality assurance testing and why is it important for the Navajo-Gallup Water Supply Project?

Quality assurance testing is crucial for ensuring that the Navajo-Gallup Water Supply Project is built to the Bureau of Reclamation's stringent standards and will last for over a 100-years. While contractors are required to implement a system of procedures that verify the quality of materials and services to meet Reclamation standards, known as quality control, the government ensures quality control is followed and maintained by performing testing and inspection. This is known as quality assurance. On NGWSP, quality assurance testing involves the collection, testing, and analysis of materials such as soils and concrete to ensure the suitability of their use for construction. Reclamation's Four Corners Construction Office lab technicians

FCCO employees-Brad Gordanier, Kevin Drechsel and Isaiah Smith conducti a sand cone density test. Reclamation photo by Paul Bergstrom

conduct these tests to make sure that the construction materials used for installing the water transmission pipeline and building the water treatment and pumping plants meet or exceed the project requirements.

### How is quality assurance testing performed?

Quality Assurance Testing helps ensure that a project delivers high-quality products and services. On the NGWSP, our team performs various tests in several stages:

**Before construction:**
Reclamation drilling crews and technicians collect boring samples and dig test pits near a project area to collect materials for analysis to aid in engineering design. They then collaborate with geologists to analyze and classify these soil samples. Some important tests include measuring the water content, density, and particle size of the soil.

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# The importance of quality assurance testing cont.

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FCCO Lab Technician Isaiah Smith tests concrete for specification compliance. Reclamation photo by Brad Gordanier

**During construction:**
Once construction starts, our lab technicians are on-site on a daily basis. The types of quality assurance tests change depending on the specific project. One common test is the in-place density test, which measures how densely soil and gravel materials are compacted using a sand cone.

Additional tests include:

**Proctor test:**
Soil and gravel material is sent to one of our labs to check its density, while free-draining materials are tested using a vibratory hammer.

These tests are vital because they ensure stability, especially for the foundations where pumping plants and other structures will be built.

**Concrete testing**

We also test concrete at various stages to confirm it meets the required strength and quality. This includes checking:

**Compressive strength:**
How much weight the concrete can hold.

**Slump:**
Slump is a measure of the consistency of a concrete mix, or its ability to flow, and is often used to evaluate how much water has been used in the mix. Concrete with a slump that is low is very stiff, dry, and hard to work with. Concrete with a higher slump is more fluid and workable before it hardens.

**Air content, weight, and temperature:**
These are also monitored to ensure proper mixing and strength.

To avoid high daytime temperatures and to accommodate the concrete suppliers' schedules, concrete placement can happen at any time of the day or night. Our lab technicians are used to working long hours to ensure all the necessary testing is completed and that all of the concrete materials meet the requirements for the project.

**Controlled Low Strength Material (CLSM)**

Another material we test is Controlled Low Strength Material (CLSM), otherwise known as a cement slurry, which is used to support piping in the main water line and pumping plants. We check its flow and strength to ensure it properly supports the pipes.

In addition to these tests, we also analyze aggregates for concrete, road base materials, and free-draining materials, among others. While these tests are the most common, they represent just a part of our quality assurance process in constructing the NGWSP to get clean, reliable drinking water to your communities.

## Faces of NGWSP - Meet Deputy Construction Engineer Ryan Gladden

Ya'at'eeh, my name is Ryan Gladden. I am the Deputy Construction Engineer for Reclamation's Four Corners Construction Office where I have the privilege to help manage construction of the NGWSP with our Construction Engineer, Bart Deming. I was born and raised in Farmington, New Mexico before moving to Flagstaff to attend NAU and eventually transferring to Colorado State University where I completed my engineering degree. In 2008, I moved back to Farmington to be close to family where I learned of the NGWSP and joined Reclamation in 2014.

I have had the opportunity to serve in multiple roles during my time with Reclamation. Some of my most rewarding experiences came during my time as the Resident Engineer overseeing onsite construction on the Cutter Lateral, including the Cutter Lateral Water Treatment Plant. During that time, I was able to work closely with contractors, inspectors, and designers to overcome construction challenges, ensure correct installations, operate pumping plants, and see the vision of the NGWSP materialize. In 2020, I was able to witness the commissioning and completion of the Cutter Lateral and the Cutter Lateral Water Treatment Plant, the result of decades of hard work from many project contributors. I have been fortunate to work with a dedicated team of Reclamation staff and project partners to see the Cutter Lateral begin treated water deliveries to Navajo communities and aid in the ongoing completion of the San Juan Lateral that will bring water to many more Navajo communities as well as the City of Gallup.

