Kiewit

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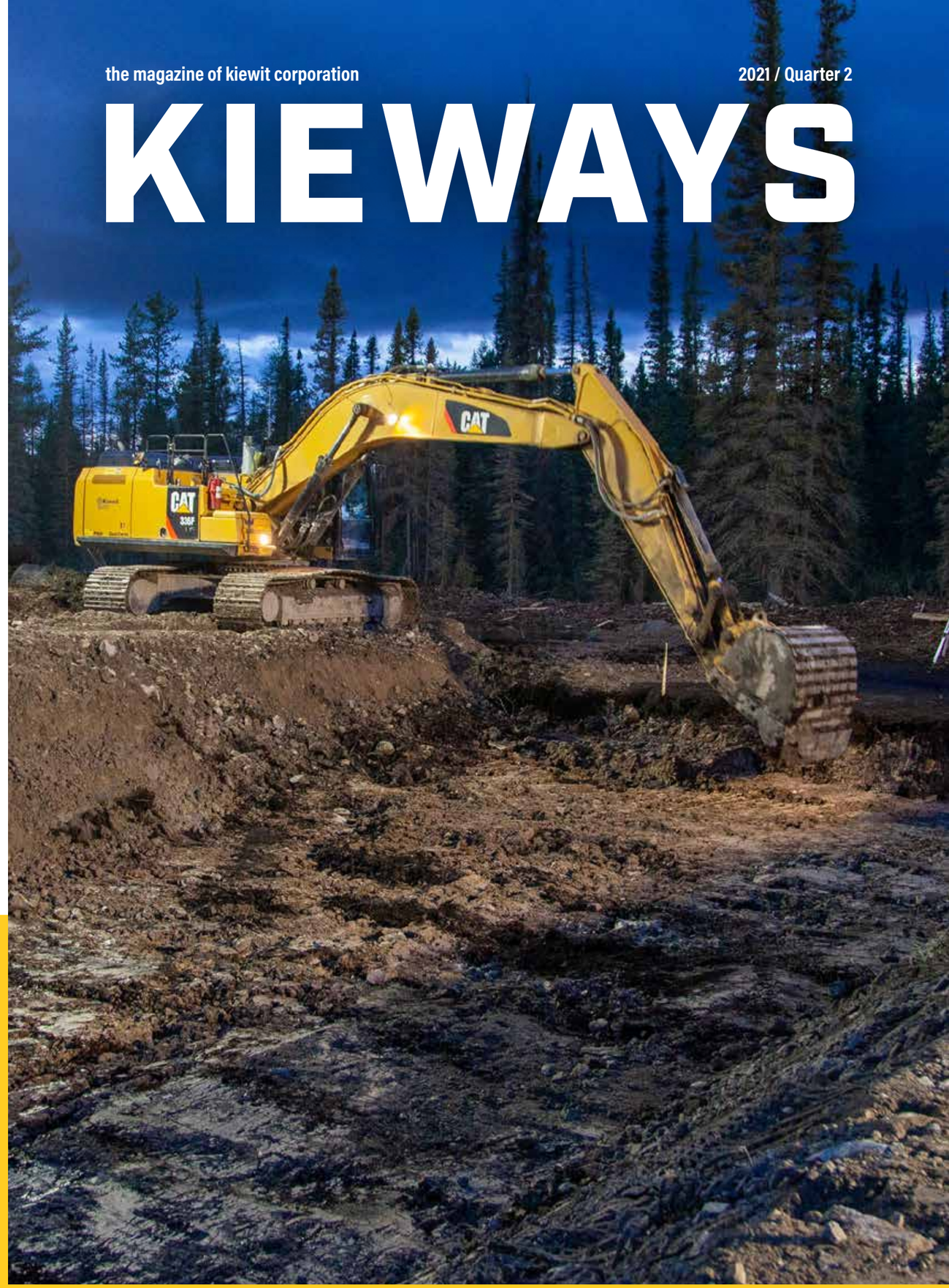
SINCE 1884

the magazine of kiewit corporation

2021 / Quarter 2

KIEWAYS



SAMSON SOLAR
Crews install modules to support the 2.3 million solar panels at the Samson Solar farm in Texas. Samson is the largest solar farm in the U.S. and will generate enough energy to power up to 300,000 homes. Read more beginning on Page 6.

DELIVERING INNOVATIVE CLIENT SOLUTIONS

Kiewit is successful in large part because of our unwavering commitment to providing clients with innovative solutions, from finding ways to manage significant project changes into an existing schedule or coming up with new ways to get a job done faster, under budget or more safely, to working with an alternative contract model.

This issue of Kieways highlights some great examples.

NorthGate Constructors Joint Venture has wrapped up the DFW Connector project in Texas. Beginning on Page 14, learn about how excellent owner relations and innovative contract management led to successful completion of this 10-year $1.5 billion mega job.

