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SINCE 1884

the magazine of kiewit corporation

2019 / Quarter 3

KIEWAYS





PERMIAN BASIN BOOM

The Jesse James Central Gathering Facility, shown in this aerial photo, is one of three facilities built for Noble Midstream Partners near Pecos, Texas. Read more about work in the Permian Basin on Page 8.



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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/wastewater; industrial; and mining. Kiewit had 2018 revenues of \$9 billion and employs 20,000 staff and craft employees.

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KIEWAYS

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TURNING POTENTIAL INTO ACTION

As a steward of this special company, I can confidently say that Kiewit has a knack for recognizing potential and turning it into action. We're always looking for better and smarter ways to do business, deliver projects and develop our people. This issue of Kieways is full of terrific examples.

For starters, we see a lot of potential in the people we select for our elite internship program. You'll get to meet a few of them on Pages 6 and 7. In their own words, they showcase the work they've done this summer and how it's already making an impact on their future. This results-driven mentality follows our people throughout their careers as you'll see on Pages 4 and 5, where we highlight our employees' most recent awards and recognitions.

Sometimes potential is a bit more unassuming, like in the desolate environment of the Permian Basin (Page 8) where our team is building oil and gas facilities, or in the outdated infrastructure Kiewit removed to not only improve Seattle's transportation system, but also renew the city's historic waterfront view (Page 12).

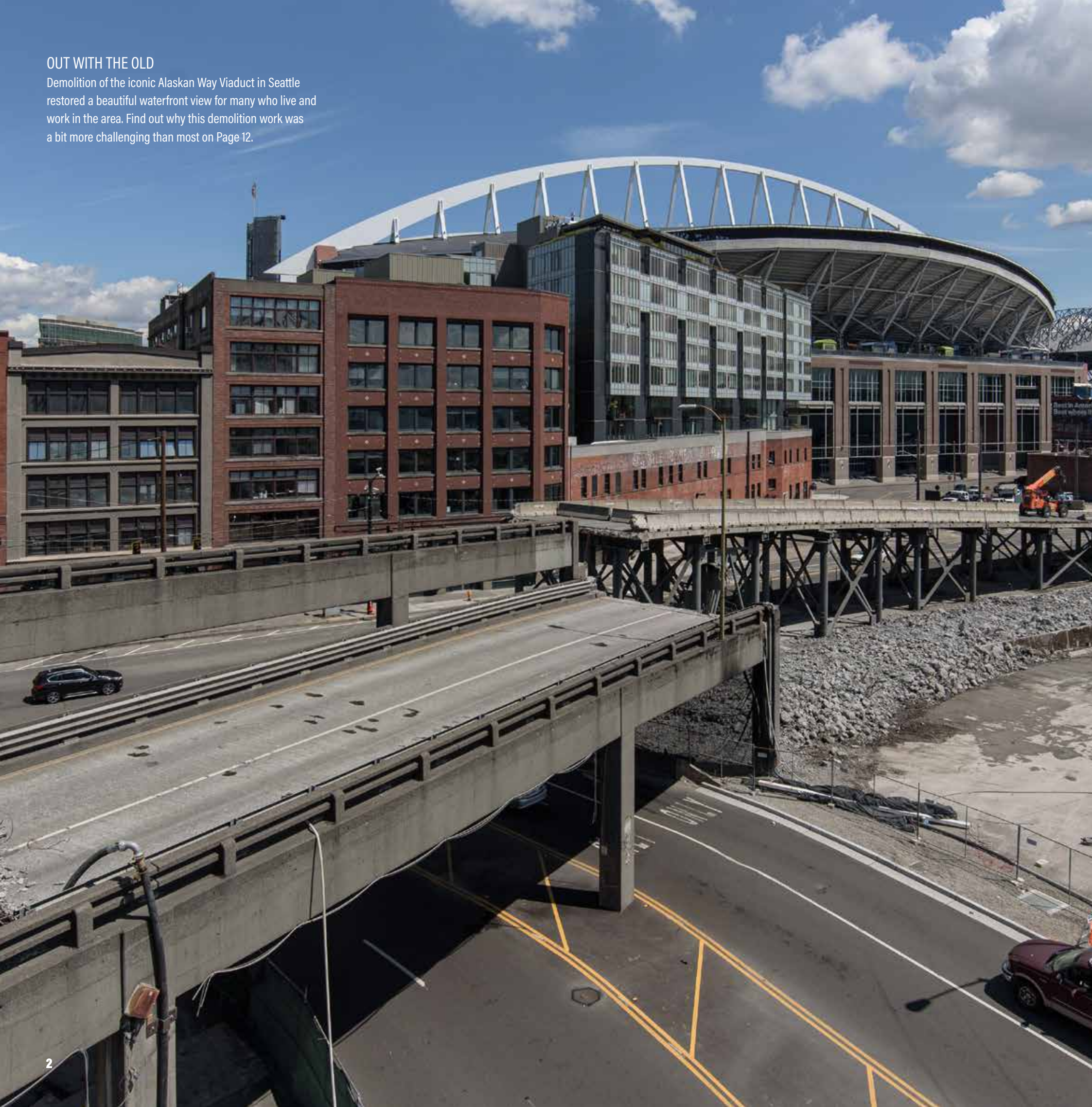
Potential without action is merely a missed opportunity, and it's no secret that this industry has been missing opportunities when it comes to hiring and keeping talented women in our organizations. Understanding why takes consistent and honest conversations followed by intentional actions, as you'll read on Page 18.

