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the magazine of kiewit corporation

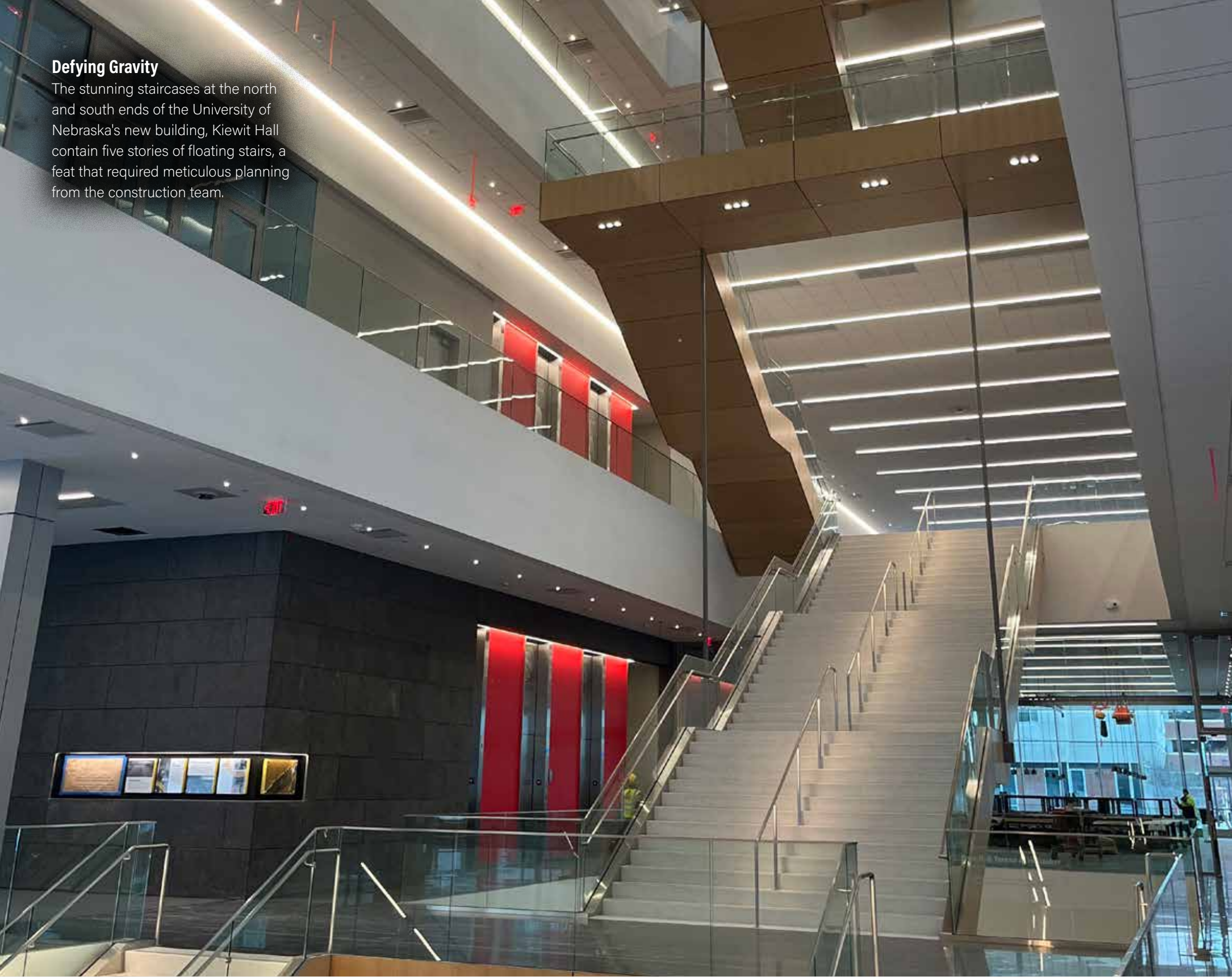
2024 / Quarter 3

# KIEWAYS





**Defying Gravity**  
The stunning staircases at the north and south ends of the University of Nebraska's new building, Kiewit Hall contain five stories of floating stairs, a feat that required meticulous planning from the construction team.



**BUILDING  
TRUST  
TOGETHER**

Trust is the cornerstone of our business. It shapes our relationships with clients, employees and the community. In this issue of Kieways, we highlight stories that showcase how, through collaboration, transparency, and ingenuity we build and maintain our reputation as one of the most trusted contractors on the continent.

Our clients trust us to stay on schedule and provide innovative solutions to meet the project needs. When the Nevada Department of Transportation asked us to reopen the I-15 Tropicana interchange two months ahead of schedule for Super Bowl LVIII, Kiewit delivered. You can read more about how the team rallied to get the job done on Page 16.