The Samson Solar team is setting a new high bar for solar energy projects. On Page 6, read about the innovative approach the team is using to build the largest solar energy farm in the United States, including a safer method of setting posts that is expected to increase efficiency by 30% and cut 16,000 hours from the project schedule.

Finally, in the Northwest Territories, Canada, Kiewit is nearing completion of an award-winning public private partnership (P3) project to build a 97-kilometer gravel road. It's the first time the company has managed all facets of a P3 project: developer/equity, design-build and operations and maintenance. On Page 20, read about the challenges this team overcame and the impact this job will have on the Tłı̨cho people.

These are all great examples that demonstrate Kiewit's drive to be a solutions provider for our clients, providing innovative solutions that lead to successful projects.

Thank you to our valued clients, partners and employees for all you do. Stay healthy and safe.

RICK LANOHA
President and Chief Executive Officer

Kiewit

Kiewit is one of North America's largest and most respected construction and engineering organizations. With its roots dating back to 1884, the employee-owned organization operates through a network of subsidiaries in the United States, Canada and Mexico. Kiewit offers construction and engineering services in a variety of markets including transportation; oil, gas and chemical; power; building; water; industrial and mining. Kiewit had 2020 revenues of $12.5 billion and employs 27,000 staff and craft employees.

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KIEWAYS
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CONNECTING THE LOOP
More than a decade later and six months ahead of schedule, the DFW Connector project is substantially complete. Read about it on Page 14.

ON THE COVER

ALSO INSIDE

KIEWIT NEWS

What began in 1884 with two hard-working brothers has grown into a construction and engineering industry leader. As a multi-billion dollar organization, Kiewit can tackle projects of all sizes, in any market. Here's a brief collection of recent news and information from around the company.

OUR MARKETS:

- BUILDING
- INDUSTRIAL
- MINING
- OIL, GAS & CHEMICAL
- POWER
- TRANSPORTATION
- WATER

OUR VALUES:

- PEOPLE
- INTEGRITY
- EXCELLENCE
- STEWARDSHIP

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NO. 18

ENR's Top 500 Design Firms

MOVING UP

Kiewit Corp. is No. 18 on this year's Engineering News-Record list of Top 500 Design Firms — up five spots from last year. Companies are ranked according to revenue for design services performed in 2020. Additional rankings include No. 6 for industrial process/petroleum; No. 6 for power; and No. 34 for Top 50 Designers in International Markets.

BEST WORKPLACES IN CANADA

Kiewit was named a Best Workplace in Canada for the eleventh year in a row, coming in at No. 15 this year. The list is produced by Great Place to Work® Canada.

KIEWIT.COM GETS AN UPDATED LOOK

In May, Kiewit released a new company website at Kiewit.com. The new site features Kiewit construction and engineering projects across North America, including more photos of work from across the company. It has also been optimized to make it easier and faster to use. Kiewit launched its first full-scale website in 1995.

FIRST FIRE AT HILL TOP ENERGY CENTER

The Hill Top Energy Center team in Carmichaels, Pennsylvania, safely first-fired the combustion turbine on March 24. The project's peak workforce includes 475 craft and 80 staff employees.

CONSTRUCTION SAFETY WEEK

CONSTRUCTION SAFETY WEEK

Kiewit crews across North America participated in Construction Safety Week, May 3-7. Teams discussed this year's theme — Holistic Safety: Be Present. Be Focused. Be Safe. — and the importance of mental health to total well-being, and trained on Kiewit's fundamental safety programs, processes and culture. Kiewit crews also "pre-gamed" for Safety Week the month of April, devoting extra time to these important topics and conversations in advance of the industry-wide event.

Each year, more than 70 national and global construction firms join forces for Construction Safety Week with a single aim: to inspire everyone in the industry to be leaders in safety.

BE PRESENT · BE FOCUSED · BE SAFE ·

SUPPORTING YOUNG WOMEN'S FUTURES

Kiewit employees in Dallas, Texas, made a $100,000 donation to Ebby House, part of the Juliette Fowler Communities. Kiewit women selected Ebby House, which provides transitional living for girls, as the recipient of the donation in honor of Women in Construction Week, which took place in early March.

PROJECT NEON SHINES BRIGHT

Project Neon received the 2021 Construction Risk Partners Build America Merit Award: Design-Build Civil and the 2021 Construction Risk Partners Build America Merit Award: Marvin M. Black Partnering Excellence. The project is the largest public works project in Nevada history and widened 3.7 miles of Interstate 15 through the state's busiest stretch of highway.

HARVESTING IONS:

HOW THE SAMSON TEAM IS REWRITING THE SOLAR PLAYBOOK

You won't get too far across the Lonestar State before coming upon a cattle ranch or row crop.

