

THE ROADRUNNER

Nebraska Department of Transportation

Spring/Summer 2020



Photo by Jake Daniels

Working Together, Engaging our Partners



Kyle Schneweis

A year ago, no one would have predicted a global pandemic. Even in this strange time, we have all adapted and persevered. This is true of not only our NDOT teammates, but our transportation partners as well.

Over the course of a year, NDOT and our consulting and contracting partners transitioned from Herculean efforts completing projects resulting from last year’s record-breaking floods to new, unprecedented challenges. As the focus shifted to ensuring the health and safety of

our teams, we have continued to collaborate, engaging our partners in meeting Nebraska’s transportation needs.

While navigating changes and adjusting to our “new normal” of social distancing and wearing masks, I am proud to say that, once again, we have met these challenges head-on with creative solutions that allow us to conduct business without skipping a beat. Leveraging technology, including online meetings and innovations in project delivery, has facilitated our ability to work in tandem with our partners to keep our commitment to deliver highway improvement projects on time and on budget.

Due to these efforts, several major projects are well underway, including the Lincoln South Beltway, with prime contractor Hawkins Construction Company leading the efforts on one of the largest projects NDOT has undertaken. Another project, the Fremont Southeast Beltway, with prime contractor Graham Construction, Inc., is moving forward to improve traffic flow and safety on U.S. Highway 77 (US-77) via a high-speed beltway around the southeast side of Fremont. These are just two examples of long-awaited projects that are moving along steadily due to our NDOT teammates and partners working together seamlessly when obstacles are thrown their way.

As always, safety continues to be a major focus for NDOT and our transportation partners. In April, we teamed up once again with the Associated General Contractors Nebraska Chapter to launch billboards across the state during National Work Zone Awareness Week with the message “Be Alert. We’re at Work.” Our goal is to create awareness and a safer working environment for our crews and contractor partners on the front lines in construction zones.

As we continue to work together, regardless of the challenges, the strength and endurance of our partnerships propel us to success. They frame the foundation for our future and will continue to reap immeasurable rewards, not only for the teams involved, but for all Nebraskans. Thank you for all that you do to support our mission of providing the best possible transportation system for the movement of people and goods! ■

the Roadrunner

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Good Life. Great Journey.

DEPARTMENT OF TRANSPORTATION

BE ALERT WE'RE AT WORK

YOUR SAFE TRAVEL IS OUR BUSINESS.



One of five billboards on display throughout the state, reminding motorists to “Be Alert. We’re at Work.”

Photos by Jake Daniels

NDOT Kicks Off Safety Initiatives, Collaborates with Transportation Partners

NDOT kicked off several safety initiatives this spring, including Work Zone Awareness Week, April 20-24. In conjunction with the week, NDOT employees recognized “Go Orange Day” on April 22 by wearing orange t-shirts emblazoned with the message “Be Alert We’re At Work...Go Orange Day.”

The week marked the kick-off of reminders that will continue throughout the year urging drivers to slow down, put their phones down and pay attention when they see the orange signs. While not as visible during the COVID-19 pandemic with fewer drivers out on the roads, traffic fatalities are not down as far as they should be and some drivers are involved in risky behaviors. According to the Nebraska State Patrol, the number of incidents of motorists arrested for driving over 100 mph increased drastically in the months of March and April.

In April, NDOT teamed up once again with their transportation partners, the Associated General Contractors Nebraska Chapter, to launch billboards across the state. Billboards are located in Lincoln, Fremont, McCook, Norfolk and Plattsmouth.

The billboards reflect NDOT employees out on the road, working to improve our roadways for motorists. The message on the billboards, “Be Alert. We’re at Work.” helps to create awareness for our crews and our contractor partners on the front lines in construction zones.

NDOT also joined the AGC and other construction industry partners in observing April 9 as National Safety Stand Down Day, dedicated to educating

employees on preventing the spread of COVID-19. Katie Wilson, Executive Director of the Associated General Contractors (AGC) noted, “We need to ensure our employees and everyone on our job sites are safe when coming to work. It starts at the top down to our job supervisors... By communicating safe distancing protocols to everyone on the job site we hope to reduce the spread of COVID-19.”

Another initiative, Buckle Up Phone Down, encourages drivers to take the pledge to keep their eyes on road and to wear their seatbelts. Too often, many of our employees have encountered close calls by distracted or inattentive drivers. NDOT remains committed to educating the public about safe driving throughout the construction season. *Your safe travel is our business.*



NDOT crews wear “Go Orange” t-shirts to create awareness for workers on the front lines in construction zones.

NDOT Winner of 2019 Perpetual Pavement Award

NDOT was recently named a winner of the 2019 Perpetual Pavement Award (PPA) by the Asphalt Pavement Alliance (APA) for a 5.7-mile section of two-lane U.S. Highway 6 in Hitchcock County. This prestigious award celebrates long-life asphalt pavements that reflect the characteristics of a perpetual pavement design.

The award-winning section is a two-lane highway running between mile marker 57.88 to mile marker 63.56. The original construction in 1938 consisted of an armor coat (sand and gravel chip seal) over 2 inches of stabilized soil base course.

NDOT resurfaced the road in 1945, when a 2-inch lift of bituminous material surface course was placed on 3 inches of bituminous stabilized base course. In 1973, as the last part of the staged construction, the project was overlaid with 3.5 inches of asphaltic concrete surface course. In 1991, the project was milled to a depth of 1.25 inches, followed by the placement of 4 inches of Type A asphaltic concrete. In 2003, the project was milled 1.5 inches and overlaid with 2 inches of Type SP4 asphaltic concrete. Since the project's stage construction was completed in 1973, it has only been resurfaced twice.

This highway has a current annual average daily traffic (ADT) volume of 1,220 vehicles per day, which has resulted in an estimated loading of 1.9 million equivalent single-axle loads (ESAL) over its life.

This is the fourth PPA for NDOT. The other awards were earned for US-30 in Deuel County (2009), Hwy. 35 in Wayne County (2006) and US-20 in Holt County (2003).

"Pavement management requires a high level of sophistication and research, and our team takes great pride in the transportation system they provide."

- NDOT Director Kyle Schneweis .