Trust also enhances partnerships, as seen in our work on Kiewit Hall for the University of Nebraska College of Engineering (Page 6). Our partnership with the university through the Construction Manager at Risk (CMAR) model allowed Kiewit to participate in the design process and provide input and transparency to the client to make sure their vision became reality.

The trust between designer and contractor played a pivotal role in Phase 1A of the McCoys Creek restoration project, featured on Page 20. Through close communication with the client’s designers and engineers, our project team learned to “build like beavers” to execute the essential elements of an adaptive design.

Each year, when hundreds of aspiring professionals elect to participate in a Kiewit internship, they place their trust in us to provide opportunities to develop in their careers. You can read more about their experiences on Page 12.

Whether it’s delivering ahead of schedule, fostering educational partnerships or innovating on the job, trust is essential to how we do business.

**RICK LANOHA**  
President and Chief Executive Officer



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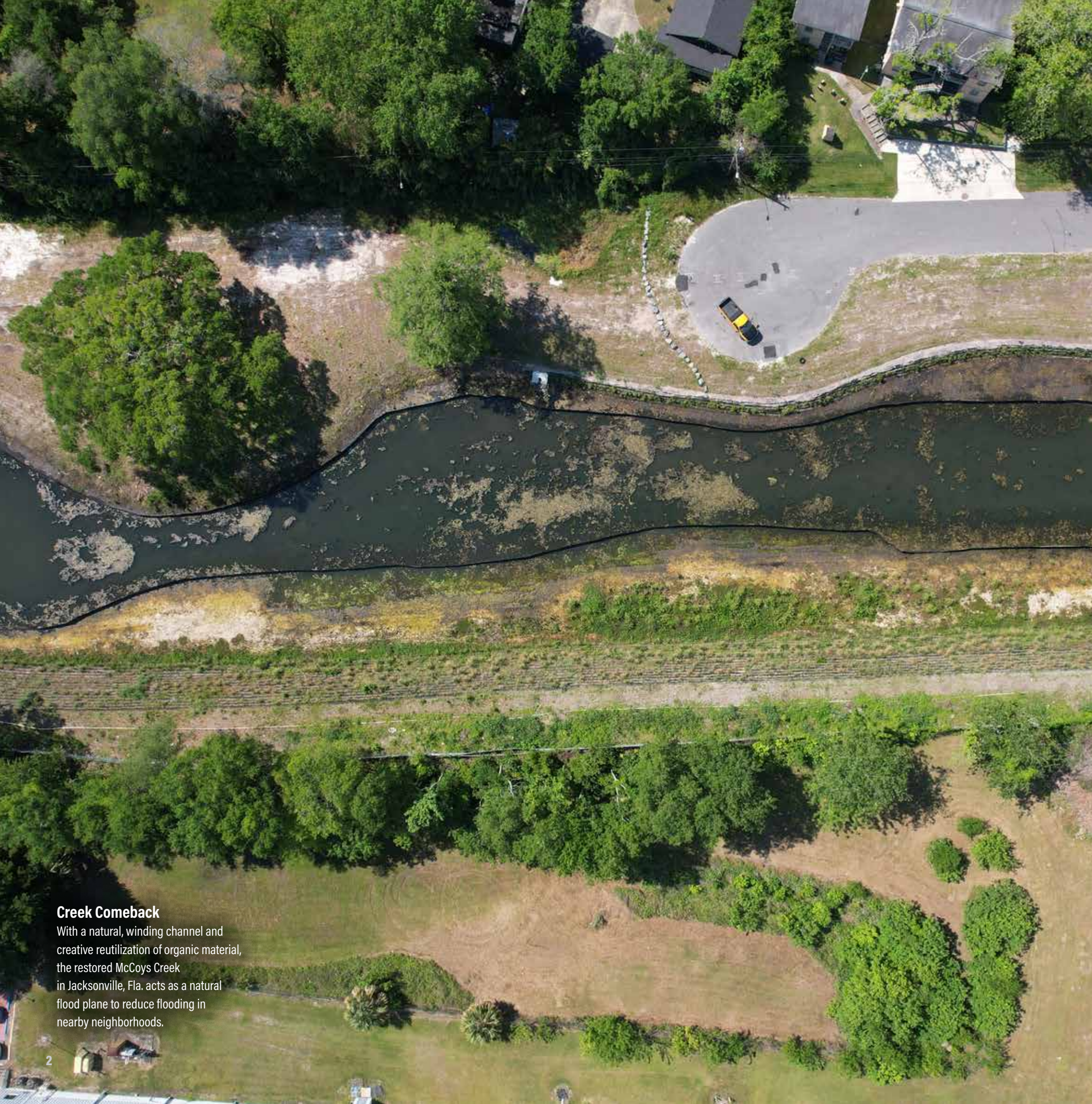
Kiewit is one of North America's largest and most respected construction and engineering organizations. With its roots dating back to 1884, the employee-owned organization operates through a network of subsidiaries in the United States, Canada, Mexico and Guam. Kiewit offers construction and engineering services in a variety of markets including transportation; oil, gas and chemical; power; building; water; industrial; mining and marine. Kiewit had 2023 revenues of \$171 billion and employs 31,100 staff and craft employees.