As a leading exporter, the Texas Department of Agriculture reports that 86% of its land is dedicated to agricultural production of some kind. Most often you'll find hay, cotton or grain, but there's a stretch of farmland across three counties in Northeast Texas that stands out a bit from neighboring fields.

"Instead of planting crops, we're harvesting ions."

Area Manager Norm DeCastro oversees the Samson Solar project for TIC, The Industrial Company, which is a subsidiary of Kiewit Corporation.

In July 2020, DeCastro's team started converting 4,200 acres of farmland into the United States' largest solar energy farm on behalf of Invenergy, a global developer and operator of sustainable energy solutions. Eventually, this strip of land will generate an unprecedented amount of clean, sustainable energy — enough to power up to 300,000 homes.

Not only is TIC building this massive solar farm safely and efficiently, it's improving how this type of energy is brought to the masses.

"The industry as a whole approaches solar work with manual-labor-intensive methods," explained Samson Project Manager Stephen Hambleton. "It involves moving materials with people instead of machines."

The team realized early on that the industry is ripe for improvements, so as it builds Invenergy's massive solar farm, it's also challenging industry standards to perfect the process and rewrite the solar playbook.

"We have put a heavy emphasis on bringing innovation to the solar market," said Hambleton. That means designing and testing new efficiency and safety methods without disrupting operations.

"We knew we couldn't waste this opportunity," he continued. "But because the project team will work over 1.4 million hours in 12 months and peak at over 700 craft, we needed to keep the core team focused on safety and schedule."

So, they assembled a highly talented and motivated team to drive innovation. Enter Jacob Metzger and his Innovation and Continuous Improvement Program.

Metzger, known on the project as the "innovation chairman," uses his past experiences as a construction manager and superintendent to his advantage — made obvious through his "boots on the ground" approach.

Working with the field team's direct feedback, Metzger oversees the ideas that make it off the whiteboards and spreadsheets and into fabrication and onto the job site. Once a method proves efficient, it is implemented on a broader scale.

Documenting these practices is key in creating a new solar playbook for future projects.

1

1. Slew drive tracker systems are installed to turn panels throughout the day to receive the maximum amount of sunlight. 2. Boxes of panels are lined up for installation once the posts and racking systems are in place.

2

FROM THE GROUND UP

The innovative work at Samson Solar started as soon as the project team began driving posts into the ground. Each post supports the racking systems and solar panels, but the installation methodology isn't one-size-fits-all for every post.

Because of the thousands of acres of diverse soil Samson Solar covers, drive times for posts differ throughout the site. No matter the geotechnical aspects of the soil, placing posts at the correct depth has been made easier with the use of new software and equipment.

There are 15 PD10 pile driving machines on-site to install posts into the ground. Each is guided by an RDO/Carlson GPS. This system guides each installation and can be remotely updated with the X, Y, and Z coordinates for each post. Two coordinates ensure the post is installed at the correct location and the third designates the depth.

The traditional industry standard for operating a PD10 is a three-person crew consisting of a rig operator, a skid steer operator and a laborer on the ground to feed the posts into the machine. But TIC found a safer, more efficient way to install posts with a two-person crew.

Loads of deliveries

Building a solar project of this scale is a massive logistics undertaking. The scope of deliveries to the Samson project includes:

MODULES
Over 3,700, 40-foot container loads

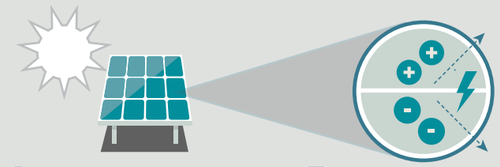
RACKING
Over 3,000, 53-foot flat deck trailers

POSTS
Over 1,200, 53-foot flat deck trailers

UNDERGROUND/HARNESS CABLE
Over 700 truckloads

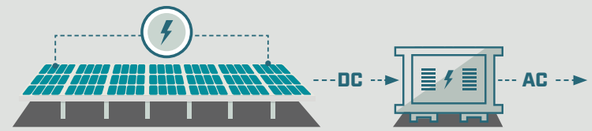
Solar 101: how it works

Solar energy is the most abundant renewable energy source on the planet. Solar photovoltaic (PV) energy systems are used to convert the sun's energy into usable forms of energy that can help power the world around us. Here's a glimpse at how it works.



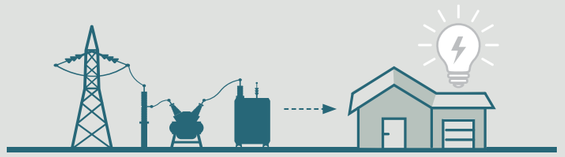
1
Solar PV panels, also known as modules, are designed to convert the sun's energy into direct current (DC) electricity.

2
This happens when sunlight interacts with semiconductors within the PV cells, freeing electrons and creating an electric current.