I'm proud of the unmissed opportunities in this issue and of all the Kiewit teams that made them possible. I hope you find their stories just as inspiring as I do.

BRUCE GREWCOCK
Chairman and CEO

OUT WITH THE OLD

Demolition of the iconic Alaskan Way Viaduct in Seattle restored a beautiful waterfront view for many who live and work in the area. Find out why this demolition work was a bit more challenging than most on Page 12.



ON THE COVER

18 WOMEN AT WORK

Learn how Kiewit and others in the industry are taking a solutions-based approach to retaining and advancing more women in the construction industry.

Featured on the cover left to right (top photo) are Vijita Nambiar, Pegah Skarsgard and Kristyn Breeds, and (bottom photo) Caroline Wilson, Marie Jarrett, Jonathan Beaty and Misael Delatorre-Gutierrez.

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Demolition of the iconic Alaskan Way Viaduct reveals a new vista for the Emerald City's waterfront.





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/WASTEWATER

OUR VALUES:

-  PEOPLE
-  INTEGRITY
-  EXCELLENCE
-  STEWARDSHIP

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KIEWITJOBS.COM



COLORADO'S GROSS RESERVOIR EXPANSION MOVES FORWARD

Denver Water awarded Kiewit Barnard, a joint venture, a two-year, \$4.5 million contract for planning and pre-construction work during the final design phase of the \$464 million Gross Reservoir Expansion Project.

"Kiewit Barnard met Denver Water's high bar for doing a project that's important not only to the 1.4 million people who rely on us for their drinking water, but also to the people who live around the reservoir," said Jeff Martin, Denver Water's program manager for the expansion project, in a news release. "We were impressed by the team's experience with roller-compacted concrete dam construction, innovative approach and commitment to safe and responsible building practices."

KIEWIT EARNS A STEMMY

In Kansas City, Kiewit is this year's Central Exchange STEMMy Corporate Hero. Central Exchange, established in 1980, has more than 800 members and is Kansas City's largest community for leading women. The STEMmys celebrate Kansas City's women in STEMM (science, technology, engineering, math and medicine).

ION STAGE 1 IS DONE

Kiewit celebrated ION Stage 1 LRT's grand opening in Waterloo, Ontario, in June. Kiewit was involved in the development and construction of this new at-grade LRT system from Waterloo to Kitchener, including 38 kilometers of track, 19 station stops, and a maintenance and storage facility.



A CHANGE FOR KIEWAYS

You may have noticed Kieways has a different look this quarter. The updated, more modern design is part of a recent brand refresh for Kiewit. On the right, check out the various designs seen on the Kieways cover since the first issue was published in 1945.



STEWARDS OF THE COMMUNITY

Many Kiewit interns got involved in their communities this summer. Pictured here are some of their efforts, including volunteering at local foodbanks, parks and affordable housing centers. You can learn more about Kiewit intern experiences on Page 6.



ENR REGIONAL WINNERS

Engineering News-Record (ENR) recognized two Kiewit projects with regional best project awards.

-  Oroville Spillways Emergency Recovery Project, Best Project – Water/Wastewater, Northern California
-  Lackawanna Energy Center, Best Project – Energy/Industrial, MidAtlantic



MAKING WAY FOR A NEW REM STATION AT YUL

In July, Construction Kiewit Cie joined Aéroports de Montréal (ADM) and partners Pomerleau and SNC-Lavalin at the YUL Montreal-Trudeau International Airport for a groundbreaking of ADM's city-side development and Réseau express métropolitain (REM) station project. The new REM station will be complete in 2023.