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**KIEWAYS**  
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**Creek Comeback**

With a natural, winding channel and creative reutilization of organic material, the restored McCoys Creek in Jacksonville, Fla. acts as a natural flood plane to reduce flooding in nearby neighborhoods.

**ON THE COVER**

**16 A REBUILD IN LAS VEGAS**

The Kiewit team rises to the challenge on the I-15 Tropicana interchange project, not only to provide innovative solutions but also to open the interchange in time for Super Bowl LVIII.

**ALSO INSIDE**

**04 KIEWIT NEWS**  
Catch up on recent news from across Kiewit.

**06 BUILDING A HUB FOR TOMORROW'S ENGINEERS**  
A training ground for future industry leaders, Kiewit Hall is a new landmark on the University of Nebraska campus.

**12 IN THEIR "INTERN ERA"**  
Kiewit interns, both past and present, share their experiences and the ways a Kiewit internship can launch a career in construction.

**20 REVITALIZING MCCOYS CREEK**  
Kiewit reshapes McCoys Creek with a new, natural channel design to improve water flow and reduce flood risks.



# 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
- MARINE
- MINING
- OIL, GAS & CHEMICAL
- POWER
- TRANSPORTATION
- WATER

### OUR VALUES:

- PEOPLE
- INTEGRITY
- EXCELLENCE
- STEWARDSHIP

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### KIEWIT EMPLOYEES PARTICIPATE IN ANNUAL INTERNATIONAL BRIDGE BUILDS

Over the summer, three teams of Kiewit employees from ten different parts of the business traveled to Rwanda to participate in international bridge builds with Bridges to Prosperity to construct the Kagusa, Gataba and Rusenyi Bridges. The builds included installing towers, cables, swings, decking and other components.

The Kagusa Bridge build took two weeks and is the longest suspended bridge built by Kiewit employees this year. The bridge stretches 118 meters (slightly longer than an American football field) and serves 1,625 community members.

The Gataba Bridge team completed their two-week build of an 88-meter suspended bridge serving 4,223 community members, ensuring their safety across the Gikeri River.

The last Kiewit team built the 110-meter Rusenyi Bridge, a suspension bridge serving 5,026 community members.



### WEEKS MARINE COMPLETES FLORIDA BEACH RESTORATION PROJECT AHEAD OF SCHEDULE

The Ponte Vedra Beach Restoration Project team placed two million cubic yards of sand along nine miles of the Ponte Vedra Beach shoreline — restoring storm-damaged dunes and berms and providing storm protection to upland infrastructure. This effort also provided more environmental habitats for wildlife and a better experience for visitors.



### KIEWIT BUILDS NEW EXHIBIT FOR 2024 BEST ZOO IN THE COUNTRY

The Henry Doorly Zoo in Omaha, Nebraska continues to earn its place at the top of USA Today's 10Best Readers' Choice list by introducing its new immersive Hubbard Orangutan Forest.

The three-acre exhibit is inspired by Southeast Asia — giving visitors a first-hand look into the lives of five orangutans and their siamang cousins in their natural habitat. Upon entry, visitors have unobstructed views of the orangutans and can also visit the educational spaces for an interactive experience.



### KIEWIT COMPLETES FIFTH AND FINAL RAPID BRIDGE REPLACEMENT IN OTTAWA

This milestone wraps up three years of incredibly hard work and dedication along Highway 417. Since 2021, the Kiewit-Dufferin Midtown Partnership team has demolished and replaced 11 outdated bridges across five sites using the rapid bridge replacement strategy.

### KIEWIT RECEIVES HIGHEST RECOGNITION FROM U.S. DEPARTMENT OF DEFENSE FOR MILITARY SUPPORT

Kiewit has been selected as one of the 2024 recipients of the U.S. Secretary of Defense Employer Support Freedom Award.

With more than 1,700 nominations, this award is the highest recognition from the Department of Defense to employers for their support of U.S. National Guard and Reserve members.