3
The DC electricity from the individual panels in a solar array is combined before it's sent off to the inverter.

4
Inverters are used to convert the DC electricity into alternating current (AC) electricity.



5
The AC electricity is pushed to the substation for distribution to homes and businesses in the same way it is when generated from fossil fuels and other energy sources.

On the Samson site, the crew uses a grapple attachment on the skid steer to grab the post and feed it into the machine. Now the operation no longer requires a laborer on the ground, interfacing with the machine. This safer method increases efficiency by 30% and cuts 16,000 direct hours from the project.

CRUNCHING THE (MASSIVE) NUMBERS

"This work is as much like manufacturing as it is construction," said DeCastro. Not unlike an assembly line, each part of the process relies on the last. And there are so many parts to manage.

It takes an expert logistics superintendent like Jamie Swigart to keep the process running smoothly with three phases of work that, at peak delivery, involve 8,000 trucks with 40 to 60 deliveries a day, five days a week.

"In solar, due to the volume of both material and acreage, unloading materials as close to the work as possible is more pronounced since the area is so vast," said Swigart. "This brings the logistics side of materials management to the forefront."

Swigart and the rest of the team make sure each part falls perfectly into place, including the 2.3 million solar panels that make up the project.

Each panel varies from 340 watts to 500 watts and is about 3.5 feet by 6.5 feet in size. They're also bi-facial, meaning they can collect direct sunlight from the top and reflected sunlight from the bottom.

The panels rest upon tables consisting of the steel posts and the structural racking system that supports them. The tables are also equipped with a drive system that shifts the panels toward the sun to increase efficiency during daylight hours.

TIC is also installing 70 miles of chain link fencing, 200 inverter skids and about 7,000 miles of cable throughout this project.

Approximately 500 pieces of company-owned equipment are also located on site. This includes scrapers, excavators, loaders, articulating dump trucks, skid steers and utility terrain vehicles.

1. Two-man crews drive about 100 posts into the ground each day using this new grapple method. The 15 machines on site place around 1,500 posts daily.
2. Teams will install a total of 2.3 million solar panels on the 4,200-acre site, enough to power up to 300,000 homes.

Miles and miles of cable

About 7,000 miles of cable will be used during the current phases of the project. That is more than enough cable to string from Alaska to Key West.

The rainy season

Northeast Texas' rainy season spans from fall to spring, making muddy conditions the norm on this project site.

The rain and mud can make moving equipment and workers difficult, sometimes halting work entirely. The innovation team has been fabricating and acquiring new equipment to increase efficiency during these poor weather conditions.

One piece of equipment is a sled to be used during the installation process. It is designed to be a clean and stable working platform for workers to stand on while they install racking and modules. Another sled has been designed to string out wire cables during muddy conditions. These sleds are now going through fabrication and trial runs.

All-terrain access buggies and lifts and hay-blowing machines are also used to provide accessibility to the site when ground conditions are poor.

"Because of the area, the logistics and the sheer volume and size of the project, it really takes a company like us to ramp up to a project of this scale, get the equipment and drive the efficiency that you need here," DeCastro said. "Anybody can hire a bunch of people and turn them loose on 4,000 acres. But we do it safely, effectively, efficiently and deliver a quality product."

Samson Solar is expected to peak September 2021, with more than 700 craft employees anticipated to be on site, many hired locally.

Samson Solar is only the beginning.

"With this job being our first mega solar job, we want to make sure before we leave here that we've established a good set of ground rules and standards that we can start implementing on other jobs," said Metzger. **K**

"Because of the area, the logistics, the sheer volume and size of the project, it really takes a company like us to ramp up to a project of this scale, get the equipment and drive the efficiency that you need here."

NORM DECASTRO
TIC - The Industrial Company
Area Manager

CONNECTING THE *Loop*

MORE THAN A DECADE LATER

One project, four change orders and more than 10 years later, the last link in the DFW Connector project is finally complete, transforming a major thoroughfare for drivers in the Dallas-Fort Worth Metroplex.

This summer, travelers heading to catch a flight from Dallas Fort Worth International Airport are cheering because of a quicker, safer drive.

They aren't the only ones celebrating. So are members of NorthGate Constructors, a joint venture between Kiewit and Zachry Construction, along with the Texas Department of Transportation (TxDOT).

The improvements made to the Interstate 635/State Highway 121 interchange, located north of the airport in the suburb of Grapevine, are the last link in completing the $1.5 billion DFW Connector project.

Begun back in 2009 as the first design-build for TxDOT in north Texas, nearly 12 years later the original contract has had four change orders overseen by NorthGate.

The most recent is the Connect 4 I-635/SH 121 project, a $383 million job that began in 2018. It's now substantially complete and open to traffic, six months ahead of TxDOT's original deadline.