US-6 east of Palisade, Nebraska. NDOT received the 2019 Perpetual Pavement Award from the APA for a 5.7-mile section of US-6 in Hitchcock County. (file photo)

History of Excellence

"Nebraska DOT has a long history of excellence in materials management," said NDOT Director Kyle Schneweis. "Pavement management requires a high level of sophistication and research, and our team takes great pride in the transportation system they provide. We are honored to receive our fourth Perpetual Pavement Award from the Asphalt Pavement Alliance. U.S. Highway 6 in Hitchcock County is an excellent example of building a pavement once and applying timely maintenance and preservation strategies to preserve one of our most valuable assets at the lowest possible cost to the Nebraska taxpayer."

As a winner of a 2019 PPA, NDOT will receive an engraved crystal obelisk, and its name and project will be added to a plaque on permanent display at the NCAT Research Center at Auburn University. Since the PPA was first presented in 2001, 144 pavements in 31 US states and one Canadian province have been honored with the award.

The Asphalt Pavement Alliance is a partnership of the Asphalt Institute, the National Asphalt Pavement Association and the State Asphalt Pavement Associations. ■

To qualify for the Perpetual Pavement Award, roads must be at least 35 years old, have had no structural failure and have average resurfacing intervals of at least 13 years. The pavement must demonstrate the characteristics expected from long-life asphalt pavements: excellence in design, quality in construction and value to taxpayers.

NDOT, Transportation Partners Assess Historic Flooding One Year Later



Work on the new bridge, next to the temporary bridge, is underway on Hwy. 12 west of Niobrara.

By Linda Wilson
Communications and Public Policy Division

The March 2019 flooding in Nebraska is a chapter in the history books that many would like to put behind them. While impacts of the flooding on the state's roads and bridges are still apparent in some of the hardest-hit areas, as a whole, the transportation infrastructure has undergone a major transformation in a short time, thanks to the efforts of NDOT and their transportation partners. Their work is nothing short of amazing and, along with lessons learned, warrants a closer look one year later.

Taking into account both the flooding as well as blizzard conditions that occurred in some parts of the state during that timeframe, 3,300 highway miles were closed at one point, in addition to 27 bridges. Within a span of six months, only one highway mile remained closed, as 85 flood-related projects were underway on state highways. All highway miles are now open and the majority of those projects are completed. Work continues on several permanent repair projects.

Five of NDOT's eight highway districts – 1, 2, 3, 4 and 8 – were most impacted by the flooding, with District 6 receiving less significant damage. Total flood damages on the State highway system are estimated at \$150 million. The greatest financial cost has been incurred by District 3 in northeast Nebraska, with an estimated \$65 million in flood damages, according Kevin Domogalla, District 3 Engineer.

"We continue to work on repairs, but all highways are open," said Domogalla. "While Hwy. 12 west of Niobrara is open with one-lane traffic controlled by signals, Hawkins Construction and their subcontractors continue to work on the new permanent Mormon Canal bridge to have the highway opened to two-lane traffic this fall."

Collaborative Efforts

According to Domogalla, the temporary and permanent reconstruction of Hwy. 12 was the most complex and expensive transportation flood recovery project in the state after significant damage to the approach and girders of the bridge over the Niobrara and the complete washout of the Mormon Canal bridge during the flooding. The temporary bridge was opened to traffic August 10, 2019, thanks to the collaborative efforts of NDOT, Hawkins and the entire team involved with this project.

Other work included: bridge projects on Hwy. 57 south of Stanton, open Oct. 4, 2019; Hwy. 94 east of Pender, open Oct. 11, 2019; Hwy. 116 south of Dixon, open Aug. 6, 2019; Hwy. 121 south of Yankton, open Dec. 19, 2019; and Hwy. 13 east of Hadar, open early Feb. 2020 and the last flood-related bridge project in the state to be opened to traffic.

Domogalla said that what impressed him most about his district's flood response was the dedication of their crews to safeguarding the public and the long hours put into that effort, adding that "NDOT is highly efficient and capable of handling just about anything presented

to us.” He was also very impressed with NDOT’s transportation partners.

“The reaction from the contracting community to mobilize to the areas we needed them in a matter of days and sometimes hours was a testament to the working relationships we have developed with these contractors and the pride they take in their community,” said Domogalla.

District 8 in north central Nebraska has the second-highest financial cost for flood-repair damages, with an estimated \$40-\$45 million, according to Mark Kovar, District 8 Engineer.

“With some projects ongoing and water levels still high enough to impact some roadways, the costs are not final,” Kovar noted. “One of those projects is the permanent bridge over the Niobrara River south of Spencer on US-281, which is scheduled for completion in November 2020.”

Partnership Credited

Kovar credited NDOT’s partnership with the contractor, Hawkins Construction of Omaha, and subcontractors in completing the temporary bridge ahead of schedule in July 2019, restoring mobility within months of the historic flooding and ending the need for a 127-mile detour. Repairs to the Hwy. 11 bridge south of Butte that sustained major damage have also been completed in December 2019 by contractor Kiewit Infrastructure of Omaha.

Chris Hawkins, CEO of Hawkins Construction Company, shared observations about work completed on the two bridge projects on the Niobrara, in Districts 3 and 8. “The bridges (Hwy. 12 and US-281) had

completely washed away, resulting in hours of long detours for the local communities. Hawkins and NDOT worked together to bring in a temporary bridge system that had never been used in the state. The level of trust and strength in our relationship allowed an accelerated project schedule to reconnect communities.”

Kovar added, “I was impressed by the way NDOT employees worked together with contractors, consultants and local residents to repair the flood damage. It was gratifying to see the sense of community and commitment to achieve a successful outcome.”

According to District 4 Engineer Wes Wahlgren, although estimated costs for the contract work in his central Nebraska district were initially estimated at \$18 million, the final actual contract repair costs were \$8 million and were done in record time, due to the efforts of contractors and subcontractors. He heard many expressions of appreciation from officials and the public.

Excellent Response

“The City Administrator of Fullerton couldn’t believe how fast we were planning on having Hwy. 14 open when we had expected it to take much longer,” said Wahlgren. “We even had a private citizen post a drone video of the damage to N-14 and an ‘after’ drive-thru of the repaired portions thanking the NDOT and contractors for the amazingly fast repairs. The project manager, Bob Nordhues, and his inspector, Kevin Christiansen, did an excellent job tracking and documenting the emergency repair work completed by contractors for District 4.”

Flood damage repairs on Hwy. 12 west of Niobrara.