Kiewit was nominated for the award by Army Reserve Engineer Officer and Kiewit Civil Engineer Charlie LeBaron, and Army Reserve Engineer Officer and Kiewit MOT Superintendent Nazareth Ng.

Kiewit takes its commitment to supporting the nation's active military and veterans seriously. By connecting them with opportunities, Kiewit recognizes that their special talents and skills contribute to meaningful careers both at Kiewit and in the military.

"Kiewit has made it possible for me to consistently attend all of my military training and schools since I started working. I have brought the skills that I have learned in design at Kiewit into military designs for the Army and vice versa, which has helped with my personal development," said Ng in his nomination submission. "Kiewit's benefits and flexibility with my military duties have also helped my family while I was away during those periods, and I am profoundly thankful for their continued support and recognition of veterans and current service members."





# BUILDING A HUB FOR **TOMORROW'S** **ENGINEERS**

Class is in session at Kiewit Hall,  
new addition to University of  
Nebraska campus.





1. Representatives from Kiewit Corporation and the University of Nebraska broke ground on campus in June 2021. 2. Completing work in the middle of a busy college campus put all eyes on the Kiewit team. Their expertise and attention to detail ensured that Kiewit Hall will stand as a premier facility for engineering education for years to come. 3. The glass panels were pre-assembled off-site and then installed piece-by-piece to the exterior of all six floors. This system streamlined the construction process.

The College of Engineering on the University of Nebraska's Lincoln campus has a new addition: Kiewit Hall. Opened in January 2024 for classes, the facility has 182,080 square feet of innovative learning space. The Kiewit Hall project received private donations from several Kiewit executives as well as a significant naming gift from the Kiewit Companies Foundation.

"The Kiewit team helped build and deliver what we believe is the premier building for engineering education in the nation," said Lance C. Pérez, inaugural Fred Hunzeker Dean of Engineering at the University of Nebraska. "Working with Kiewit on this complex project was a pleasure, and their professionalism and expertise kept the project on budget and schedule."

The University of Nebraska system is home to the state's only College of Engineering, offering undergraduate, master's and doctoral programs in several disciplines of engineering. Due to Kiewit's Nebraska-based roots, many graduates go on to pursue careers at the company, including Kiewit executive leaders.

At the groundbreaking ceremony in June 2021, Rick Lanoha, president and CEO of Kiewit Corporation, spoke about the university's importance to Kiewit and the company's excitement to be a part of this new center for education.

"Back in its earliest days, Peter Kiewit came to the University of Nebraska to find many of the engineers that created the company that you see today," said Lanoha. "Their storied careers built what we all get to be a part of, working and executing every day."

To prospective students touring campus, faculty members seeking a communal space and future engineers studying for exams, the new Kiewit Hall building is a welcome sight. With its six floors of glass walls, open concept layout and café, the building provides a solid foundation for the next generation of engineers.

### FULL TRANSPARENCY: ALIGNING COST AND DESIGN

Early in the design phase, it was established that this building was intended to be a landmark on campus. The university's vision for this project remained in focus as Kiewit began planning and estimating the work. Open communication was essential to ensuring the vision aligned with budget realities.

"We were very upfront about what this project would cost," said Jeff Buller, Kiewit project director and University of Nebraska alumnus. "And that was key that the funding matched the vision so we could start work confident that what was going to be built was appropriately funded."

This openness between contractor and client formed the foundation for the project's success. "These discussions resulted in a high level of trust between Kiewit and the University of Nebraska. And when you have a high level of trust, you get a lot of things accomplished," said Buller.

The team embraced a collaborative delivery approach using the Construction Manager at Risk (CMAR) model. This meant Kiewit joined the project earlier, working alongside the design partners (Ballinger & Clark & Enersen) and owner as plans developed.

"CMAR allowed us to secure an 'early works' package," explained Kyle Marler, Kiewit project manager and





"For the first time in many years, we now have a state-of-the-art building focused on our educational mission that accommodates large numbers of students not only for classes, but also for studying, collaborating with other students and just hanging out and connecting on other levels."

**LANCE C. PÉREZ**  
Inaugural Fred Hunzeker Dean  
of Engineering at the University  
of Nebraska

University of Nebraska alumnus. "This got the site prepared and foundations started before final designs were complete." As a result, the team accelerated the overall delivery timeline compared to traditional methods.

CMAR is ideal for owners who prefer to partner with a construction manager like Kiewit to navigate project complexities. In Kiewit Hall's case, this included the extensive use of glass.