RELIEF FOR ROADWAY FRUSTRATIONS

Named for the four interchanges being rebuilt as part of the project, Connect 4 offers some welcome relief from traffic congestion and commuter frustration in this part of the heavily trafficked metro.

One of the most congested bottlenecks on the way to DFW Airport, this 1.6-mile stretch funneled cars on I-635 and Highways 2499 and 121 onto one narrow mainline bridge. That required drivers to make quick lane changes to reach their exit ramps.

"The old interchange had a lot of weaving that caused slowdowns, depending on whether you were going south to the airport or east to Dallas," said Steve Cochran, project director for NorthGate Constructors.

"The Bass Pro Overpass over Highway 121 was the chokepoint of the corridor," he said. Too narrow to build any width underneath, a key part of the job was building a new bridge wide enough to add collectors and distributors underneath.

This aerial photo shows the main Connect 4 project interchange — westbound I-635 to State Highway 121.

Commuters now have additional lanes for smoother entrances and exits. In addition to the I-635/SH 121 work, the project includes improvements to the Highway 121/FM 2499 interchange.

LONGEVITY AND LOYALTY

Serving the DFW Connector project for more than a decade is a point of pride for the team. Project Sponsor Tom Grim, who started as a project engineer in May 2009, attributes that longevity — as well as staying ahead of schedule — to several factors.

"We've had outstanding owner relations from Day 1. It's been about working hand in hand with the owner and making the decisions on what's best for the project," he said.

Sustaining the high bar set by the main job was an important goal.

"We've tried to keep that standard or even improve on it, always being willing to have an open mind about doing what's right for the job and maintaining that excellence throughout the life of the job."

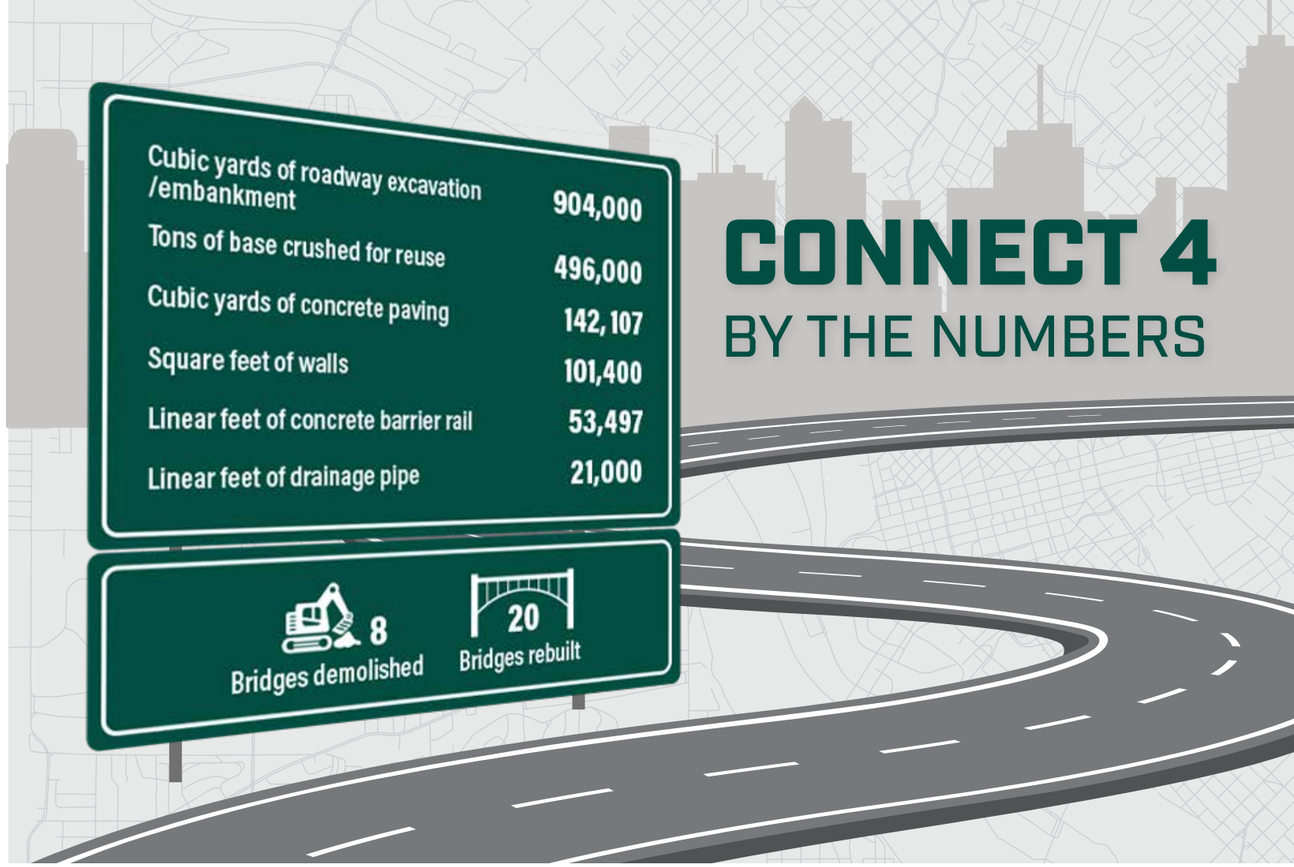
Grim and Cochran also emphasized the importance of the project being a training ground for many staff and craft. Over 20 Kiewit staff who worked on the DFW Connector are now sponsors, area managers or in higher positions in the company.