INTERNS of KIEWIT



"Working for a company of this size has allowed me to work outside my comfort zone, face new challenges and learn something new every day. As a field engineer, I am part of the grading and soil stabilization team. I have been blessed to have a great team that takes the time and effort to set me up for success and explain the work to me. I have been able to apply what I learned in the classroom here in the field, but I have learned so much more working on this job by interacting with all the different people with different backgrounds. Truly this has been the best experience of my life."

MALIK ASKAR
Venture Global Calcasieu Pass LNG, Cameron, Louisiana
 University of Nebraska - Lincoln

Each summer, Kiewit hires interns for positions in offices and on projects across North America. They take on a variety of tasks and responsibilities and are important contributors to Kiewit's business. This year, nearly 1,000 interns joined the company. Here's what some of them had to say about their experience.



"I have been so thankful for the company's trust in my abilities and the overwhelming desire people have had to see me succeed. I am so impressed with not only the technical skills I have been able to apply this summer, but more so with the people I work with. Everything they say about the Kiewit culture is true. I am so grateful for all the people I met and am looking forward to building these great relationships in the future."

ALLYSON STEINMETZ
Kiewit Power Constructors Co., Lenexa, Kansas
 University of Kansas



"Working for Kiewit, I have had the opportunity to work on projects from all over the country, from Washington, to Colorado, to New Jersey. My day-to-day responsibilities include structural design and design review of construction systems, such as falsework and formwork, to aid project safety and efficiency. I had the opportunity to travel to Seattle with my fellow interns and tour some of the project sites. It was amazing to see the wide variety of projects that Kiewit works on and to interact with Kiewit employees in various disciplines."

AMANDA KALAB *(Third from left)*
Kiewit Engineering Group Inc., Denver, Colorado
 University of Idaho



"I am proud to be a Kiewit intern, working on a project that is going to assist the United States Marine Corps in its training. We are constructing an LHD (landing helicopter dock) Pad and some MV-22 (Osprey) Landing Pads. Coming from a family of veterans and participating in the ROTC, it makes me proud when I can assist our military branches and give back to those who are fighting for our freedom. Since we are working on an airfield, I was able to get trained on how to operate a radio and understand the military lingo to communicate with the airfield control tower."

DAVID NGUYEN-TRAN
Landing Helicopter Dock Pads, Hawaii
 Michigan State University



HIDDEN TREASURE IN THE PERMIAN

It's hot and dusty, desolate and sometimes dangerous. It's teeming with snakes and other reptiles. But hidden under the surface of the Permian Basin is liquid gold — large stores of untapped oil and natural gas.

The basin spans about 75,000 square miles of remote land in west Texas and southeast New Mexico. Companies have been drilling in the area for decades, but until recently, that drilling didn't get a lot of attention.

Then, everything changed.

This year the Permian Basin will produce 3.9 million barrels per day, about a third of all U.S. oil production, according to the U.S. Department of Energy. The Permian output, coupled with other shale operations, has made the U.S. the world's largest producer of crude oil, ahead of Saudi Arabia and Russia.

The oil boom in the Permian is a direct result of fracking and other technology advances that have dramatically improved the way oil is extracted from the ground, according to Chad Johnson, midstream business line manager with Kiewit Energy Group Inc.

"The Permian has always been a known commodity but there were many logistics challenges," he said. "With fracking, they can now drill down and then horizontally for more than two miles." That made the area more lucrative for big players like Exxon, Shell, Chevron and Anadarko, he added. Two other factors that played a role in the Permian oil boom were the lifting of a ban on U.S. oil exports and a sharp decline in oil prices. With declining prices and the high cost of offshore drilling, the shale deposits became more attractive.

Oil production in the Permian Basin is expected to continue climbing for the foreseeable future and Kiewit sees huge potential in the coming years.

"There aren't very many companies that offer the wide range of solutions that Kiewit does," said Johnson. Kiewit companies already involved or planning to pursue work in the Permian include: TIC – The Industrial Company (TIC), Kiewit Offshore Services, Ltd. (KOS), Kiewit Engineering Group, Inc. (KEG), Kiewit Power Constructors Co. and Kiewit Infrastructure South Co.

"There is a lot of work available, and we are positioned well to grow our presence in this midstream market," he said. TIC found a niche in building gathering facilities for oil, gas and water. The oil and gas are refined before moving along through the pipelines. Water is trucked out or pumped back into the ground.

TIC has built five gathering facilities since 2017, including three for Noble Midstream Partners, and one each for Anadarko Petroleum Corporation and PDC Energy. Kris Boothe has sponsored all but one of the Permian Basin jobs. He also sponsored a couple of projects in the North Dakota Bakken shale basin.

"The Permian Basin is more promising," Boothe said. "It's easier to get the oil out of the ground so drilling is cheaper, and the weather is conducive to working year-round."