Wahlgren also credited NDOT's maintenance crews who provided an excellent response. Their efforts included closing roads, keeping closures guarded, removing debris, and making any repairs they could. Nordhues added that the Fullerton maintenance crews did an excellent job of closing Hwy. 14 and Hwy. 39 and protecting the public before anyone was able to try and drive through the washed out areas.

Nordhues noted that work on Hwy. 14 south of Fullerton was completed by Paulsen Inc. from Cozad, Nebraska, and Van Kirk Bros. Contracting from Sutton, Nebraska, in just 28 days (open on April 9, 2019), and Hwy. 14 north of Fullerton was completed in just 24 days (open on April 4, 2019). They also repaired the portion of Hwy. 39 north of the Loup River south of Genoa that the river washed out when it diverted into the Loup Power Canal and breached the canal bank west of Hwy. 39. Simon Construction was the prime contractor for the Loup River Overflow Bridge south of Genoa on Hwy. 39. A temporary road around the Loup River overflow bridge was completed 13 days ahead of schedule (open on July 19, 2019), allowing thru traffic to travel from Silver Creek to Genoa on Hwy. 39. The bridge was open on Nov. 25, 2019.

"What impressed me the most was how fast the contractor, Paulsen and subcontractor, Van Kirk Bros., were able to mobilize all their equipment to the job site and get the work done," said Nordhues. "Fullerton

was completely closed off from the north and south on Hwy. 14. The contractors had the highway repaired and open to traffic in less than 30 days. Kids going to school in Genoa from Silver Creek were able to use Hwy. 39 by the middle of August instead of driving an additional hour on the detour each morning."

District 2 Engineer Tim Weander noted that recovery in the Omaha metro area and surrounding areas has been nothing short of amazing, as it was directly affected by flooding of the Elkhorn, Platte and Missouri Rivers. Numerous projects, including west of Arlington, open June 15, 2019; West Dodge Expressway in Omaha, open May 20, 2019; and the West Center Road (Hwy. 275) bridge west of Omaha, open July 31, 2019, were completed in record time, with permanent freeway fence repair as the only remaining flood-related project.

Restoring Connectivity

According to Weander, the West Dodge Expressway project involved a major four-lane reconstruction by contractor Hawkins Construction and timely completion was essential in getting westbound travel links connected once again. The West Center Road project, with total bridge and pavement replacement by contractor Constructors Inc. of Lincoln, was also crucial in restoring connectivity for motorists in the Omaha area.



With regard to the West Dodge Expressway project, Hawkins noted, “As soon as the flood waters receded to safe levels, repairs began on the roadway. Our longstanding partnership with NDOT allowed Hawkins to dive into tearing up and repaving 19,000 square yards of road in just 56 days, 3 days ahead of schedule.”

The community of Fremont was particularly hard-hit as converging flood waters from both the Elkhorn and Platte River isolated the community from transportation routes. First-responders, including the Nebraska Air National Guard who dropped hay bales for cattle, and a convoy of trucks provided much-needed resources to the community. While all roads are open, a full recovery to homes and businesses will take a much longer time. The same holds true for other Nebraska communities affected by the 2019 flooding.

Weander said he was extremely impressed with the efforts of NDOT employees and industry partners in expediting the completion of these projects.

Extraordinary Results

“This was an ‘all hands on deck’ occurrence, where our staff spent many extra hours in the response effort,” said Weander. “My takeaway from this experience is that NDOT is a quick-acting, flexible agency with dedicated and caring employees who produced extraordinary results in a minimal time period. “Our industry partners performed the work in expedited manners to regain the mobility for the citizens of Nebraska and the nation.”

While District 1 in southeast Nebraska had far less monetary damage than Districts 2, 3, 4 and 8, there were areas with significant damage, including Hwy. 15 between David City and Schuyler, according to District 1 Engineer Tom Goodbarn.

M.E. Collins Contracting of Wahoo, Nebraska, replaced the washed out roadway embankment, repaired and replaced pavement and reconstructed shoulders throughout the 2-mile section of Hwy. 15, with the road opened to traffic less than 80 days. Subcontractors performed repairs to the overflow bridge, saving the bridge from total reconstruction. The entire project was completed in just over 90 days, opening on June 24, 2019.

Another area of concern was the increased traffic on US-75 due to the I-29 flooding in Iowa along the Nebraska border and closure of Hwy. 2 between Iowa and Nebraska. Goodbarn noted that District 1’s experience during the 2011 flooding prepared them for dealing with the I-29 closure and resulting traffic on US-75, with measures taken to reroute traffic, adding that “the Missouri River is not to be trusted.”

Innovation, Teamwork

Looking back on the overall effort, Goodbarn observed, “Counties were hit hard. Local communication and cooperation was great. Our contractors were innovative and timely in responding to the critical needs and the District operations staff and construction staff in Districts 1, 2 and 3 were cooperative and effective.”

Hawkins expressed sentiments of the contractors, noting, “Our dedication to fleet allowed nearly instantaneous mobilization without significant impact to existing work. The most prevalent theme of the 2019 flood repair is teamwork – starting with Governor Ricketts and NDOT Director Schneeweis, all the way down to our subcontractors and laborers on the job sites. Hawkins is honored to have been part of the flood response with arguably one of the best Departments of Transportation in the country.”

While the flooding is not entirely in the state’s rearview mirror, NDOT has taken the opportunity to pause and ponder, to process and prepare for the future. These lessons learned will ensure that NDOT is well-equipped for any future flood events, if/when they should occur. ■



Flooding on the Loup River damaged the bridge on Hwy. 39 south of Genoa.



Hwy. 39, Genoa North



Hwy. 12 Crane



Hwy. 275 Bridge



Hwy. 39, Genoa South



Hwy. 14, Fullerton



Hwy. 39, Genoa South

SUCCESS STORY

Roadway Design Completes First Electronic Plan Submittals

As the saying goes, “every cloud has a silver lining.” Due to the COVID-19 pandemic and switch to remote work, NDOT’s Roadway Design Division teams moved to their first-ever all-electronic submittal of plans for letting in April. The submittals included two partial/hybrid electronic submittals: Aurora East and West; and Polk East. They also had two concurrent official full electronic plan submittals: Shelton-Wood River and Hampton-Henderson.