They're especially proud of the craft workforce. "We have folks that started on this project who decided to stay with Kiewit and travel to other projects in the region because of the experience they got working for us on the Connector," Cochran said.

"Some just really top-notch craft have been with us off and on for 10 years as we've gone through this cycle of many jobs," Grim said.

"Some that started on the job as excavator operators are superintendents," he added. "And we have some guys that started out as laborers 10 years ago and now are foremen."

1. Crews perform 13-inch slip form paving on State Highway 121 using a GNZ600S slip form paver. 2. Northbound State Highway 121 Collector Distributor deck pour. 3. Aggregate is processed on-site at the NorthGate Constructors batch plant.



CONNECT 4
BY THE NUMBERS

A decade of lending a helping hand

While Kiewit and NorthGate have been focused on improving the roadways for Texas drivers, GRACE has been providing community resources to those who need it most. Based in Grapevine, Texas, the nonprofit relief agency offers food, clothing, financial assistance and other vital necessities to people who are struggling with a limited income or recent emergency.

Several times during the last 10 years, Kiewit and NorthGate partnered with GRACE to provide monetary and people support. Kiewit has donated money raised during an annual golf tournament, had back-to-school drives and canned food drives, and helped with food distributions at Thanksgiving and Christmas. Read more about the organization at gracegrapevine.org.

KEEPING STAKEHOLDERS IN THE KNOW

Working with stakeholders to maintain traffic flow and keep the public up to date on construction was an essential part of the job.

"We had multiple ways to make sure the public stayed informed about the work we had going on," said Maria Woodrow, NorthGate public information officer. "The resources include email, a website, text alerts, weekly e-alerts, Facebook and Twitter."

Specific messaging was crafted for businesses impacted by the construction and for the traveling community needing to plan for alternate routes, she said.

"We gave 48 hours' notice for all lane closures, including full highway closures and traffic switches that were in place less than 24 hours. For all lane closures and traffic switches in place for more than 24 hours, we gave a 14-day notice."

Affected businesses received notifications with weekend closures, timeframes and detours at least two weeks in advance, with follow-up emails as reminders or updates if anything changed.

A TRUE SUCCESS STORY

As the team prepares to wrap up the final details of the project this year, Grim said the collaboration with every stakeholder — from TxDOT and the city of Grapevine to the DFW airport — demonstrated that big jobs can be success stories.

"There's a lot a stigma with these mega jobs, just gnarling traffic up for four or five years. But this team showed other communities that you can have a design-build mega job and still make it through successfully."

TxDOT Public Information Officer Michael Peters recently lauded Kiewit and NorthGate's ability to think outside the box and make adjustments as needed to keep the project moving forward.

"Our region's continued growth, combined with TxDOT's focus on enhanced mobility and creating connections, makes the timelines of this project's completion especially significant," he said. "NorthGate's open, continuous communication and their flexibility provided the foundation for a strong partnership." **K**

"There's a lot a stigma with these mega jobs, just gnarling traffic up for four or five years. But this team showed other communities that you can have a design-build mega job and still make it through successfully."

TOM GRIM
Project Sponsor

A GRAVEL ROAD

AND SO MUCH MORE

In the Northwest Territories, Canada, in a remote and breathtakingly beautiful place, Peter Kiewit Sons ULC is making history for both the company and the citizens of the Tłı̨chǫ lands.

Kiewit is building a 97-kilometer gravel road (about 60 miles) that will provide year-round access to essential services for the residents of the community of Whatì. The project is being delivered using a Design-Build-Finance-Operate-Maintain (DBFOM) model. The Government of the Northwest Territories (GNWT) is the client.

"Kiewit has used this P3 (Public Private Partnership) model many times, but this is the first time we've been in every box — developer/equity, design-build and operations and maintenance," said Sam Chai, who leads Kiewit's P3 business. "This is also the company's largest single equity investment in a P3 project."

Kiewit owns 80% of the project company that will be tasked with maintaining the road for up to 25 years; the remaining 20% is owned by the Tłı̨chǫ Government. For its role in project development, Kiewit was presented with the prestigious Gold Award for Project Development by the Canadian Council for Public Private Partnerships.