PERMIAN CHALLENGES

Working in the Permian Basin area comes with significant challenges. Boothe said the biggest challenge is hiring enough people — there's more work to do than there are people available. Housing for staff and craft is scarce with the cheapest motel rooms going for \$280 a night. The housing shortage has spawned the growth of several "man camps" and the company reserves space for employees working in the area.

The problem, Boothe said, is that not a lot of people want to live in the camps. Many are taking to the roads and driving to and from work every day. That adds to the traffic congestion on roads already busy with truck traffic, including water tankers, plant equipment, cranes and other construction equipment.

In 2017, there were 43,661 traffic accidents in the Permian Basin that resulted in 405 fatalities and 1,457 serious injuries, according to the Texas Department of Transportation.

"The two-lane highways in this area weren't designed for this type of traffic and are some of the deadliest anywhere," said Boothe. "Accidents occur every day and a 15-mile drive can take over an hour."

In an effort to mitigate risk, TIC runs flexible shifts, where appropriate, and plans ahead to avoid unnecessary road trips.

"We have a fantastic safety record, which is key to our success," said Boothe. "We've been able to keep the same people from job to job. They stay because they value working in a safe environment where quality matters."



History in the Permian

BILLY MINER CENTRAL GATHERING FACILITY

Noble Midstream Partners
 Billy Miner was the first gathering facility for a three-phase system built for Noble Midstream Partners. The facility includes inlet metering and further separation of oil, gas and water.

JAN. 2017

JESSE JAMES CENTRAL GATHERING FACILITY

Noble Midstream Partners
 Jesse James was the second gathering facility built for Noble Midstream Partners. The facility includes inlet metering and further separation of oil, gas and water.

JUNE 2017

BILLY MINER TERMINAL 2

Noble Midstream Partners
 Billy Miner Terminal 2 was an expansion of the Billy Miner project built in January 2017. The expansion more than doubled production capacity of the first Billy Miner facility.

NOV. 2017

ANADARKO HAWK CENTRAL TRANSFER FACILITY

Anadarko Petroleum Corporation
 The Anadarko Hawk Central Transfer Facility (CTF) consists of four gas compressors, an inlet slug catcher/condensate separation and a dehydration unit with produced water load out. Also included is an oil handling system that separates the oil, then heats and boosts it to a local regional oil transfer facility.

MAY 2018

PDC BOREAS OIL TRANSFER FACILITY

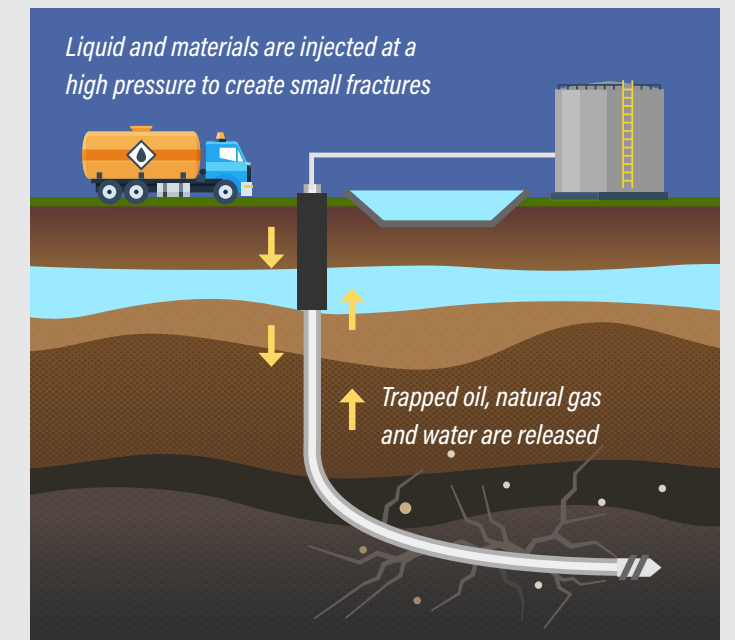
PDC Energy
 The PDC Boreas Oil Transfer Facility was built to handle oil, associated gas and water. Civil scope included drilled pier installation and precast foundations. In addition to civil, TIC did mechanical, piping and electrical installation.

OCT. 2018

What is fracking?

Hydraulic fracturing, or “fracking” is a drilling technology used for extracting oil, natural gas or water from deep underground. During the fracking process, liquid and materials are injected at high pressure to create small fractures within tight shale formations to release the trapped oil, natural gas and water.