According to Kevin Krolikowski, Roadway Design Unit Head, plan submittal is a complex process with many divisions: Bridge; Traffic; Materials & Research; Communications & Public Policy; Construction-Estimation Unit; Right of Way; Roadway Design-Utilities Section, Plan Development and Roadside Lighting units; and Project Development. These divisions are all responsible for their own individual part of the overall project delivery submittal package for letting.

“In the past, these divisions submitted their specific plans, computations and related documents in paper to the roadway designer,” Krolikowski said. “The designer submitted the entire letting package to the Construction Division’s Plans, Specifications and Estimates (PS&E) Unit. With so much information being delivered by other divisions, missing or misplaced information has occasionally caused some rework by others in project delivery.”

Efficient Process

Roadway Design’s leadership lobbied other division heads to develop a more efficient process of plan delivery and an electronic plan submittal process was fully implemented in

“The needed information was already being electronically created, so utilizing this electronic version required a change in our PS&E submittal practice.”

- Kevin Krolikowski,
Roadway Design Unit Head

2019. As part of that implementation, Roadway Design’s Plan and Development Unit was tasked with compiling all design plans into one master final plan PDF for submitting to PS&E, which can take several hours under tight deadlines.

“Since 2019, the same paper submittal for computations and special provisions had occurred until our current remote work started,” Krolikowski said. “The needed information was already being electronically created, so utilizing this electronic version required a change in our PS&E submittal practice.”

Since initiating remote work, each division now provides their computations, documents and other information electronically. This has made gathering, tracking and compiling information more efficient for Roadway Design. A single email from Roadway Design to PS&E has replaced hundreds of full-size plan sheets, and all the other computations and specifications contained in OnBase.”

Krolikowski acknowledged there were challenges to reach this point, some dating

“Our leadership, especially our division heads, have ensured that our staff has the necessary equipment and programs to make our transition to remote work a success story.”

back several years ago when NDOT moved the Falcon file storage system to OnBase. Since making this move, he noted that Roadway Design has been working with BTSD to develop a way to take all of this information, place it onto OnBase and maintain the document’s security. Perhaps the biggest challenge, though, was convincing the Roadway Design staff and the other divisions affected by this change-up to move up to electronic delivery.

Electronic Delivery

Then came the changes driven by COVID-19. “By initiating remote work, we were essentially required to begin electronic delivery.”

Because both methods require the same tasks, savings occur by eliminating several hours of printing submissions. As with any new process, as unknowns become familiar to the project delivery team, the overall time to produce the PS&L package will be reduced.

While the single greatest advantage is replacing hundreds of full-size plan sheets with a single email, a disadvantage is that mistakes are easier to make and harder to track down prior to PS&E submittal. Krolikowski underscored the importance of communication in the success of project delivery, particularly during the past several months when NDOT employees were working remotely.

“Technology has made this challenge manageable but does not replace daily interactions with our staff. Our leadership, especially our division heads, have ensured that our staff has the necessary equipment and programs to make our transition to remote work a success story. This has allowed us to continue to be productive during the shutdown.”

“While initially skeptical of submitting the PS&E package electronically, Krolikowski observed, “Through the course of this shutdown and having navigated several PS&E electronic submittals, I have now come to appreciate its potential to streamline the PS&E submittal process. I have gained more respect for our PDU staff, our designers, Nathan Sorben (Assistant Roadway Design Engineer) for taking the lead on the development of this process, our division heads, and NDOT employees. Despite the challenges, we have risen up to overcome them.” ■

Since initiating remote work, each division now provides their computations, documents and other information electronically. This has made gathering, tracking and compiling information more efficient for Roadway Design. A single email from Roadway Design to PS&E has replaced hundreds of full-size plan sheets, and all the other computations and specifications contained in OnBase.

Multi-Service RFQ Increases Efficiency, Strengthens Consultant Partnerships

By Bev Kellison

Communications and Public Policy Division

The Multi-Service Request for Qualifications (RFQ) is a strategy NDOT has used the last three years to contract out highway construction projects under a single contracting effort.

Once a year, NDOT releases the lion's share of project work needing to be accomplished using consultant services. The Multi-Service RFQ replaces the practice of individual divisions contracting services, which typically resulted in multiple contracts and multiple consultants delivering the same project.

In theory, the RFQ is more efficient because it results in having a single firm managing the services and the Department has more assurance that the project schedule and deliverables will remain aligned. The goal of the effort is streamlined communication and more effective project management, especially from the consultant's side. The selected firm establishes its own team (which could include sub-consultants), so that NDOT isn't forcing consultant relationships as before.

According to Project Development Division Head Brandie Neemann, "Our consultant firms have told us that if they need to find an additional consultant for a project,

they prefer to find and manage it themselves. They prefer assembling their own teams. Theoretically, all schedules become more reliable with one consultant managing all of the services needed."

The divisions that participate in developing the Multi-Service RFQ include Program Management, Project Development, Right of Way, Roadway Design and Bridge. They begin meeting in late fall to discuss and collaborate

to determine the best candidate projects to include in the Multi-Service RFQ. Once identified, the projects are grouped by criteria such as location, schedule needs, and services needed for publication. The RFQ is typically released in February in order to have environmental services under contract by May, in time for the growing season, and to contract for other services that need to get underway first.

"The theory of the Multi-Service RFQ is spot-on," Neemann emphasizes. "The

practice is still being refined, but improving every year. It will always be more effective to have one consultant responsible for ensuring that their projects are managed efficiently and are delivered on time. It worked really well this year, and although it is a huge undertaking to develop the contracts all at one time, the results are worth it." ■

"It is more effective to have one consultant responsible for ensuring that their projects are managed efficiently and delivered on time."

- Brandie Neemann
Project Development Division Head



NDOT's Partnership with UNL's Paleontology Program Yields Knowledge



A storm rolls in at the North Loup to Ord project digsite on Highway 11.
Photo by Shane Tucker

By Linda Wilson
Communications and Public Policy Division

The next time you are out driving along some of Nebraska's nearly 10,000 miles of public roads, consider this: You may be traveling over a treasure trove of fossils just waiting to be discovered.

Hundreds of thousands have already been rescued, thanks to the Highway Paleontology Program, a cooperative effort between the University of Nebraska State Museum (UNSM) and the Nebraska Department of Transportation (NDOT) to collect fossils threatened by highway construction. But countless others are out there, waiting for a state roads project to uncover the buried treasure.

