

2020 FIELD WORK WRAP-UP

The Water Commission oversees numerous field work operations throughout the summer including, design and construction work for multiple projects, collecting survey data, conducting dam inspections, installing and monitoring lake gages, siting and placement of remote sensing devices, and various water appropriation efforts. Below are a handful of projects from the 2020 field season. For more information about the agency and projects, please go to www.swc.nd.gov.

SOUTHWEST PIPELINE PROJECT



A rebar ringwall being constructed at Davis Buttes reservoir near Dickinson, ND.

Contracts to increase treated water capacity, included construction of additional reservoirs in Belfield and Davis Buttes located in Stark County. The second Belfield reservoir, adjacent to the existing reservoir east of the City of Belfield, is a 750,000-gallon factory coated glass-lined, bolted, steel reservoir. The Davis Buttes reservoir is slightly larger, with a 1,000,000 gallon tank and is located approximately 1.5 miles northeast of the City of Dickinson. Both projects are expected to become operational by the end of October.

Additional work also occurred at the Dodge and Richardton pump stations to increase raw water transmission capacity for the SWPP. This included installation of higher powered, 1,000 and 1,250 HP pumps at the pump stations to replace the smaller existing pumps.

The SWPP serves a population of more than 58,000 people in southwest North Dakota in 33 communities. North Dakota century code authorizes the State Water Commission (SWC) and Southwest Water Authority (SWA) to construct, operate, and maintain the project.

DRILL CREW OPERATIONS



Dan Bahm, SWC staff member, grouts an old observation well.

The drilling season for the Water Appropriations staff, typically operates mid-May through October and generally consists of installing observation wells throughout the state. This year, the season was altered due to COVID-19, but staff quickly adapted to the new normal by sealing and abandoning old wells that are no longer needed. These old observation wells have provided important water-level and water-quality data for over several decades with some dating back to the 1960s. The wells are sealed because they are no longer functioning properly, or the data provided by the well is no longer needed.

NORTHWEST AREA WATER SUPPLY PROJECT



New pipeline connections will increase supply to existing users and additional communities.

The Northwest Area Water Supply (NAWS) Project had a busy construction season. Three pipeline construction contracts were completed with approximately 50.75 miles of PVC pipeline put into place in the northern part of the state. Improvements to the Minot Water Treatment Facility were also implemented. Two new 9 million gallon per day softening basins, chemical storage and delivery systems, a laboratory, a breakroom, Information Technology space, and mechanical and electrical facilities were built.

The new construction at the water treatment plant will increase capacity from 13-million gallons per day (MGD) to 18 MGD. Additionally, the plant will now be able to run on the new basins while the older part of the plant is retrofitted and rehabilitated to bring the treatment capacity to the full design flow of 27 MGD. In addition to the numerous public water systems currently being served by NAWS, the construction upgrades will provide service to the communities of Bottineau, Lansford, Souris, and Westhope.

PRESENS

SWC staff, Jen Martin, Sam Swanberg, and Michaela Halvorson siting a location for installation of a PRESENS unit.



The Survey Crew, in collaboration with the Water Appropriations and Regulatory Divisions at the Water Commission, installed PRESENS units at several locations. Pushing Remote SENSors (PRESENS) delivers real-time environmental data from sensors located in remote locations to publicly accessible databases at the Water Commission.

PRESENS - CONTINUED

These units were installed in order to monitor real-time at Twin Lakes, Boom Lake, Spiritwood Lake, Alkali Lake, Ten Mile Lake Sanborn, and Hobart Lake. This data will be utilized for ongoing studies and will also assist the Regulatory Division in monitoring drain operations.

SURVEY AND SPECIAL INVESTIGATIONS



Alexis Faber, Investigations Section, installs a lake gage at Rice Lake in Emmons County.

The Survey Crew and Investigations Section were highly involved in this summer's field season. The team conducted special investigations, collected survey data, installed lake gages, and compiled drone footage at various locations.

In April, the LaMoure County Water Resource Board requested the Water Commission analyze impacts of modification that were made at the natural outlet at Twin Lakes. This investigation consisted of capturing drone footage, a survey at the outlet, a survey of the downstream culverts, documentation via photographs, and a memo.

In June, a survey was conducted at Rice Lake in Emmons County. This survey was a crucial part of a study that will be completed in two phases. Phase 1 focused on collection of field data, analyzing existing conditions at the lake, and determining what the control points of the lake are, and evaluating the topography of the downstream flow path. Phase 1 was completed in early August. The next step will be meeting with the water board to discuss the findings and confirm the goals for Phase 2.

A survey was also conducted at Spiritwood and Alkali Lakes in Stutsman County for an investigation of flood risk reduction alternatives. The final report for this investigation is anticipated to be completed near the end of this year.

The lake gages that were installed this summer allow the agency to monitor water levels at various closed basin lakes to gain a better understanding of how water levels fluctuate within the Prairie Pothole Region of North Dakota.