According to the Independent Petroleum Association of America, more than 1.7 million U.S. wells have been completed using the fracking process since 1947, producing more than 7 billion barrels of oil and 600 trillion cubic feet of natural gas.



NEXT UP

The Permian Basin includes three sub-basins: Midland, Central and Delaware. Kiewit's focus has been and continues to be the Delaware Basin. The next project on the agenda is a gathering facility for XTO Energy Inc., a subsidiary of ExxonMobil. The job is in the Delaware Basin of southern New Mexico and involves several Kiewit companies. TIC is building the station. KEG in Houston did the upfront engineering, KOS completed the module fabrication and structural steel, and Kiewit Infrastructure South Co. did the pad development.

Also known as the Bulldog station, the XTO project is TIC's first gathering facility in New Mexico.

“KEG worked with XTO to optimize the compression facility design and TIC is building the Bulldog station using the new design,” said Project Sponsor Robert Strehphans.

The Bulldog station will be TIC's largest to date with three large compressors and capacity to expand to nine, said Strehphans. Because of its location between Carlsbad and Hobbs, New Mexico, the project won't have some of the logistics problems experienced elsewhere in the Permian.

The closest places to live are the camps in Carlsbad, but space there is limited, so many of the workers opt to find housing in Hobbs, which is about 45 minutes away. The Hobbs Highway has two lanes in each direction for better traffic flow.



It takes a special kind of worker to navigate the many challenges inherent in working in the oil fields of the Permian Basin.

FUTURE WORK

Kiewit recently opened a small office in Midland, Texas, that serves as a central point for hiring and gives the company a better presence in the area. That's important, Johnson said, because the company is looking at expanding operations in the basin.

“Some of our clients are looking at this as a 30- to 40-year play,” said Johnson. “Well count in the Permian is expected to increase 91 percent, and these wells are expected to produce 5.4 billion barrels per day by 2023.”

Kiewit companies are looking to capture some of the work, including pipe fabrication, pipe rack, pipeline pump stations, initial separation facilities and refining facilities. **K**

An aerial photograph of Seattle, Washington, showing a dense urban landscape with numerous skyscrapers and buildings. The city extends to the waterfront, where a large Ferris wheel is visible. The water is dark blue, and several boats are docked at the piers. The entire image is framed by a circular vignette effect, with the edges fading into a blurred background.

IN SEATTLE, YOU CAN SEE CLEARLY NOW

Demo reveals new vista for Emerald City's waterfront

One of Kiewit's latest projects has taken down an iconic part of the city's transportation system and restored something that's been obscured for more than 60 years — the beautiful view of Elliott Bay.

The viaduct was such a fixture of the landscape that when it closed to traffic at 10 p.m. on Jan. 11, motorists stopped their cars to throw an impromptu retirement party.

Residents, office workers and tourists have collectively taken their limited view of the Seattle waterfront with a grain of salt.



When the main line of the State Route 99 Alaskan Way Viaduct debuted in 1953, it represented a trade-off of sorts.

The elevated highway provided a way to shuttle traffic for the growing city more efficiently.

But for those who enjoyed looking at the waterfront from their home or office, it marred the view.

Six decades later there's good news on the horizon: The view is back.

Kiewit's role in removing the old viaduct is a crucial part of the Washington State Department of Transportation (WSDOT) State Route 99 program that comprises 30 projects, including a two-mile-long bored tunnel under the city to replace the viaduct.

Viaduct demolition also clears a path for completion of Seattle's waterfront development project.

Earlier this year WSDOT opened the new \$2-billion, four-lane State Route 99 tunnel to traffic.

That cleared the way for demolition of the 1.4-mile-long viaduct, inevitable after the 2001 Nisqually earthquake left the aging structure seismically vulnerable.

Soon after the new tunnel opened, Kiewit dug in — literally.

1. & 3. Specially designed excavators with universal processor attachments were used to break down bigger portions of the bridge while the more delicate work was handled by sawcutting and picking. 2. Downtown office workers and residents cheered the project along the way with window signs. "I don't think any of us anticipated the extent to which it would elicit this sort of emotional response from Seattle," said Alex Prentiss, Kiewit public information officer.

Old bridge, new purpose

With the Battery Street Tunnel now in the rearview mirror for Seattle commuters, it was Kiewit's job to decommission it.

The project involved the usual tasks, like removing the 1950s-era utilities, piping, and ventilation, as well as some more unusual ones, like working with utilities companies and the City of Seattle to repair and install new utilities.

Filling it could have meant trucking in material from miles away — adding to the cost of the project and carbon emissions from spent fuel.

But Kiewit proposed an environmentally friendly solution: Recycle the viaduct rubble into useable pieces to fill the structure.