Growing up in the Four Corners, it has been a special honor to work on the NGWSP in multiple roles with many amazing people. Water truly is life. To be part of ensuring clean water is made available to families and communities in need is a sacred responsibility and has taken a team of many dedicated partners to realize such a dream. The NGWSP is so much more than just a construction project. I am privileged to have a part in such a monumental task and to walk in the footsteps of those that have come before me to make such a dream a reality.

## That's a lot of bolts!

**By Jenny Erickson**
**Upper Colorado Basin Region**
**Regional Office**

Have you ever thought about how many bolts might go into building something like this 1.5-million-gallon water storage tank located at the Bahastahl Pumping Plant #7 in Coyote Canyon?

Well we have- so we counted! Take a guess of the approximate number of bolts that someone on ground level could see walking around this tank, and we will provide the answer in our next newsletter!

*Note: the first pic was manipulated to remove items in the foreground to give you a better idea of the full size and scale of the tank and may contain inaccuracies of the general shape of the structure.*

# Construction Update

**By Paul Bergstrom**
**FCCO Civil Engineer**

We had a productive summer with the overall Navajo-Gallup Water Supply Project now 70% complete and progress continues this autumn on the **San Juan Lateral** portion of the project. There are four pumping plants currently

HB- A 42-inch pipeline being installed at Reach 4B. Reclamation Photo by Hilda Castillo Smith

under construction. **Tooh Haltsooi** (Pumping Plant 4) and **Bahastl'ah** (Pumping Plant 7) are nearing completion, with all construction expected to be done by late winter. Together, these plants will pump water south through the transmission pipeline to the **Tohlakai Pumping Plant** located near Yatahey Junction. Final commissioning is currently taking place and the contractor is addressing remaining work. During this stage, pumps and equipment are operated to ensure that systems work as designed. Once these plants are completed, they will be maintained by the Bureau of Reclamation Four Corners Construction Office O&M Group until the remainder of the San Juan Lateral is complete and ready to begin producing and delivering water to Navajo communities and the City of Gallup in late 2028.

Construction at **Tse Da'azkani** (Pumping Plant 2) and To **Alts'iisi** (Pumping Plant 3) is approximately two-thirds complete with construction expected to be completed in the fall of 2025. These pumping plants will pump/ lift water from the future San Juan Lateral Water Treatment Plant through the transmission system south to **Pumping Plant 4** near Sheep Springs. Concrete for the floor of the main plant building has been placed and the exterior walls are being erected with masonry blocks. Crews have begun constructing the 1-million-gallon concrete tanks at both pumping plants 2 and 3. The tank floor slabs have been placed and the wall and dome panels have been fabricated onsite and lifted by crane onto a frame to create the outside walls and dome of the structure.

**Navajo Code Talkers Lateral**, between **Yah-Ta-Hey** and **Window Rock**, is nearing completion with construction expected to be complete by spring 2025. The first 3 sections of the pipeline have been tested. The 1.5-million-gallon water tank at **Black Hat** has been erected and is nearing completion. Fiber optic cable is currently being installed to allow the tanks to "talk" (i.e. sharing of data) to the pumping plants and the San Juan Lateral Water Treatment Plant. Crews have started reseeding on the east end of the reach and are moving west to help restore the pipeline corridor to native vegetation. Green grass has started to show in these areas with the recent rains.

HB- Four Corners Construction Office employee Bradley inspects inside of pipe on Reach 4B. Reclamation Photo by Hilda Castillo Smith

Concrete blocks being installed to form exterior walls at Pumping Plant 3. Reclamation Photo by Hilda Castillo Smith

**Reach 4A/B** consists of 42" mortar -lined steel pipe and runs along Hwy 491 beginning at Pumping Plant 3 and running north to Pumping Plant 2 and then continuing onto the south end of the San Juan Lateral Water Treatment Plant. Two pipe crews have been working hard installing the Reach 4A/B pipeline. Near the end of Reach 4B, a tunnel boring machine was used to cut a tunnel underground for pipe installation to avoid impacts to a nearby cultural site. The tunnel is now complete and pipe has been installed through this area. To date, approximately 11 of 19 miles of pipe have been installed with construction completion expected around the end of 2025.

Curious about construction progress? Please reach out to us with your questions!