Nebraska is one of the leaders in fossil mitigation, according to Shane Tucker, State Highway Paleontologist. "Going back to the 1930s, there was guidance that if fossils were encountered during construction, they needed to be preserved. In 1960, Nebraska introduced the country's first paleontological salvage program. The program's success is based on the close cooperation between contractors, NDOT and UNSM."

60-Year History

During the program's 60-year history, more than 250,000 specimens have been recovered from over 200 sites across the state. The program has never stopped construction and works closely with the contractor to shift their grading operations elsewhere on the project while fossil remains are excavated safely. Annually, the program periodically monitors approximately 150 active highway construction projects and averages one significant site each year.

"If we didn't have this program, all of these things that are now being preserved would be lost to science," Tucker said. "The Museum has fossils from 91 of the 93 Nebraska counties, so wherever you go throughout the state, there's an extremely high possibility that you're going to encounter fossils when you move significant amounts of dirt."

One of those sites was discovered last summer, while Tucker and his team were monitoring construction on the North Loup to Ord project on Highway 11. After construction equipment hit a bone, a closer look revealed that it was a bison leg bone. After digging around the

bone and further back into the hill, they found more of its skeleton. Additional bones were encountered with each visit to the site. An NDOT employee would check the site after each rain when the paleontologists were gone and discovered the skull beginning to erode from the quarry wall.

Close Collaboration

“What was expected to take a day turned into something bigger,” Tucker noted. “The success of the project was due to the close collaboration with NDOT because they provided site security, weather and construction updates, and took ownership in the project. NDOT employees who assisted our efforts included Jerry Woodgate, Project Manager; Jerome Hulinsky, Hwy. Construction Tech. II, St. Paul; Peggy Jackson, Hwy. Construction Tech III, St. Paul; and employees with Hooker Brothers Construction, who arranged for keeping the project open and assisting behind the scenes.”

They ended up with about 300 bags of silt to examine later for microfossils. UNL undergraduate students in the Claire M. Hubbard Environmental Science Communication Internship program had the opportunity to gain first-hand experience by “wet screening” some of the silt bags to filter out the fossils. Wet screening involves washing the sediment through fine screens in order to salvage small bones, teeth, and snails that are missed when digging for the larger bones.



Photo by Shane Tucker

Bison skull; horn core in upper right, ear region lower center; teeth left center.

Unconventional Method

The interns gathered a couple of times in February at NDOT’s Superior Street maintenance yard in Lincoln to try their hands at screening using an unconventional method for washing the sediment – a front-end loader. This resulted from a conversation that Tucker had with Jeff Grooms, Hwy. Maintenance Supervisor at the Ord maintenance yard. After hearing Tucker’s plans for screening in a cattle tank outdoors and shoveling out the screened sediment, Grooms suggested using the front-end loader in their yard to hold the water used for



Photo by Jake Daniels



"We can tell a lot about climate and landscape conditions from these microfossils, which is really exciting."

- Shane Tucker, State Highway Paleontologist

the screening as long as it wasn't needed the day of the planned screening. This proved ideal for the task at hand due to the easy cleanup and buffer from the cold and/or rainy weather.

After checking with Tom Goodbarn, District 1 Engineer, a similar set-up was planned at the Lincoln maintenance yard, with the assistance of Jeff Oehm, Highway Maintenance Supervisor.

Students completed screening about 20 bags each time, with a significant number of specimens found. Tucker noted that while the rock layer itself was deposited between 12,000 and 24,000 years ago during the Ice Age, the specimens at this site are estimated to be between 13,000-14,000 years old.

Microfossils Significant

In addition to the bison bones, they found small animals including snails, mice, moles, gophers, rabbits, toads, and snakes. Tucker noted that people sometimes overlook the significance of these microfossils.

"In the early 1900s, paleontologists were collecting the big animals, such as rhinos, camels and elephants, but they didn't really focus on the small animals," Tucker said. "By taking the silts, screening, and sorting through the gravel, we're capturing those small animals that lived alongside these larger animals. We can tell a lot about climate and landscape conditions from these microfossils, which is really exciting."

Outreach Opportunities

Tucker says the most rewarding aspect of his work is the discovery of something that has never before been viewed by humans and his part in contributing to science. He also enjoys the opportunities for outreach in communities throughout Nebraska.

"It's rewarding to communicate with the public and help them to understand and appreciate the significance of these discoveries, Tucker said. "It's also very cool to have this partnership with NDOT over the past 60 years. The program has enjoyed phenomenal success recovering important specimens that would otherwise be lost to science." ■



Photos by Jake Daniels

The law protects fossils but the Specifications for Highway Construction states that contractors are required to report any fossil discoveries made during highway construction to the proper authority. If fossils are found in the state, they should be reported to: Shane Tucker, Highway Salvage Paleontologist, University of Nebraska State Museum, Lincoln, Nebraska 68588-0514, email stucker3@unl.edu or call 402-472-2657.

Highway Archeology Program Investigates the Past Using Modern Technology



Adam Wiewel, National Park Service Archeologist, conducting survey at the Sharp Homestead with an electromagnetic induction (EMI) meter.

By Courtney Ziska, Archeologist
History Nebraska

Since 1960, the Nebraska Highway Archeology Program (NHAP) has been evaluating all bridges, standing structures and archeological sites potentially impacted by road construction.

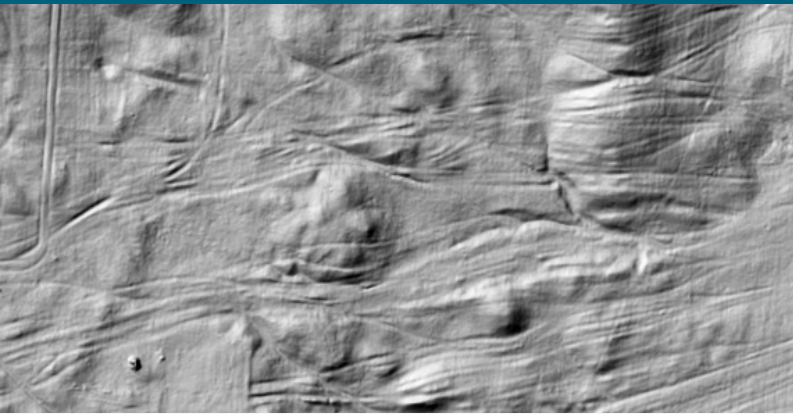
Through a cooperative agreement with the Nebraska Department of Transportation (NDOT), History Nebraska archeologists and architectural historians work to identify cultural resources early in the design process. This collaborative effort helps NDOT limit the risk for costly delays related to late discoveries during construction, while continually adding to our knowledge of Nebraska's past.