The concrete traveled to Terminal 25, a yard set up a couple of miles from the jobsite.

There, it entered a crusher where it was separated from any remaining rebar and processed into three-inch-minus pieces — think super-chunky gravel — and brought to the tunnel.

Crews then transported the fill back to Battery Street and dumped the rubble through old ventilation grates on the tunnel lid via surface streets.



Kiewit used recycled viaduct material as an environmentally friendly solution to fill the decommissioned Battery Street tunnel. Photo credit: Washington Department of Transportation

The filled tunnel holds 52,000 cubic yards, or 78 million pounds of the former SR 99 Alaskan Way Viaduct.

And the best part: Recycling the bridge has saved 52,000 cubic yards of rubble waste from entering local landfills.

Even more critically, it reduced the 363 metric tons of greenhouse gas emissions, 7,100 truck trips and 246,000 miles of truck travel that would have been associated with bringing in new fill.

With its subcontractor Ferma Corporation, the team began bridge demolition on Feb. 15.

Removal of the viaduct and its ramps is part of Kiewit's four-scope contract, which also includes decommissioning the Battery Street Tunnel [see sidebar], constructing a new pedestrian bridge to the downtown ferry terminal, and reconfiguring and restoring nearby surface streets.

Viaduct demolition will be complete in October; the rest of the project is scheduled for completion by late 2020.

KEEPING IT DOWN

Mitigating the effects of vibration, noise and dust in a congested urban area was top of mind for the team from the beginning.

"Seattle has aging infrastructure, plus or minus a hundred

years old," said Project Controls Manager Ryan Anderson.

"One of our biggest challenges was implementing solutions to ease the concerns of utilities providers and building owners."

Some of the nearby buildings were just a few feet from the viaduct. In one case, the 1950s builders actually notched the viaduct around the building — leaving only two or three inches of clearance.

To make sure noise levels didn't exceed those allowed by the permit WSDOT secured from the Seattle Department of Construction & Inspections, the Kiewit team placed seven noise-monitoring stations in strategic spots around the construction site.

Each station had a highly sensitive microphone set up to

continually assess decibel levels in the area, said Chris Derbyshire, demolition engineer.

"If a station picked up a noise level that was over the threshold we set, it produced a recording. That recording helped us determine if it was something related to our work or something else in the area."

A SOFT LANDING

Preserving the integrity of the many older brick buildings near the bridge wasn't the only reason the team was focused on creating effective solutions to reduce vibrations.

The location of local utilities directly underneath the viaduct — in particular, two 115-kilovolt power lines — was a primary concern.

"We were told that if those were disrupted in any way, the effects might be felt all the way up to Vancouver, (nearly 150 miles north)," Derbyshire said.

A transportation icon

A vision for the viaduct — the first double-deck bridge in the state — dates back to the early 1930s. Planning resumed after World War II, prioritizing the elevated highway as one of two north-south routes necessary for managing traffic flow in the city.



These photos show just how close the viaduct was to buildings and nearby surface streets, making it more critical that the project team mitigate the effects of vibration, noise and dust.

That was in addition to the sensitive location of some high-pressure water mains. The cast-iron sewer pipes, 20 to 36 inches in diameter, are over a century old.

If any of them ruptured, Derbyshire was told, "a sinkhole could happen in seconds."

After significant field testing, Kiewit placed a rubble pad under the bridge. Made of crushed viaduct material, the pad provided a cushion for the debris to fall on.

The rubble pad started at about 2 feet deep and reached depths close to the city's limit of 6 feet, further mitigating the effects of vibration as it accumulated. This pad moved continuously as demolition progressed along the viaduct.

REMOVING SOOT SAFELY

Before filling the Battery Street Tunnel, Kiewit had to remove all potential hazardous materials in an environmentally responsible way.

To safely take off the soot accumulated by more than 50 years of vehicle exhaust, the team chose an innovative waterless system that used tiny bits of sponge to blast the hazardous soot buildup.

"It's very light in your hand, and it's ingrained with aluminum oxide shavings that give it its abrasiveness," said Jimmy Vukelich, tunnel superintendent.

The sponge absorbs the material and can be reused five or six times before it gets completely saturated with hazardous soot. It's then safely removed from the site and taken to a hazardous material disposal site.



Vukelich said the solution saved considerable time usually spent on trucking water tanks to the job site, filling them and ensuring the contaminated water is treated and pumped out properly.

KEEPING STAKEHOLDERS INFORMED

The project impacted those who live and work in downtown Seattle, as well as tourists and even cruise ship travelers who had to embark and disembark right next to the demolition.

