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As we near the date of commissioning the Northwest Water Facility, I am grateful for all the hard work and planning from the many individuals who have contributed to this project. I want to thank everyone who has given their time, talent and expertise to get us to where we are today.

> **Gary Janzen** City of Wichita Director of Public Works & Utilities



Wichita Water Partners is a joint venture built around the design capabilities and construction leadership of Alberici and Burns & McDonnell.

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WICHITA WATER WORKS



This project is critical to Wichita's future growth and a game changer for our region. The availability of clean, safe water will continue to make a positive impact on our economic development by safeguarding our water supply and creating jobs today and into the future.

> **Iohn Rolfe** President and CEO, Wichita Regional Chamber of Commerce



A Legacy Project Serving Future Generations

The City of Wichita provides access to clean, safe drinking water for 500,000 Kansans, approximately 17% of the state's population. As the region faces unprecedented drought and a growing population, it's imperative the City invest in its critical water infrastructure to secure its future for generations to come. The \$500 million Northwest Water Facility (NWWF) is designed to treat 120 million gallons of drinking water each day. The plant is fully redundant, allowing the city to blend and treat surface water from Cheney Reservoir, groundwater from the Equus Beds Aquifer and well water from the City's reserves. As the project reaches two years of construction in early 2023, the treatment facility is ahead of schedule and under budget.

100% Design Completed!

The design team for the NWWF comprises both local talent and national expertise. With five primary design subconsultants, each having two to three subconsultants of their own, nearly 150 engineers and designers worked on the design at any given time. The collaboration between the various firms and subconsultants was critical to the success of the design. Firms that would typically be competitors worked together in support of one common goal. This "teaming" approach allowed everyone to participate in the design and have a hand in this legacy project. There were six design packages for the project:

Package 1	Filter Building Foundation
Package 2	Remaining Filter Building
Package 3	Solids Contact Clarifiers, Chlorine Contact Basin and Finished Water Pump Stations
Package 4	Balance of Plant and Offsite Assets
Package 5	Chemical Feed Systems and BWW & FTW EQ Basins and Pump Station
Package 6	SCADA and Security

Every package went through internal quality reviews, reviews by the City and the City's adviser, and reviews by both the Kansas Department of Health and Environment (KDHE) and the Metropolitan Area Building and Construction Department. Full design acceptance was received in September 2022, nearly 20 months after construction began.

In addition to the approval of the overall plant design, the project also received approval for its Plan of Operation (the plan). The plan is a requirement, prior to 50% of construction completion, for all projects in Kansas funded by State Revolving Funds. The plan is intended to be an overview of the project's progression, its intended completion and how the project affects the entire public drinking water system. Details include technical, managerial and financial items, ensuring adequate resources are allocated for the project and the water utility.



Charyl McAfee-Duncan and Charles McAfee of McAfee3 Architects and Ty McGown, design manager with Wichita Water Partners.

100% Design Acceptance and Celebration

Members of the design team, project leaders and city leaders came together to celebrate 100% design completion and approval by KDHE. The event served as a reminder of the benefits of the design-build delivery method by highlighting millions of dollars in project savings.

\$100+ MILLION IN PROJECTED COST SAVINGS Early cost certainty provided by design-

build delivery allowed the City to lock in low interest rates and avoid the high cost associated with record inflation.

Building the Local Economy

MARKANICAN LABOR HOURS WORKED





Meet John Smith, **Construction Manager**

A native of the Midwest, John Smith has been in the construction and engineering industries for more than 25 years. On site at Wichita's Northwest Water Facility, Smith provides leadership and strategic direction as the project's construction manager. Overseeing as many as 350 site personnel at peak construction, Smith's primary role at the NWWF is to ensure construction is performed safely, meets quality requirements and is completed on time.

Smith joined the site in March 2021 and will see the project through mechanical completion which is anticipated to take place in early 2024. As the project nears the end of construction over the next year, Smith looks forward "to seeing the fruits of four years of design and construction efforts come together as the project starts up. I am very proud to work side by side with the entire team on this project and to know our work will have long-lasting impacts on the Wichita community for generations to come."

Smith has been with Alberici Constructors for more than 16 years. He currently serves as Vice President and Market Leader and has worked on a number of water treatment projects in the U.S. and Canada. A graduate of Missouri University of Science and Technology, Smith is a Professional Engineer with both a bachelor's and master's degree in civil engineering.