Kiewit Hall is visually stunning, with its nearly all-glass exterior. These 8-foot-tall glass panels fit together seamlessly in a unitized system. Pre-assembled off-site, the panels were quickly hoisted into position and installed onto the structure, allowing for a streamlined workflow.



1. Partners in the development of the Kiewit Scholars program at the university, Kiewit and the University of Nebraska have a history of successful joint efforts. 2. Along with the exterior being glass, there is a tremendous amount of glass within the interior of Kiewit Hall. Additionally, 88% of the building is open space allowing for open collaboration between students and faculty.



The building's achievement of both WELL Silver and LEED Gold certifications also underscores the university's commitment to transparency and sustainability.

**ON THE CUTTING EDGE**

The second floor of Kiewit Hall boasts a striking cantilever on both its north and south faces. Constructing this distinctive architectural feature required meticulous planning from the construction team.

So how do you build something that defies gravity? Design required the cantilever roof beams to be suspended from the floor above. This meant that the third floor steel needed to be set prior to raising and bolting the second floor cantilever roof beams from below.

"Typically, concrete decks would be placed floor by floor up through the building," said Marler. "To limit concrete cracking on the third and fourth floors, this design required these decks be placed last. The weight of the steel and concrete from the floors above engaged the cantilever steel members, reducing the potential for cracking."

Upon stepping inside Kiewit Hall, visitors are greeted by a large atrium that allows natural light and ample space for the monumental staircase. Rising from the lower level to the sixth floor, five stories of these stairs are not supported from the ground up, but rather hang from steel beams attached to the roof.

Connection points on each floor allow for the stairs to hang, floating within the open space between floors. Over 1,420 tons of structural steel support the building's seven stories.

"The benefits of Kiewit Hall were immediately noticeable when we opened for classes," said Pérez. "For the first time in many years, we now have a state-of-the-art building focused on our educational mission that accommodates large numbers of students not only for classes, but also for studying, collaborating with other students and just hanging out and connecting on other levels."

For the university and its students, Kiewit Hall is more than a place to hold classes; it aims to be a launchpad for tomorrow's engineers. **K**





Every year, hundreds of interns join the Kiewit organization, working alongside Kiewit employees on projects and in offices to help deliver energy and infrastructure projects to communities across North America. A few of this year's interns reflect on how their Kiewit "intern eras" are preparing them for their careers.



## MAE KILLEEN

I have had the opportunity to develop myself and my professional skills by working with the Talent Development team at Kiewit University (KU). On this team, I have been able to really dive deep into the many different management and technical schools that KU offers.

I have been given real work, projects of importance and have had every resource I could need to excel in my role. Not only has my internship experience at Kiewit pushed me to better myself and begin to build my legacy, but it has ultimately prepared me with the tools I need to confidently enter my career era.

**ASSIGNMENT: HUMAN RESOURCES INTERN**  
**LOCATION: OMAHA, NE**



## BRENDON BOLANOS DE MORAES

At UT-Arlington, I serve as the president of the Society of Hispanic Professional Engineers (SHPE), where I lead 150 members towards better opportunities, such as attending the SHPE National Convention. It was through this convention that I secured my first internship with Kiewit.

Although I spend most of my time in the office, whenever possible, I would ask one of the discipline managers to take me to the field so I can observe their work and assist when needed. One aspect of Kiewit that I particularly appreciate is its commitment to a safety culture. Everyone is encouraged to help each other grow to minimize incidents, aligning perfectly with their Nobody Gets Hurt commitment.

**ASSIGNMENT: FIELD/OFFICE ENGINEER INTERN**  
**LOCATION: I-10 CAPITAL CORRIDOR, BATON ROUGE, LA**





## AINSLEY BENNINGTON

One of the most important lessons I've learned so far is to prioritize accuracy. This project is fast-paced with a ton of moving parts, which could make it easy to gloss over seemingly tiny details regarding quantity claiming or forecasting plans for materials and labor. However, reporting precise costs for everything is the only way a project can thrive. Emphasizing accuracy over convenience is something I plan to implement in any professional realm my future holds.

I feel honored to be a part of such an impactful project that will change the lives of many children in Hawaii.

ASSIGNMENT: FINANCE ANALYST INTERN  
LOCATION: LILI'UOKALANI COMMUNITY CENTER, HONOLULU, HI



## JAKE GALLIGAN

I am exposed to all disciplines, how each one choreographs their crews, and what work they are responsible for. It is a spectacle to observe how each discipline handles different tasks, adapts to situations, and brings a positive attitude to reflect onto their crews.

I have learned many valuable lessons that will surely carry to my future career. I appreciate the level of communicative understanding, ensuring all on-site are on the same page, the continuous practice of safety emphasized with every meeting, and strategic planning to ensure everyone is performing efficiently on a daily basis.