A priority has been keeping city and state officials, the Port of Seattle, local businesses and the public in the loop, said Public Information Officer Alex Prentiss.

"People feel very attached to this project and now they feel that they're a part of rebuilding Seattle's waterfront."

To keep stakeholders up to date, Prentiss used a variety of communication tools, from weekly site walks and bimonthly meetings with the waterfront business community, to a WSDOT web tracker tool, weekly email updates and a 24-hour hotline.

She also gave twice-a-week communications training to onsite staff and craft during their safety orientation,

distributing cards with the project's 24-hour hotline number and email address to give to anyone who stopped to ask a question or complain.

Some of the more frequent comments were from people seeking sentimental souvenirs, she said.

"WSDOT has a list of requests for signs, storm drains, the unique 2-inch square rebar and pieces of rubble. We even saw someone selling pieces of viaduct rubble on the street," Prentiss said.

TURNING THE PAGE

It's not often that a Kiewit team is part of a project focused on bringing down a structure rather than raising one. But that's just one piece of this experience that the team will take away as its own souvenir, said Anderson.

"In the end, we get to be part of the project that turns the page to the next chapter for Seattle's waterfront."

This team, along with residents, workers and visitors, has a front-row seat for what's next. **K**



WOMEN AT WORK:

A Clearer Path Forward

Long before she stood atop a power plant overlooking the Pacific Ocean, Pegah Skarsgard saw a future in construction. As the daughter of a project manager of refineries, power has always been in her blood.

"I was about four or five years old when I first stepped onto a project site. My dad kept stopping to talk to the crews and I remember those interactions and everything happening around me seemed so — extraordinary."

Today Skarsgard leads her own team in building a new, energy-efficient combined cycle natural gas plant in Huntington Beach, California. She knew she would be a project manager someday, but admits it wasn't always easy to see the path forward.

"Visualizing myself in the role was harder," recalled Skarsgard. "It's different in the office where you see more women. In construction, when I looked up, I never saw another woman above me."

More than 1,500 miles north of Southern California's coastline, Katie Allan echoed similarities in her own leadership journey in Western Canada. Now assigned to the massive Southwest Calgary Ring Road project, Allan recently wrapped up work on the Dickson Dam Spillway Gates Replacement Project in Alberta where she was project manager.

"I never saw my gender as a roadblock, but it does make it a little harder to see yourself there if there's no one already there who looks like you," she said.

Allan and Skarsgard aren't the only ones who recognize the value in representation. Across the construction industry, there is a concerted effort to get more women in the door and into leadership roles.

"For me, it's pretty simple. It's an untapped resource," said Kiewit Board Member and retired Caterpillar, Inc. CEO Doug Oberhelman. "There is a bunch of very smart people out there who make up a small percentage of our workforce."

The U.S. Bureau of Labor Statistics estimates women make up around 9% of the construction industry, with numbers only slightly higher in Canada. Increasing that number would not only help alleviate the stress of the current labor shortage, but research indicates it would also improve industry progress overall.

"Diverse teams and perspectives help break up groupthink and lead to more innovative solutions — better results," explained Kiewit Talent Development Director Alicia Edsen. She adds, "We're fortunate to have a management team that not only believes in the need for change, but is also willing to play a key role in influencing it."

Kiewit leaders like Edsen and Senior Vice President Doug Glaser are focused on strategic solutions that start with a more intentional search for qualified female candidates. Those solutions include investing more engagement in early science, technology, engineering and math (STEM) education, more female representation during recruiting events, and targeted recruiting and training efforts through events like the Women in Construction and Engineering Leadership Conference and the Future Women in Kiewit Summit.

"We have to increase that talent pool and after that, we need to make sure we're providing the right mentorship and succession training to move those employees into leadership roles," said Glaser.



Regional support

Kiewit employees across North America have established regional groups, like KieWomen in Lenexa, Kansas, to provide local support to peers and to connect with young women in their communities. Recently, Kansas City area nonprofit Central Exchange awarded KieWomen with a STEMMY Award, recognizing their efforts to encourage local youth in regional science, technology, engineering, math and medicine programs.

Women in Construction & Engineering Leadership Conference

More than 500 college students exhibiting strong leadership qualities have attended Kiewit's Women in Construction and Engineering Leadership Conference (WCELS) since 2008. Attendees are hand-selected after submitting an application, an essay and references. During the conference, they hear from Kiewit leadership and network with their peers. They also participate in a variety of leadership-based exercises, receive training in Kiewit's state-of-the-art learning labs, and visit projects under construction.





