Ensuring that Navajo-Gallup Water Supply Project’s water is safe to drink

By Dex Lewis
Civil Engineer
Bureau of Reclamation

The Navajo-Gallup Water Supply Project’s San Juan Lateral will use the newly acquired Frank Chee Willetto Reservoir for water storage, located at the northern end of the Project. Water will be pumped from the San Juan River near Waterflow, New Mexico, to fill the reservoir, which will be treated to federal, Navajo Nation, and state Safe Drinking Water Act standards, then pumped to feed the NGWSP waterline running south to Navajo Nation and City of Gallup communities.

The Frank Chee Willetto Reservoir affords the San Juan Lateral with several key benefits, one of which is to provide close to one month of storage at full demand. This will allow system operators to shut down pumping from the river to protect drinking water in the event of river contamination, such as an incident like the Gold King Mine spill of 2015, or high levels of river sediment, also known as turbidity.

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In preparation for acquiring the San Juan Generating Station reservoir, the Bureau of Reclamation worked with the United States Geological Survey (USGS) to perform surface water quality analysis and groundwater coring operations at the reservoir and nearby arroyos for over four years to ensure that the water within the reservoir would be safe for consumption. The USGS also cored and sampled the sediment in the reservoir bottom. Previously, the primary purpose for the reservoir was for cooling water and mine reclamation of the former San Juan Generating Station operated by PNM, which is currently undergoing decommissioning. Unlike nearby Morgan Lake at the Four Corners Power Plant owned by Arizona Public Service, water that was used for cooling the SJGS power plant when it operated was not recycled back into the reservoir. The results of routine water quality sampling PNM conducted of the reservoir as part of regulatory obligations were also reviewed by Reclamation, who found no concerns.

The water quality efforts focused on analysis of possible heavy metal contamination from the nearby power plant and the river which were determined to be within naturally occurring levels. Other potential contamination threats to the reservoir, such as active and abandoned oil and gas wells, were also researched by Reclamation to provide awareness to the public but were deemed as very low potential threats to Willetto Reservoir and its water quality.

All results confirmed that the reservoir, now named the Frank Chee Willetto Reservoir, is a clean source of drinking water and was not contaminated by the 50-plus years of nearby power plant operations. The water quality in the reservoir is the same as the water from which it is sourced in the San Juan River, and Reclamation will continue to perform quarterly water quality sampling of the reservoir in support of the design and future operations of the San Juan Lateral Water Treatment Plant.

"Reclamation has identified Frank Chee Willetto Reservoir as not only in good structural condition, but also of better water quality than the river with low levels of heavy metals easily treated by the water treatment plant. It will be an excellent source of drinking water for the Navajo and City of Gallup communities to be served," said Reclamation Four Corners Construction Office, Construction Engineer & Manager Bart Deming.
Construction update

By Ryan Royer
Design and Commissioning
Group Chief, Bureau of Reclamation

The Navajo-Gallup Water Supply Project continues marching on! The Cutter Lateral Water Treatment plant has been providing a clean, reliable source of water to the eastern checkerboard portions of the Navajo and Jicarilla Apache Nations for almost three years. The construction on the San Juan Lateral portion of the project is in full swing, and to date, approximately 285 miles of pipeline has been installed or is under contract. Currently, four pumping plants are under construction with Tooh Haltsooi

The structures of Tooh Haltsooi Pumping Plant (#4) from the viewpoint atop the newly constructed 1 million gallon water storage tank. Note highway 491 in the background.

(Pumping Plant 4) and Bahastł’ah (Pumping Plant 7) nearing completion by next spring. Tsé Da’ažkání (Pumping Plant 2) and Tó Alts’íísí (Pumping Plant 3) are under contract, and the contractor has broken ground with massive rock crushing and earth moving efforts easily visible from Highway 491.

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Furthermore, miles upon miles of pipeline are being trenched, laid and/or pulled into its final resting place. Navajo Code Talkers Sublateral, traversing from Yah-Tah-Hey Junction west on the north side of Highway 264, has installed over 7 miles of 30” and 24” diameter pipe and multiple Horizontal Directional Drills (HDDs) under washes and through difficult terrain. One large structure under construction on Navajo Code Talkers is the Black Hat Storage Tank, which will hold 1.5 million gallons of water when completed.

Reach 4A and 4B, which start just north of Tó Alts’íísí in Sanostee Chapter, are under contract and clearing and grubbing activities are commencing. Expect to see large stockpiles of 42” diameter pipe being stored or strung out in the coming months as the contractor progresses!