Alex Wampler and Filter Pilot

Alex Wampler is a staff chemical engineer in Wichita and has been with Burns & McDonnell for 3.5 years. She obtained her B.S. in chemical engineering from Missouri University of Science and Technology. Alex has been named the 2023 Intern Engineer of the Year by the Wichita Society of Professional Engineers for her dedication and commitment to the field of engineering. In her role at Burns & McDonnell, she has worked on the design and construction of municipal water and wastewater treatment projects throughout the Midwest. Wampler oversaw and managed the filter pilot study, a critical component of the NWWF.

The filter pilot study was performed in conjunction with the design of Wichita's Northwest Water Facility. The purpose of piloting was to prove, at a small scale, the functionality of the project's dual-media filter design. The pilot successfully gained state approval, allowing designers to reduce the required number of full-scale filters at the NWWF and subsequently reduce the project cost to the City by several million dollars.

"My time on this pilot project emphasized the importance of partnership. The immense amount of collaboration between the design team, construction team, subcontractors, state regulating agency and the client was indispensable to the success of this project. The completion of a study like this, occurring while construction was underway, was a testament to the power of teamwork," shared Wampler. The pilot study was designed to run for 30 days under "worst-case scenario" conditions featuring continuously high influent turbidity and low influent temperature.

Local Construction Firms





Specializing in heavy civil work and roller-compacted concrete, Andale Construction has been in Wichita for 12 years. On the NWWF, Andale is subcontracting for four general contractors and working on numerous structures. Their work includes earthwork and soil stabilization.





Decker Electric

Recently recognized as the largest electrical contractor in Wichita, Decker Electric has been serving the region for well over 40 years. They specialize in heavy industrial construction and have a presence across the U.S. At the NWWF, the team has installed temporary power for the site and is working on numerous structures including the high service pump station and operations and generator buildings.

Dondlinger

Dondlinger has been constructing infrastructure in Kansas for 125 years and is 100% employee-owned. They have constructed many important structures in Wichita, including the main water plant, wastewater treatment plant expansion, Epic Center, Keeper of the Plains, Intrust Bank Arena and Exploration Place. On the NWWF, Dondlinger is constructing both the maintenance building and the administration building, which will house a laboratory, conference rooms and NWWF staff.

Carl Harris Company

Family-owned, the team at Carl Harris has specialized in precast concrete erection and structural steel erection in Wichita for nearly 40 years. At the NWWF, Carl Harris has erected precast concrete on several key structures including filter, chemical, disinfection, operations and generator buildings. They've also set the lime silos and erected the structural steel at the chemical building.









Seaton Construction

Recently recognized as an emerging business by the City of Wichita, Seaton Construction has been in business for five years. Specializing in design-build projects in the industrial and manufacturing sectors, the team at Seaton has done significant concrete placement on site at the NWWF on both the generator and operations buildings along with other structures. With a strong culture of safety, Seaton is proud to have zero injuries since their inception.

Shelley Electric

Specializing in water and wastewater, Shelley Electric has been an electrical contractor for 105 years in Wichita. At the NWWF, Shelley is working on numerous structures and installing the medium voltage power for the entire site. In Wichita, Shelley has worked on electrical projects at Cessna, the VA Medical Center, the National Guard and Wichita State University.

UCI

Serving the Wichita community for almost 73 years, UCI is proud to be working on such a monumental project to ensure access to clean drinking water for many decades to come. UCI is responsible for the construction of several key structures on site, the most notable of which is the six solids contact clarifiers (SCCs). Their work on the SCCs includes earthwork, concrete work, clarifier equipment installation and start up, metals, painting, process piping and insulation.

Wildcat Construction

Wildcat Construction has called Wichita home for over 40 years and has been named by the Wichita Business Journal as a best place to work. On the NWWF, Wildcat is working on numerous structures, including the headworks, the chlorine contact basin and water distribution side of the plant. They are also leading all construction related to offsite piping and connections between the City's existing water infrastructure and the NWWF.

Making Connections Offsite

A project of this magnitude requires significant coordination between the project team, subcontractors, the City and stakeholders. All offsite piping and connections between existing infrastructure and the new plant are being led by Wildcat Construction.

To support offsite work connecting Wichita's existing system to the NWWF, Wichita Water Partners (WWP) began identifying and notifying affected businesses, property owners and neighborhoods of the impending work in summer 2022. The team made personal phone calls, followed up with detailed emails, met with stakeholders in person, shared information on the project's website and social media, and created various project awareness signs and graphics.