"Working out on a project is a completely different lifestyle and you have more of a team environment," said Katie Allan, seen above with Scott Wallace, Johnny Jones, Gordon Gregory, Jonathan Bontos-Brodeau and Spencer White. All are part of the team working on the Southwest Calgary Ring Road project in Calgary, Alberta.

Mentorship, development and candid conversations have also been key to the rising number of women at Caterpillar says Denise Johnson, Group President of Resource Industries. A few years ago, Caterpillar began hosting an Annual Women in Leadership Conference and actively engaging thousands of employees in programs like reverse mentoring, inclusion workshops and its Breakthrough Leadership Sessions.

"The leadership training is focused on giving women the tools to successfully communicate and navigate their careers with an emphasis on inclusion. Since 80% of our population is men, we also developed targeted unconscious bias training for men," said Johnson.

The sessions themselves are important, but Johnson says it's what happens after that's made the biggest impact.

"When employees go back to their peers and talk about it, it's like their eyes have been opened in a different way," said Johnson. "It makes people aware that they have

biases and helps them see the things that drive inclusion, versus exclusion."

Skarsgard says one example of that bias is when people use words like "aggressive" when describing a woman's leadership style. She points out, "It's really important for leaders to be driven, but in the field people aren't used to seeing women in those roles." Her advice to women: "Own your position and your worth, but also choose your battles. You don't need to go to war for everything."

Skarsgard and Allan agree that it's important for men to be actively involved in the conversation.

"Women struggle with things like impostor syndrome where they don't place as much value on their accomplishments. They also have difficulty finding good mentors," said Allan. "I don't think men realize that. If they don't know, they can't actively change the way they approach or implement something."

Future Women in Kiewit Summit

"Getting to hear all of these women talk about what their experience was going into the field and offering pointers was really helpful. I now have some stuff to learn and work on so I can be successful in what I'm doing."

SOPHIA HESSE-MORGAN
2019 Future Women in Kiewit Summit attendee



New Kiewit employees are invited to network with other women, engage with company leaders, and learn about diverse career path opportunities during the Future Women of Kiewit Summit held twice a year at Kiewit University in Omaha, Nebraska.

"We won't solve everything overnight," said Kiewit Chairman and CEO Bruce Grewcock. "But empowering our people to talk about these things is going to help us work toward more substantive change, and ultimately a stronger, more diverse workforce."

So far, those changes range from making sure women have access to better fitting field gear to incorporating new policies, like extended family leave that allows for more time and flexibility after childbirth or adoption. Kiewit has also standardized mother's room requirements across the organization. Some challenges, though, lie beyond a one-size-fits-all policy.

"Local access to child care is a challenge on the project. When you work in the office, you can come in around 7:30 or 8 a.m." That doesn't always work with a construction project's schedule demands. "My first meeting is at 6:30 a.m. and none of the day cares around me open until 7 a.m."

Skarsgard emphasized that some obstacles also require a shift in the perspective of women.



"We are proud to say that our engineering office at the Raglan Mine in Nunavik (Quebec, Canada) is at a 50/50 gender balance. I have personally never seen this in the mining industry. It is incredible. Our director, Frédéric Boucher, did not hesitate to send talented women to the mine and give them important roles." – Anna Canan, Kiewit lead estimator (front), pictured here with Kamelia Krolikowska, Lucyle Jumets, Jessica Gagnon Cyr and Marie-Elaine Faucher.

"Find a person you work with directly or indirectly, someone you trust for feedback to tell you if you need to improve on something, but to also tell you what you're doing well and when you're being too hard on yourself."

KATIE ALLAN

Kiewit General Superintendent

"Sometimes, when life gets complicated, we quit before we give ourselves a chance," she said. "I want women to know that when it comes to work or family, you don't have to choose one or the other."

She says that's a topic that's always bothered her.

"I've never heard anyone ask a man how he balances family and a career." And as someone who manages a lot of men, she knows balance can be a challenge for everyone.

"The difference is, men are always looking for the next step, but women tend to look at what might hold them back. That's why I want to help women in construction. If we start giving support to each other, we can get more women to the top."

Allan's advice to women in the industry is to take the time to build a strong support system, especially mentors, whether they be men or women.

"Find a person you work with directly or indirectly — someone you trust for feedback to tell you if you need to improve on something, but to also tell you what you're doing well and when you're being too hard on yourself," she advised.

Both Kiewit leaders say they've seen a lot of change in the industry over the past couple of years and they're excited to see the impact it has on future generations.

"Recently a craft superintendent told me, 'I want you to talk to my daughter because I really want her to be like you one day,'" recalled Skarsgard. "I think moving in this direction is even going to change people's families because they'll encourage their kids and tell them, 'See, you can do it.'" **K**