Reclamation’s partners are continuing to make progress on their reaches. The Gallup Regional System is more than 75% complete and work is beginning on the latest phase on the east side of Gallup with Reach 27.7B. Indian Health Service is set to begin construction on Reaches 14.1 and 14.2 in the Churchrock and Iyanbito Chapters this fall. The Navajo Nation is nearing final design completion on the Beacon Bisti N9 Sublateral and construction is set to begin on Reach 10.1.1, the Coyote Canyon community connection, this winter. Overall, the San Juan Lateral is more than 50% complete.

An aerial look of the near finished Bahastł’ah Pumping Plant (#7).

The near completed pipe discharge manifold on the interior of Bahastł’ah Pumping Plant.
My name is Becky Begay. I am born to the Salt People and born for the Bitter Water People. My maternal grandfathers are the Many Hogan People, and my paternal grandfathers are the Folded Arms People. I am from Fruitland, New Mexico and I am the Navajo Outreach Coordinator for Reclamation’s Four Corners Construction Office in Farmington, New Mexico where I have worked for about eight years.

I grew up in the traditional way of life in Fruitland and Mexican Hat, Utah, raised by my maternal and paternal grandparents. I understand how important it is to protect and care for our environment and help our People. One of my primary duties is conducting public outreach for the NGWSP which has been under construction since 2012 to bring drinking water to the Navajo Nation in the state of New Mexico.

My job consists of attending chapter meetings and giving construction updates, answering questions about the project, and setting-up meetings with community members to discuss their concerns. I organize and manage the NGWSP booth at the Window Rock Fair each year, along with office employee volunteers. I also help educate high school and college students about the project during the Chapters summer programs. The students begin to understand the importance of the water project to their community, the amount of work and challenges associated with constructing the project, the number of years it takes, and the amount of time it took the Navajo Nation to get their water right settlement within the state of New Mexico (55 years!).

I enjoy my job in helping my people, getting to know new clan relatives, and visiting places I have never been. I understand how important it is to acknowledge the difficult and horrible history between our tribe and the federal government and work towards rebuilding trust and creating a positive relationship between Reclamation and our community members. My goal is to make a difference and help in completing the drinking water project for my people.
San Juan Lateral Water Treatment Plant design-build project

By Moncef Tihami
Office of Engineering Division Manager
Bureau of Reclamation

As the means of treating and supplying safe drinking water to Navajo Nation communities and the City of Gallup, the San Juan Lateral Water Treatment Plant will be the keystone project, the crowning achievement, and the largest contract issued on the Navajo-Gallup Water Supply Project. Comparing it to a vehicle, the SJLWTP is the engine that drives San Juan Lateral. Water will be pumped from the river near Waterflow, New Mexico to the Frank Chee Willetto Reservoir where it will then feed the SJLWTP for treatment to provide clean and reliable drinking water to Navajo Nation communities and the city of Gallup. The principal components of work for the SJLWTP include the design, construction, startup, commissioning, and operations and maintenance of a new fully functional 18.8 million gallons per day (mgd) water treatment plant with the capability to expand to 37.6 mgd in the future as demands increase above this initial phase capacity. The water treatment plant is being designed similar to the Cutter Lateral SJLWTP with similar treatment systems that will allow the Navajo Tribal Utility Authority the flexibility to use an operations team that can operate either plant as needed. The SJLWTP will also include a treated water pumping plant that will send treated drinking water south to Pumping Plant 2 and downstream to Navajo and Gallup communities.

On March 10, Reclamation issued a Request for Proposal (RFP) requesting offerors to submit their proposals for the design and construction of the SJLWTP. Through this contract, Reclamation will select and oversee the most qualified design and construction team for completion of the SJLWTP. The design teams have already begun preliminary designs for the SJLWTP as they work to provide design proposals for selection by Reclamation. These proposals will be reviewed in early 2024 with Reclamation’s stakeholders, at which time the winning team will be selected to begin final design and move towards construction, anticipated to begin by mid-year 2025. Construction is expected to be completed in the summer of 2028 when the first water deliveries to Navajo Nation communities and the City of Gallup can begin.

Community Meetings

- **Project Construction Committee (PCC)**
  Location: El Moro Hotel-Gallup, NM
  Oct. 26, 2023
  9 a.m. - 12 p.m.

- **Sanostee Chapter Meeting**
  Location: Sanostee Chapter House
  Nov. 19, 2023
  1p.m. - 4 p.m.

- **Beacon Bisti/N9-BBN9 Meeting**
  Location: Iyanbito Chapter House
  Dec. 20, 2023
  10 a.m. - 12 p.m.