In many ways, archeology today is much the same as it was when NHAP was started, with pedestrian survey, shovel testing and trowel excavation continuing to be a primary means for investigating sites. However, with NDOT's support, NHAP has increasingly been incorporating modern technologies into the cultural resource review

Geophysical Survey

In 1865, Charles F. Sharp submitted an application for a 160-acre claim, becoming the first farm in Stanton County. Sharp would go on to construct a house, stable, granary, well and cellar on the site, beginning a farmstead which would subsequently be occupied for the next 120 years, with new buildings constructed over time. Little else is known about the site, which now exists as a cultivated field located east of present-day Pilger, along US-275.

With NDOT's proposed plan to improve and expand US-275 through the area, NHAP partnered with the National Park Service, Midwest Archeological Center (MWAC) in conducting a multi-instrument geophysical survey at the site in 2019. This type of survey is used to create maps of subsurface features based on different qualities (i.e., magnetic fields or electrical resistance) of archeological deposits, relative to the surrounding earth, without having to dig dozens of shovel tests or test units. Through a combination of gradiometry, resistance, susceptibility and conductivity data, the survey identified areas most likely associated with the earliest occupation of the farm. These results will guide future testing at the site, as NHAP archeologists work to determine the property's significance.



Ruts seen in 1 meter DEM imagery near Valentine, Nebraska.

LiDAR (Light Detection and Ranging Technology)

Nebraska's Statewide Elevation Program has made it possible for NHAP archeologists to identify cultural features that might otherwise remain undiscovered via traditional field methods. Through the acquisition of complete LiDAR coverage for the state, the resulting digital terrain models allow program staff to access a high-level, vegetation-free view of NDOT project areas, locating cultural features such as foundation remnants, roads, mounds and Native American lodge depressions.

One of the more commonly identified resources on the elevation models are trail ruts. Many of our existing roadways across the state follow routes similar to these early stagecoach and wagon roads. Although agricultural activity and development have erased many of these features from the landscape, segments do remain, especially in the western half of the state. Reviews on several recent NDOT projects have resulted in the identification of intact ruts between Valentine and Fort Niobrara, as well as near Broadwater.

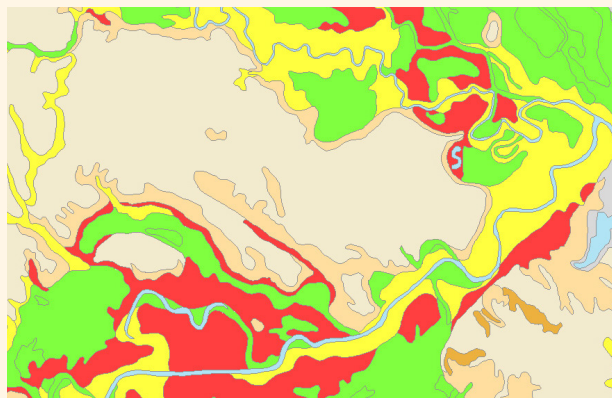
Public education and participation are important responsibilities of the Nebraska Highway Archeology Program. Recent outreach efforts sponsored by NDOT aim to maximize the public benefits of highway archeology. The Piecing Together the Past exhibit on display at the Nebraska History Museum in downtown Lincoln explores 13,000 years of history with Nebraska's archeologists—featuring many of the sites discovered and investigated through NDOT's partnership with History Nebraska. Two recently produced videos also tell the story of how archeology is uncovering our state's history, explaining how archeologists both locate and investigate sites in Nebraska.

<https://youtu.be/6HOcYpaK8lo>
<https://youtu.be/O2zQSnrJ7ik>

Nebraska Buried Sites GIS (Geographic Information System)

While much of NDOT's work is limited to the top several feet of sediment, some construction activities can extend to great depths. Unfortunately, traditional methods used to discover archeological sites are inadequate for finding deeply buried archeological remains, which can provide some of the best information on the earliest inhabitants of our state, dating back 12,000 years. The use of backhoes or construction monitoring can be useful tools for these situations, but can also be quite costly if not implemented systematically and only when necessary.

Nebraska Buried Sites data at the confluence of two creeks, where green indicates areas of low potential (i.e., floodplains) and red indicates areas of high potential (stream terraces).



With the support of a research grant from NDOT, NHAP is developing a Buried Sites GIS that will distill decades of geoarcheological research with the aim of identifying which areas are most likely to hold these important deeply buried archeological sites. This will allow planners to better determine if a project has the potential to impact significant archeological deposits, or if no additional targeted investigation is necessary. Ideally, these deep sites can be identified, evaluated, and avoided or studied, while eliminating costly project delays related to the late discovery of important archeological deposits.

Conclusion

The NHAP partnership with NDOT has come a long way since the program was founded. Over the past 60 years, NHAP has exemplified how collaboration can lead to the continued development of Nebraska's transportation infrastructure, while ensuring that important information about history is not lost without record. This mutual benefit has been enhanced through the incorporation of emerging technologies, making the cultural review process both more efficient and more effective in understanding and protecting our state's heritage. ■

"It is an exciting time to work in HR, and I plan on continuing to find innovative and bold new ideas to address the changes in our workplace."

- Barb McIntyre, Human Resources Director



Barb McIntyre

McIntyre Joins NDOT as Human Resources Director

Barb McIntyre joined the Nebraska Department of Transportation as the Human Resources Director on May 18, 2020. She succeeds Sue

Larson, who retired on April 1 after 21 years of service.

McIntyre came to NDOT after serving as Chief Human Resources Officer at JEO Consulting Group, Inc., at their Wahoo, Nebraska location, one of 11 locations in 3 states, for 3½ years. Prior to that, she was a Human Resources Director at Ameritas, in Lincoln, Nebraska, for 11 years. Early in her career, she worked in state government as a Human Resources Manager II with Corrections and, for a short time, worked with NDOT in payroll and benefits.

McIntyre grew up in North Platte, then attended Doane College in Lincoln, earning her Bachelor of Arts degree in Business Administration. A believer in lifelong learning, she later earned a Master of Human Resources degree from Troy University, Montgomery, Alabama. Other education designations include Professional Human Resource (PHR), SHRM-Certified Professional (SHRM-CP), Certified Compensation Professional (CCP), and certifications in executive coaching and training.