ASSIGNMENT: FIELD ENGINEER INTERN  
LOCATION: CASS COUNTY SOLAR PROJECT, BEARDSTOWN, IL



## KENDALL MARQUEZ

This is my first Internship with Kiewit and I have learned more in the last couple of weeks here than I have at any other internship and even in any class. Nothing can teach you more than being out in the field getting your hands dirty, working with the people who know this industry and career the best.

Kiewit has given me a great opportunity to leave my home state and not only learn the office side of things, but to be able to go out into the field and see the project, see the people at work and watch the drawings and plans come to life.

ASSIGNMENT: FIELD/OFFICE ENGINEER INTERN  
LOCATION: COASTAL 29 BUNDLE 2A PROJECT, FORKS, WA

# HOW IT STARTED, **HOW IT'S GOING**

Many of Kiewit's full-time employees — including executive leaders past and present — started their careers with the company as interns. Here, some of them reflect on where they started and how it helped them prepare for the roles they're in today.



## LOUIS DESCHENES

My first internship was on the Turcot Interchange project in Montréal, Québec. I remember arriving to a whirlwind of activity, with over 1,000 craft workers focused on a challenging megaproject. The Kiewit staff employees were welcoming and excited to integrate me into their world. They quickly began to teach me about the project, the company and the way we do business. I grew to appreciate the intensity with which we went about our work, and how we were, in the words of Peter Kiewit, 'Pleased, but not satisfied' with our performance. As a first introduction to Kiewit, this internship opened my eyes to the opportunities the company provides, and how large a role someone as young as an intern can play on a Kiewit project.

My internships prepared me to join the company full-time following my graduation by involving me deeply within the company culture and allowing me to develop a love for construction and the process of building work. I was lucky enough to have mentors that provided me with the opportunities to take on more responsibilities and prove that I could push myself to produce results to help the team.

FIRST INTERNSHIP: 2018  
ROLE TODAY: CONSTRUCTION COORDINATOR



## BEN PRUETER

One of the things that will always stick with me (from my internship) was the first impression of the job site. It was clean, organized, and I could tell everyone on the project took extreme ownership of the way their place of work looked. I'll also always remember the people. They took time to teach me, provide feedback and really treated me as a full-time team member during the summer while I worked on site.

My internship helped jump-start my career by giving me a feel for not only how Kiewit executes operations in the field, but the extent of detail that goes into estimating and planning work. More importantly, it helped me ensure that the culture of the company was the right fit prior to stepping in the door for the first time as a full-time employee. I still keep in touch with those who I made a relationship with during my internship almost 10 years ago now.

FIRST INTERNSHIP: 2014  
ROLE TODAY: ESTIMATE SPONSOR





# A rebuild in LAS VEGAS

*With a population of 113,000, Las Vegas was still a relatively small desert town in 1966. But that same year, the opening of the I-15 Tropicana Interchange provided a new route for travelers from Los Angeles looking for a fun getaway.*

Today, Las Vegas is home to nearly 3 million people, and projected to reach 3.39 million by 2060. The Tropicana Avenue corridor has become an important east-west route, providing access to entertainment destinations and McCarran International Airport, as well as the University of Nevada, Las Vegas and residential and commercial areas.

The road was widened in the '90s, but more recently it needed improvements to handle the heavy traffic and to pave the way for even more vehicles in the future. The city now draws as many as 300,000 motorists on major holiday weekends, with new resorts and professional sports teams driving traffic.

Started in 2022 and scheduled for completion in early 2025, the I-15 Tropicana Interchange project is renovating the main interchange on the Las Vegas Strip that connects I-15 and Tropicana Avenue.

Kiewit's proactive and multi-pronged approach to the project seeks not only to raise the height of the Tropicana Avenue bridge to meet federal requirements and safely accommodate commercial vehicles, but also to widen Tropicana Avenue to four lanes in each direction and lengthen the largest bridge on the project to plan for future I-15 widening. An added bonus: By moving access road Dean Martin Drive to run under Tropicana Avenue, drivers should expect to see improvement in overall traffic flow.

## A HIGH-PROFILE JOB

Sponsored by the Nevada Department of Transportation (NDOT), the Regional Transportation Commission of Southern Nevada and the Federal Highway Administration, the project has a large group of stakeholders, including government officials, motorists and local businesses.

So, when Kiewit was invited to bid the project, the team knew that it would have a lot of eyes on it, said Project Manager Jake Krause.

"It's a complex, high-profile project, right in the middle of the Las Vegas Strip," Krause said. "That's a busy area with high-profile events, concerts, the 2024 Super Bowl — there are lots of things going on here."