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The offsite work has been completed with no service interruptions and will allow the new plant to begin commissioning once construction is completed.

> Taylor Robillard Wildcat Construction

Offsite construction began in August of 2022 and is comprised of multiple work sites:

Bike Trail Detour

Crews temporarily relocated a portion of the bike trail adjacent to the Sedgwick County Zoo to make way for a tie-in to an existing 66" raw water line.



21st Street and Hoover Road

Offsite work picked up with the closure of a section of 21st Street west of Hoover Road, which required coordination with more than 50 stakeholders. Digital graphics were created to convey the anticipated impacts to traffic. Work included completing underground tunneling and microtunneling to cross under existing gas lines and the K&O Railroad. Crews also began installing 1,400 feet of new 66" raw water lines that will feed the new plant from the existing Cheney supply line.

Botanica

At the end of 2022, the project team expanded the offsite work into the Riverside neighborhood and Botanica's parking lot. This work is anticipated to continue into spring 2023 and entails installing 600 feet of 42" slip-lining and multiple tie-ins to existing water lines. Upon completion of this work, Botanica's parking lot will be restored and repaved.

Cheney Reservoir Tie-In

A new 66" tee and valve were installed on the existing Cheney Reservoir raw water pipeline. This critical work was completed in under 16 hours with coordination by the City, WWP and Wildcat Construction. This work will supply Cheney water to the new water treatment facility.



Tie-In #2

A new 66" pipe was connected to an existing 64" pipe, which will allow water to flow into the new plant from two sources – Cheney Reservoir and the Equus Beds Aquifer.





Grant Malone Project Manager

Grant Malone started his construction career in high school working as a carpenter and laborer in residential construction during the summer. Since starting with Alberici as a project manager, Malone has helped deliver a variety of projects across several different market sectors. His knowledge and experience in design-build project delivery has been an asset to the NWWF project.

At the NWWF, Malone is a project manager and oversees several structures, scopes, subcontractors, and equipment and material vendors. One of Malone's key roles is overseeing construction of the underground piping and utilities, all offsite piping and the tie-ins to the City's existing water infrastructure. Malone also manages all of Wildcat Construction's activities, which constitute many of the work areas previously described. Malone enjoys the everyday challenges the construction industry offers.

Third Year Construction Timeline 2022

the water system



water supply line

September



• Received 100% design approval from KDHE

Aquifer raw water supply line

March



• At the end of March, the project exceeded 1 Million labor hours!



EACH CLARIFIER CUBIC YARDS OF CONCRETE



3,065 LINEAR FEET OF WALLS

286 SEPARATE PARTS

2,100 BOLTS



Construction Updates





Influent Flow Meter Vault







High Service Pump Station





Administration Building











Clarifier Influent Meter Valve



Lime Residual Mix Tank

Chemical Feed Building





Stormwater Pump Station



Underground Utilities, Ductbanks and **Process Pipe**



Safety is Essential

A project of this magnitude and duration requires an intentional focus on safety. Over the last year, project leadership turned to the expertise of JMJ to strengthen the safety culture on site at the NWWF and to create a culture of safety that extends beyond this project. JMJ is a team of safety consultants specializing in safety performance globally across the construction industry.

A series of workshops and trainings were conducted both on site and offsite to ensure a high level of participation and engagement from everyone involved. These workshops were centered on creating an incident and injury free job site built on trusting relationships. Nearly 200 site employees went through the program including 133 craft workers, 60 supervisors and more than 80 members of project leadership. These sessions were offered in both Spanish and English and were supplemented by anonymous surveys and feedback to breakdown cultural and hierarchal barriers present across the construction industry.

The output of the JMJ program has resulted in more open and honest dialogue across the job site that has empowered everyone on site to take control of their personal safety and recognize the critical role they each play in maintaining site safety.

Our Vision

Somos un proyecto comunitarior dedicado a proporcionar agua potable confiable a la gente de Wichita para las generaciones venideras cuidando activamente a nuestra gente, aprendiendo juntos y construyendo la planta de una manera que refleje el compromiso con la sequridad de todos.



As a project community dedicated to prividing safe reliable drinking water to the people of Wichita for generations to come, we commit to actively taking care of our people, collaboratively learning together, and building the plant in a way that reflects the hard work and safety leadership across the project.

Safety Team

Wichita Water Partners has a team of dedicated safety professionals working on site each day to make certain the proper communication and tools are in place to execute work safely. Each day, this team supports the project's safety vision by coaching and training employees on how to work safely. The team collaborates with all trade partners to minimize risk on the project and to ensure each and every person goes home free of injury.