Among her accomplishments, McIntyre was successful in overseeing the transition of JEO from a traditional work structure to a flexible "team of teams" organizational structure that increased business agility and increased leadership development opportunities. McIntyre also implemented innovative and competitive programs in talent acquisition and enhanced employment brand through social platforms and multiple media channels to reach the desired talent and retain top talent.

McIntyre's leadership approach is focused on building and delivering talent management and organizational development initiatives that provide sustainable people-centric strategies to achieve results and bring value to customers. She believes that the most significant difference between great organizations and not so great organizations is having talented people in the right roles.

"I have a passion for humanizing workplaces and providing people with the autonomy and freedom to work with purpose and passion," McIntyre said. "It is an exciting time to work in HR, and I plan on continuing to find innovative and bold new ideas to address the changes in our workplace."

McIntyre added that her interests are driven by the elements of leadership, strategic planning, collaboration, program/project management, and organization development. McIntyre said. "I believe leaders should set a vision (direction), communicate that vision (inspire), and implement the vision by delegating, empowering and enabling. I also believe that collaboration is critical to obtaining the best solutions and successfully implementing them, as well as developing strong and trusting relationships."

McIntyre says she is excited about joining NDOT because of the impact the agency has connecting the people of Nebraska to each other and their communities, adding that "organizations with the best people achieve outstanding accomplishments... I believe in this organization and its unparalleled capability to make an impact through its people."

Barb is married to her husband, Jeff, has four grown sons and two grandsons. In her spare time, she loves to read, make jelly and spend time with her family. ■

"I believe in this organization and its unparalleled capability to make an impact through its people."

EMPLOYEE SPOTLIGHT

From Project Plans to Completed Construction, Fisher Fosters Success

By Linda Wilson
Communications and Public Policy Division

As a project manager in NDOT's Omaha District 2 office for the past 22 years, Rick Fisher has helped bring to fruition numerous projects, including interstate reconstruction, expressway expansion, bridge construction, pavement repair, asphalt overlays and fiber communications.

"Interstate work is the most challenging since most of the projects in this area run seven days a week," Fisher notes. "During daytime hours the contractor works behind the temporary concrete barriers. Then each night during non-peak hours (9pm-6am), the contractor is allowed to start closing lanes to perform work. When it comes to weekends, the contractor has their normal day work. The contractor also works every Friday (9pm-8am) and Saturday (9 pm-10am) nights due to longer non-peak hours."

Fisher credits the team of surveyors and inspectors as well as contractor construction crews for his success. "These projects take lots of coordination and resources," Fisher said, adding that "safety is always a big concern when working on I-80 day and night in Omaha, and safety measures are included on every project. We hold on-site safety/planning meetings and inform the traveling public with press releases and digital message boards."

The greatest satisfaction that Fisher derives from his work is taking a set of project plans and seeing it through to completion. He also enjoys working with all of his fellow NDOT employees as well as contractor personnel.

Collaborative Effort

As far as accomplishments over his career, Fisher shared a couple that stood out. "Building the I-80 6-lane between Omaha and Lincoln, and the I-80

"Interstate work is the most challenging and safety is always a big concern with safety measures included on every project."

- Rick Fisher,
Dist. 2 Hwy. Project Mgr.



Rick Fisher, District 2 Highway Project Manager, enjoys taking a set of project plans and seeing it through to completion.

Missouri River-13th Street expansion are projects that I am proud to have been a part of. These projects required a major collaborative effort and it was gratifying to see the outcome."

The biggest changes in road construction witnessed by Fisher over the past 38 years (16 years as a surveyor/inspector in the Fremont Yard) involve technology being used to communicate and document the work. Looking to the

future, he sees the need for more efficiencies due to the decreasing NDOT work force.

Fisher is proud of another achievement outside of work. After 40 years of donating blood, he recently reached the 20-gallon level. According to the American Red Cross, less than 1% of all donors during FY-2019 have reached 20 gallons in their lifetime.

He stressed how easy it is to give blood; go to redcrossblood.org to make an appointment. "I would recommend this to everyone, as there is a constant blood shortage. It's a very rewarding experience and it costs you nothing but time."

Fisher and his wife, Nancy, live in Yutan, and have two children, Kelli and Nate. They have enjoyed watching their kids pitch collegiately; their son is currently a pitcher in the Seattle Mariners organization. They also have a farm with a cabin along the Platte River where they like to spend time, fish and hunt. ■

Paving Awards Presented in South Sioux City

Nebraska Department of Transportation project managers and construction technicians were honored with awards for both concrete and asphalt pavements at the annual NDOT Project Managers' Conference held March 3-5, 2020 in South Sioux City, Nebraska. The awards recognized their work on Nebraska highways during 2019.

According to Assistant Construction Engineer Andy Dearth, the annual paving awards program has three purposes. (1) Showcase Quality: In addition to presentation of the award-winning project, other quality nominated projects are presented to industry stakeholders;

(2) Promote Industry: Those who are not familiar with the construction industry are able to see an example of the pride that goes into their work; and (3) Improve Cooperation: The program provides recognition for work well done that is accomplished through cooperation.

The Nebraska Department of Transportation sponsors the awards for excellence in asphaltic concrete pavement construction. Awards of excellence for highway construction projects using concrete pavement are sponsored by the Nebraska Department of Transportation and the Nebraska Concrete Paving Association (NCPA). ■

Concrete Pavement Quality Awards Projects

Best Secondary State Highways In Grand Island & North District 4

Project Manager:
Bob Nordhues



Bob Nordhues

Inspection Crew:
Dennis Osterman,
Marcell Captain,
Kevin Christenson

Prime Contractor:
Paulsen, Inc.
Cozad, Nebraska

TIE – Best Interstate Highways Hwy. 30 Schuyler – Rogers District 3

Project Manager:
Mike Steffensmeier



Mike Steffensmeier

Inspection Crew:
Anthony Lange, Bill Studnicka, Jim Carney, Tyler Johanne

Prime Contractor:
Hawkins Construction Co.
Omaha, Nebraska

I-80, Wyoming Line – Bushnell District 5

Project Manager:
Marty Gillen



Marty Gillen

Inspection Crew:
Sammy Valdez, Jeff Hack, Nicholas Harpold, Jeff Moran, Joseph Vergil-Weibert, Scott Burry, Ryan Mohrman