The Tłı̨chǫ Government was established following completion of the Tłı̨chǫ Land Claims and Self-Government Agreement, signed by the Tłı̨chǫ, Canada and the GNWT in 2003. The agreement provides self-government and land rights for the Tłı̨chǫ people.

"This road is the result of many years of planning, partnerships and hard work by former and present leaders and our collective governments," said Tłı̨chǫ government Grand Chief George Mackenzie. "Our partnership with the GNWT and Kiewit has been a great success for our people and companies, and there is great potential for future projects in our region."

Kiewit Project Manager Rob Cornell said Tłı̨chǫ is a true partner that has been involved in decisions throughout the project, adding that Kiewit has created a valuable partnership with one of the Tłı̨chǫ Investment Corporation's companies — Tłı̨chǫ Engineering and Environmental Services (TEES).

Opening a new world

For generations, the Whatì people have lived in one of the most beautiful places on Earth, a place where the Northern Lights dance over pristine lakes teeming with large trout and pike.

It's a sheltered community of about 580 people, a place where alcohol and drugs are forbidden. There is no hospital, no restaurant, no movie theater and only one small community store. Unless they take an expensive airplane ride, residents have access to modern amenities for about one month out of the year via an ice road.

Travel is often dangerous. For this reason, the Tłı̨chǫ government has been working with the Government of the Northwest Territories for many years to get the road built. It's also personal for Whatì Chief Alfonz Nitsiza, whose father began talking about the need for a road after surviving two plane crashes.

Chief Nitsiza said his father wanted more for his people and community. He wanted them to have access to better education, food and health care.

"It is a great day for Whatì and the Tłı̨chǫ region," said Chief Nitsiza on the day of the groundbreaking. "Our elders have talked about the need for an all-season road to the community of Whatì for many, many years. We now see this becoming a reality."

Progress does not come without a price. The elders worry about opening the community to the outside world and the problems inherent with that.

There is no doubt that the Northern Lights (on the bucket list for millions of people), the beautiful waterfalls and fantastic fishing will draw tourists.

The advantages to the community, however, far outweigh any challenges that may arise. The road gives people safe access to essential services on a year-round basis, a dream come true for many.

1

2

3

1. Whati Chief Alfonz Nitsiza is an avid proponent of the project and its importance to the community. 2. Crews cut a path for the new road through dense vegetation. 3. Once the road is open, the Northern Lights are expected to draw tourists to the area. 4. It's not uncommon to see bison herds roaming the Northern Territories.

4

NOT AN EASY ROAD

Working in the Northwest Territories comes with its share of challenges. The Tłı̨chǫ All-Season Road Project is a camp job. The camp is approximately two hours from the city of Yellowknife where the airport is located.

"It's a logistical challenge," said Cornell. "Everything has got to be planned out and sequenced properly." That includes getting equipment, materials and crews into and out of the camp.

Conditions can get even more challenging with drops in temperatures and changes in daylight. Winter months have close to 24 hours of darkness and summer months have almost 24 hours of daylight.

"Working in the dark is extremely challenging, requires extra safety measures and pushes the team to find ways to remain motivated," he said. "Constant daylight in the summer is nice but poses other challenges like getting enough sleep when the sun shines at night."

Winter temperatures can reach minus 50 degrees Celsius so the teams have to work in frozen conditions between October and May, with a summer season of about four months to complete most of the work.

If that wasn't enough, this project team had to deal with the evolving COVID-19 situation. They implemented an extensive COVID-19 mitigation plan that complied with the Chief Public Health Officer's orders and guidelines to keep workers safe and healthy.

"The project changed its rotation schedule from 20 days in and 10 days out to 28 days in and 14 days out. This move was advantageous because it limited travel in and out of camp; however, it had a big impact on morale and craft retention.

"It was a lot more challenging to keep spirits up," said Cornell. "Not only were they away from their families for a longer period, they could no longer sit together in the cafeteria or take advantage of the game room and weight room. All that went away."