Wendy Reyes

Project Safety Coordinator, Dondlinger Construction Wendy Reyes works on site at the NWWF as a project safety coordinator for Dondlinger Construction. Reves started her construction career as an apprentice for Dondlinger while studying construction science at WSU Tech. After graduating from the apprenticeship program, Reyes was hired full time and stepped into her new safety coordinator role in January 2022. She manages the safety of all Dondlinger employees and their subcontractors on site, which includes monitoring and coordinating their overall health and safety. "I have received immense support not only from my leaders in safety, but also from other peers in safety on site. I have enjoyed making connections with craft employees and being able to speak with them about how to prioritize safety before any work begins. Being bilingual has helped me connect with those in the field," shared Reyes. "As we near the end of construction at the water treatment plant and we move on, I hope to expand my knowledge and training in OSHA construction law and safety to continue providing craft with the safety training they need."

I have enjoyed helping those whose primary language is Spanish understand the importance of safety and the role they play in helping keep everyone on site safe.

Wendy Reyes Project Safety Coordinator, Dondlinger Construction



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Apprenticeship



WSU Tech Partnership Enters Year Two

For the second year in a row, Wichita Water Partners is funding the education of construction science apprentices in partnership with WSU Tech. The team vetted more than 35 applications and selected four applicants to participate in the program. Students and their construction mentors attended orientation prior to classes to acclimate themselves to the requirements of the program. Apprentices are employed by Dondlinger and Wildcat Construction and are getting hands-on experience at the NWWF.

Students attend classes one week a month at WSU Tech and work on the job the balance of their time. Once they complete the two-year program, they'll earn a certificate in carpentry and an associate's degree in construction science. Many thanks to our partners that have made this workforce development opportunity possible. The team anticipates funding more than \$100,000 in tuition, books and fees for construction science apprentices employed by the joint venture and subcontractors.

USD 259 Career Day, April 27, 2022

In partnership with WSU Tech, Wichita Water Partners kicked off recruitment for the second round of construction apprentices at the USD 259 Senior Career Fair. To support recruiting efforts, the team produced and launched a video highlighting former and current students in the program. Students from all nine high schools participated in the fair and several submitted applications for the project-sponsored apprenticeship program.

> The mentors students work with on job sites like Wichita's NWWF provide industry guidance the students wouldn't receive if they were only learning in the classroom. We are very appreciative of our partnership with Wichita Water Partners!

> > Jennifer Seymour Vice President of General Education & Applied Technologies WSU Tech

Key Meetings



Annual Project Update, April 19, 2022

Project leadership hosted a tour of Wichita's Northwest Water Facility on April 19. Attendees included members of City leadership and Public Works, Sedgwick County 5th District Commissioner Jim Howell, members of the South-Central Delegation of the Kansas House of Representatives and USD 259 leaders. Representatives from participating design firms and construction contractors were also present. Attendees toured the site and learned about the status of the project and the work anticipated over the next 12 months.



National Construction Safety Week, May 2-6, 2022

In recognition of National Construction Safety Week, project leadership hosted a series of events for craft workers including a fire extinguisher demonstration, a dropped object demonstration and a safety luncheon with safety gear raffle prizes.

New City Council Tour, April 6, 2022

Newly elected members of the Wichita City Council, Maggie Ballard and Mike Hoheisel, visited the site and were given an overview of the project by site leadership. Their visit also included a tour and time to ask questions.

The Association of State Governments Site Tour, July 9, 2022

In partnership with Kansas State Senator Carolyn McGinn, Wichita Water Partners hosted a bus tour for members of the Agricultural Committee of the Association of State Governments. Attendees hailed from upper midwestern states and were interested in learning more about how the City of Wichita is planning for the future with the NWWF set to be operational in 2025.

About the Team

Wichita's Northwest Water Facility is a legacy project for the City of Wichita and the joint venture of Alberici and Burns & McDonnell. Over the last 25 years Alberici and Burns & McDonnell have partnered on more than 35 design-build projects in the U.S. water sector, totaling \$1.43 billion in delivered work. Both firms are ranked in Engineering News-Record's (ENR) 2022 Top 10 for water treatment, Alberici is ranked #35 for largest contractors in the U.S. and #10 for water treatment, and Burns & McDonnell is #8 on ENR's list of Top 500 design firms and #6 for top design-build firms.