The design-build job was an opportunity for Kiewit to hand-assemble a team comprising experts from multiple parts of the company. The group saw opportunities for innovative solutions but also cost savings they could pass on to the project owner.

During the bid process, the team proposed several updates to the original request. These innovative Alternative Technical Concepts, or ATCs, would be instrumental in the pursuit phase, said Angelo Spata, design area manager.

*1. Crews used specialized attachments to demolish the existing bridge. Multiple excavators equipped with processors helped crush, cut and pulverize the previous concrete. 2. Kiewit crews demolished the bridge during two full weekends of I-15 closures, working around the clock to process the existing concrete and remove reinforced steel.*







"I'm not aware of any other contractor that's set up the way we are," Spata said. "That collaboration during the pursuit phase, where we have designers working next to our builders to come up with that preliminary design for the proposal is key."

An innovative ATC solved the clearance issue and saved about two-thirds of the southbound off-ramp to eastbound Tropicana flyover bridge. The team suggested removing just three spans of this bridge and tying it into an existing splice point, allowing the new portion of the bridge to be elevated to obtain the 16 feet, 6 inches of clearance for the new Tropicana Avenue below.

### FAMILIAR FACES

The job has reunited several Kiewit team members from another NDOT high-profile job in Las Vegas. Completed in 2019, Project NEON, an interchange reconstruction and widening of I-15 and US-95, was the largest transportation public works project in the state's history.

Bringing back familiar faces meant the team could rekindle relationships with NDOT team members, craft and subcontractors they had gained on that project and get moving quickly, said Area Manager Chris Miske.

"A lot of that's attributed to our safety culture and just our overall engagement with local craft and subcontractors," Miske said. "Just the way Kiewit does business versus competitors in town — people wanted to come back to work for us. I think that really helped this job get out of the gate fast."

### CHANGE OF PLANS

For Kiewit, navigating the unexpected is just part of the job. In fall 2023, the work plan changed. The Tropicana interchange would need to be fully open to accommodate heavy traffic from the Strip to Allegiant Stadium, site of Super Bowl 2024 in February.

That meant Kiewit would need to finish rebuilding the north half of the interchange, a milestone originally scheduled for April 2024.

Scheduling, led by Construction Manager Sam Nasser, was put to the test. Over two weeks in September 2023, Nasser, Miske and Krause overhauled the schedule and got approval from NDOT to accelerate.

*1. The Kiewit Foundations team completed 309 drilled shafts, ranging from 3' to 9' in diameter, for the project. Up to four drill rigs operated at a time to meet the job schedule. 2. Nasser presents Civil Manager Austin Meadows and Civil Superintendent Garrett Larson with golden tape measure awards for their leadership on the Phase 3 bridge demolition.*



## The launch of Dropicana

When informing the public about upcoming road closures and traffic disruptions, Kiewit's public information professionals knew the power of word play. The team branded the I-15 Tropicana interchange work "Dropicana" to reflect the Tropicana Avenue bridge demo. Regular, timely updates were provided to local radio and TV stations and via social media. The result? The catchy campaign helped build relationships and keep the public well informed.

Working seven days a week, bringing in additional people and resources from neighboring districts and doing some redesign to accommodate the pivot, the team delivered just in time for the big game.

Bryan Snider, NDOT acting resident engineer, commends Kiewit's ability to meet the stringent new schedule and assemble a workforce that the owner felt comfortable with.

"If there's an issue or there's a question that arises, Kiewit has the ability to call on some of North America's foremost experts in their field. Not a lot of other contractors, I'd say almost nobody has that ability," Snider said. "Not only do I think that most contractors wouldn't have the ability to pull that many people together, I also don't know that they would have the ability to turn it around as quickly as Kiewit did."

Nasser said he's proud of the culture created on the team and the way they've addressed the challenges that come up, persevering and figuring out a way to resolve them.

"Every day, something new would come up, something that would be in our way," Nasser said. "What stands out for this job is our perseverance and our willingness to come together and figure it out with a no-matter-what-it-takes kind of attitude." **K**

"If there's an issue or there's a question that arises, Kiewit has the ability to call on some of North America's foremost experts in their field. Not a lot of other contractors, I'd say almost nobody has that ability."

### BRYAN SNIDER

Nevada Department of Transportation  
Acting Resident Engineer





# -REVITALIZING- MCCOYS CREEK

In the far northeast corner of Florida, Jacksonville gets an average of 221 days of sunshine every year. But even the Sunshine State gets rain. On average, Jacksonville receives 52 inches a year, most of it during the summer months.