Prime Contractor:
Interstate Highway Construction, Inc.
Englewood, Colorado

Excellence in Hotmix Asphalt Pavement Construction Project Awards

Best Single Lift Overlay Project Hwy. 92 Lewellen – Lemoyne District 6

Project Manager:
Gary Brinker



Gary Brinker

Inspection Crew: Paul Gibbs, Sherri VanDiest, Dominic Hatch

Prime Contractor:
Werner Construction Co.
Hastings, Nebraska

Best Multi-Lift Overlay Project US-30 from Shelton to Wood River District 4

Project Manager:
Ben Merchant



Ben Merchant

Inspection Crew:
Adam Schuldt, Eddie Vodopich, Wade Harris, Duane Hostler

Prime Contractor:
Vontz Paving, Inc.
Hastings, Nebraska

Best Quality Controlled Project Hwy 61, Lake McConaughy North District 6

Project Manager:
Toby Thomsen



Toby Thomsen

Inspection Crew:
Bruce Malsbury, Jeff Bruns, David Newton, Paul Gibbs, Sherri VanDiest

Prime Contractor:
Paulsen, Inc.
Cozad, Nebraska

Honorable Mention

US-81 West Project on Highway 91 District 3

Project Manager:
Mike Steffensmeier



Mike Steffensmeier

Inspection Crew:
William Studnicka, Jim Carney, Tyler Johannes, Anthony Lange

Prime Contractor:
Western Engineering Company, Inc.
Harlan, Iowa

Smoothest Pavement Award Arthur South on Hwy 61 District 6

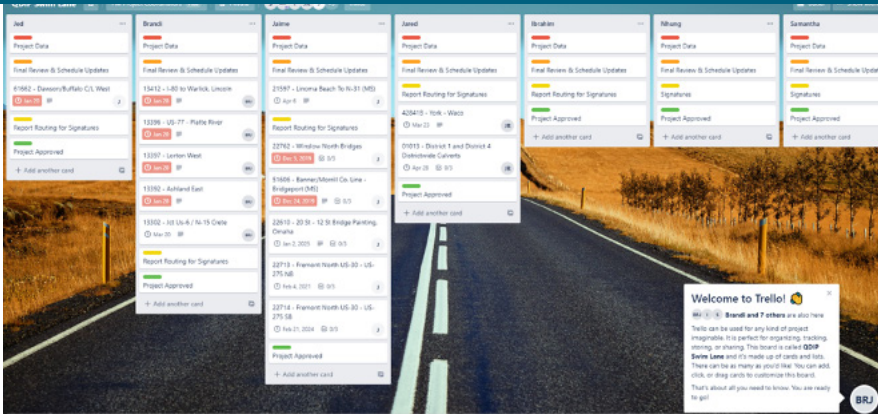
Project Manager:
Troy Pedersen



Troy Pedersen

Inspection Crew: Justin Willard, Doug Gertsh, Paul Gibbs, Sherri VanDiest, David Cloultre, Dominic Hatch

Prime Contractor:
Werner Construction Co.
Hastings, Nebraska



Using Trello for Swimlanes

NDOT teams have discovered the versatility of the free collaboration tool, Trello, available at trello.com. Each team member creates their own free account, then “boards” are shared with the entire team so that tasks can be assigned, deadlines established and progress managed.

The Trello format is easy to set up, and even new users can learn how to use the boards quickly. The Continuous Improvement team has been using Trello for several months, both for group projects and individual project management. Trello.com has demo videos and tutorials, but for a deeper dive into the app, LinkedIn Learning offers “Trello Essential Training.” If you have questions on how your group could utilize Trello, contact any of the NDOT Process Improvement Coordinators for assistance.

Huddles Thrive During COVID-19 Crisis

By Lisa Mathews
Process Improvement Coordinator

What did a high-performing team of project coordinators do when COVID-19 precautions went into effect at NDOT? They quickly set up a digital environment to work from home, ensuring the health and safety of their team while continuing to serve their customers, the traveling public.

Program Management supervisors Steve Moore and Nhung Hoang co-lead a daily huddle with their work team. Since mid-March, with only a few technical glitches, they have continued the daily huddle remotely.

The team meets using WebEx and utilizes a digital QDIP board (Quality, Delivery, Inventory and Productivity) to continue tracking their team goals. They are now using Trello, a free online service, for their individual swimlanes.

Steve Moore said they’ve had a few network issues, such as a team member getting disconnected, but they are continuing to work through the challenges and keep on track with getting their work done. This ensures NDOT construction projects keep moving forward and critical deadlines are met.

CARES Act Funding to Support Rural Transit

By Kari Ruse
NDOT Transit Manager

Nebraska received \$27.1 million from the federal Coronavirus Aid, Relief, and Economic Security (CARES) Act to support rural public transportation in the state. The funding has been apportioned to NDOT through the Federal Transit Administration under the rural public transportation program. The money is available to agencies at 100% with no state or local match required. Eligible expenses include operating assistance, vehicle purchase and transit facility construction.

The NDOT Transit Section will prioritize reimbursement of operating assistance expenses to support 59 rural agencies through the current grant cycle ending June 30, 2021. Under the CARES Act guidelines, funds can also be used to compensate wages for transit employees placed on administrative leave due to a reduction in service or because they meet the CDC definition of an individual at high risk for the coronavirus. Any remaining funds will be used to replace transit vehicles in the rural fleet which have exceeded their useful life per NDOT’s Transit Asset Management Plan.

Transit Agencies Impacted by COVID-19

In response to the COVID-19 crisis, several transit agencies suspended or restricted operations due to safety concerns for passengers and drivers. This temporary reduction in service impacted transportation options in over a dozen Nebraska counties. Agencies are resuming regular transportation service taking precautions like installing driver/passenger barriers and mandating face masks.

NDOT Transit received 23,000 reusable face masks from the U.S. DOT to be distributed to rural transit agencies for drivers and passengers. In addition, NDOT worked with the UNL Food Processing Center to provide 146 gallons of hand sanitizers to agencies at no cost.

NDOT has released several online surveys to gather data from managers regarding the impact of the virus on rural transportation in Nebraska. The data will be analyzed by the Center for Public Affairs Research at UNO, and a report will be released later in 2020.