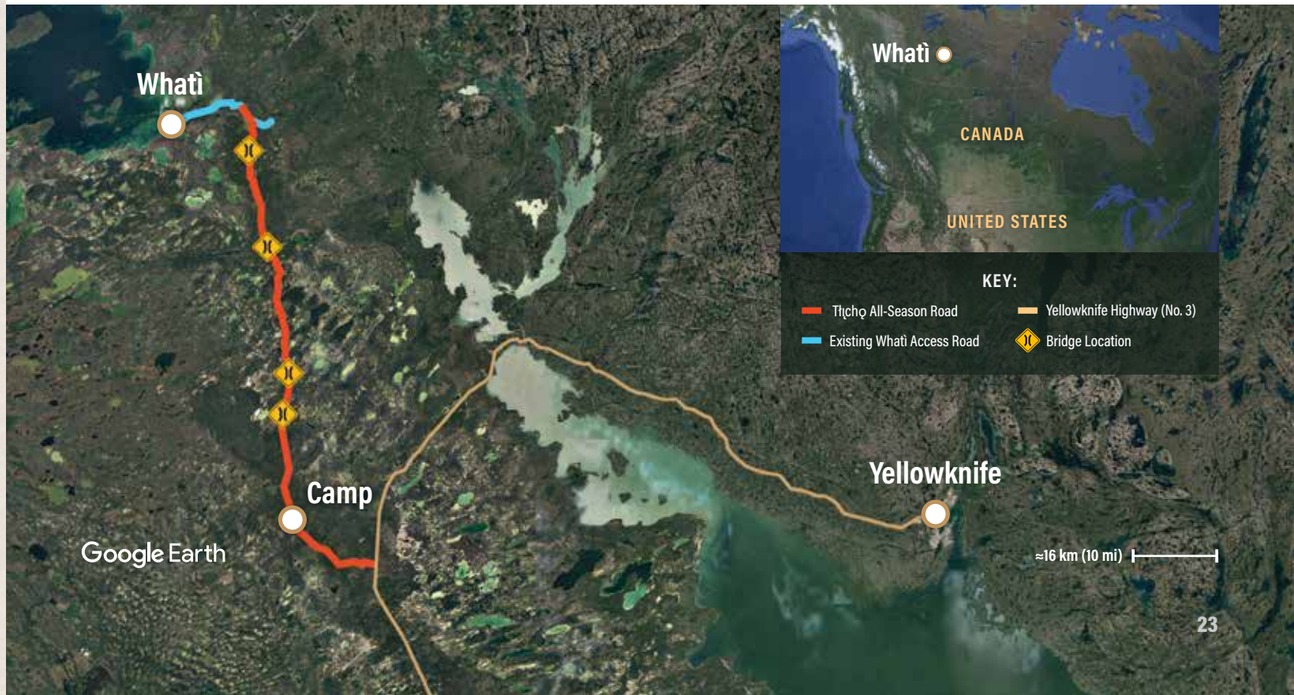
They made the best of the situation, finding other ways to get the team to bond while respecting COVID-19 protocols. Indoor activities were replaced with outdoor events such as barbecues and bonfires. The team built an area to play horseshoes, according to Cornell. "Thanks to the great team we had, the challenges turned into opportunities and we stuck together," he said.

"We could not have asked for a better owner," Cornell said. "Together, we've been able to work through the pandemic as partners, adapting to the situation through on-site testing and detailed protocols."

ON SCHEDULE

Despite the challenges, the project remains on schedule. Work began in September 2019 when the team received permits and began setting up a temporary camp.

The map below shows the 97-kilometer road, along with the locations of four bridges the team built, the camp and its proximity to the nearest town.



Construction started on Sept. 2, and the plan was to set up camp and build an access road before winter.

"We achieved a lot more, installing temporary bridges over rivers to get to LaMartre river before Christmas," said Construction Manager Bruno Pigeon. "That was an 85-kilometer access road to get to the most challenging segment of the project and bringing that work a full year ahead of schedule."

The team was able to do that by building an ice road, which allowed them to put in the bridge, which gave them access to all the remaining work on the other side of the river.

"It didn't pull our entire schedule a year ahead, but it took a lot of pressure off," Cornell said. "We pushed really hard to get that work done. A lot of people made huge sacrifices. Truly, we wouldn't be where we are without them."

The project shut down for the holidays, leaving a skeleton crew to watch over the camp and the job. Early in the new year, they began selective operations, carefully keeping in mind that running the gear in such harsh conditions comes at a cost. They managed to get a winter placement spec with non-frost susceptible material and continued forging ahead.

Last year was a busy one, with four permanent bridges built and 97 kilometers of roadway subgrade completed. The camp reached capacity at 200 people and gravel topping was placed on the first 45 kilometers of the project. This year will be another busy one as the team completes the other half of the road, installs signs, guardrails and gets ready to open for traffic in November.

The Tłı̨chǫ-Kiewit partnership is finalizing a contract to bring high speed internet to Whatì residents.

"The fiber optic project will add to the current scope, but also allow us to share resources and save cost for the client, the partner and Kiewit," said Cornell.

When construction is completed in the fall, the team has to demobilize all installations and equipment in order to reach substantial completion Nov. 31. **K**

1. Crews use a 250-ton crane to launch a 58-meter span bridge over the LaMartre River. 2. Aerial view of the 192-person camp, office and maintenance facility. 3. Crews add a layer of geogrid to reinforce the soil under the gravel top. 4. The earthworks crew prepares to start a new day on the Tłı̨chǫ project.