On those rainy days, neighborhoods west of downtown Jacksonville often experience flooding. Kiewit Infrastructure South Co. is working with the City of Jacksonville to fix that

as they near completion of Phase 1A of the McCoys Creek Channel Improvements and Restoration project.

This includes approximately \$25 million of work on a larger \$104.5 million project underway to “restore McCoys Creek to a natural state and in the process, mitigate the ongoing and chronic flooding on McCoys Creek Boulevard and in the nearby neighborhoods.”





*Vegetation cleared from the site was reused in many applications, including to build in-stream structures, as shown here.*

## SEEK AND RESTORE

Kiewit's objective is to replace the existing, artificial straight channel with a new, meandering channel that will function more like a natural flood plain. A deeper creek, new water containment areas like lagoons and tidal pools, and more room for runoff will improve drainage in the neighborhood. Additional work outside of Kiewit's scope will include installing bike paths and sidewalks to offer recreation opportunities to residents.

Construction kicked off in October 2022, starting with clearing vegetation, dewatering and wet excavation, followed by earthwork, embankment construction and new vegetative planting.

"We started with tearing out the jungle that was there," Kiewit General Superintendent Tim Clements explained. "We cleared an area about a mile and a half long and maybe 300 to 400 yards wide."

## NATURE'S BOUNTY

As vegetation was cleared, much of it was kept for various reuse applications, including in-stream structures and embankments. Designs from the City of Jacksonville's

engineers of record, WSP/Black & Veatch, called for using organic materials for the structures to create a more natural habitat.

"We realized we could use all on-site materials for our in-stream structures and haul roads and not have to import anything," said Kiewit Project Manager David Rood.

Rood and team coordinated closely with the engineers and city officials to understand the structural design. Using organic materials to build meant the perspective specifications that are typically found in design plans were unavailable.

"It's an intentionally adaptive design in a lot of ways," Rood said. "We made sure we worked with the engineer and the client to understand the critical aspects of the design and executed on that."

That meant knowing what size logs were required at key points like buttresses, or at what angle they would need to be installed, to make the design work.

"The best way to describe it is you're almost building like a beaver. You're looking at a big pile of logs and think, 'Oh, this one will fit really well here,' and getting everything to fit together properly to match the designer's concept. Our people in the field really got involved and loved it."

## DAVID ROOD

PROJECT MANAGER

## BUILDING LIKE BEAVERS

"The best way to describe it is you're almost building like a beaver," Rood said. "You're looking at a big pile of logs and think, 'Oh, this one will fit really well here,' and getting everything to fit together properly to match the designer's concept. Our people in the field really got involved and loved it. It was definitely a different way of building."

Another key element of the design is a vegetated reinforced stabilized slope (VRSS).

"These vegetation walls go up on a 1-to-1 slope up from the stream bed almost 18 feet high in some cases," said Clements.

Rood described how the VRSS is built using a mixture of earth and wood chips, which were repurposed from the grub that was cleared from the site. "There's a different mixture of wood chips, peat and structural fill





depending which layer of the slope you're on," he said. "The back drain has 10% wood chips, and the upper layers have 5-10% creek organics mixed in." Next came geogrid fabric and new plantings.

"Plants are placed between the layers and as they grow, they'll help reinforce the wall," said Field Engineer Matthew Elder.

In addition to building these unique design elements, the team was responsible for ash remediation from the site. In total, 55,000 tons of material were removed.

**RAIN IN THE SUNSHINE STATE**

The rain that was the impetus for the project also tested the team.

"It's a very swampy, wet area to be working in," said Rood. "The creek where we're working takes in over 5 square miles of watershed. It's kind of like working in a bathtub. We've had to be very strategic about how we're dewatering the area after a rain to get back to productive work."

Elder described some of the ways the team adapted to the conditions, including placing wood chips to maintain access roads — another reuse application of the cleared grub, using dams and pumps to dry things out and placing crane mats to help with equipment access.

"I learned a lot about working in wet conditions with equipment access and everything else," Elder said. "There are a lot of lessons learned I'll be able to take with me from this job, but that's one of the big ones."

Another takeaway that Elder, Rood and Clements all share is one you hear a lot at Kiewit — the people make the project.

"We've had people that have been here for the duration of the project and other people have come and gone, but overall, we've had great crews and great work ethic," said Clements. "I'm just so proud to be a part of this project. It's been a great relationship between the crews and the management team and the City of Jacksonville. It's been top notch." **K**

*Kiewit crews replace an existing, artificial straight channel with a new, meandering channel with additional water containment areas, such as lagoons and tidal pools, to function more like a natural flood plain.*

