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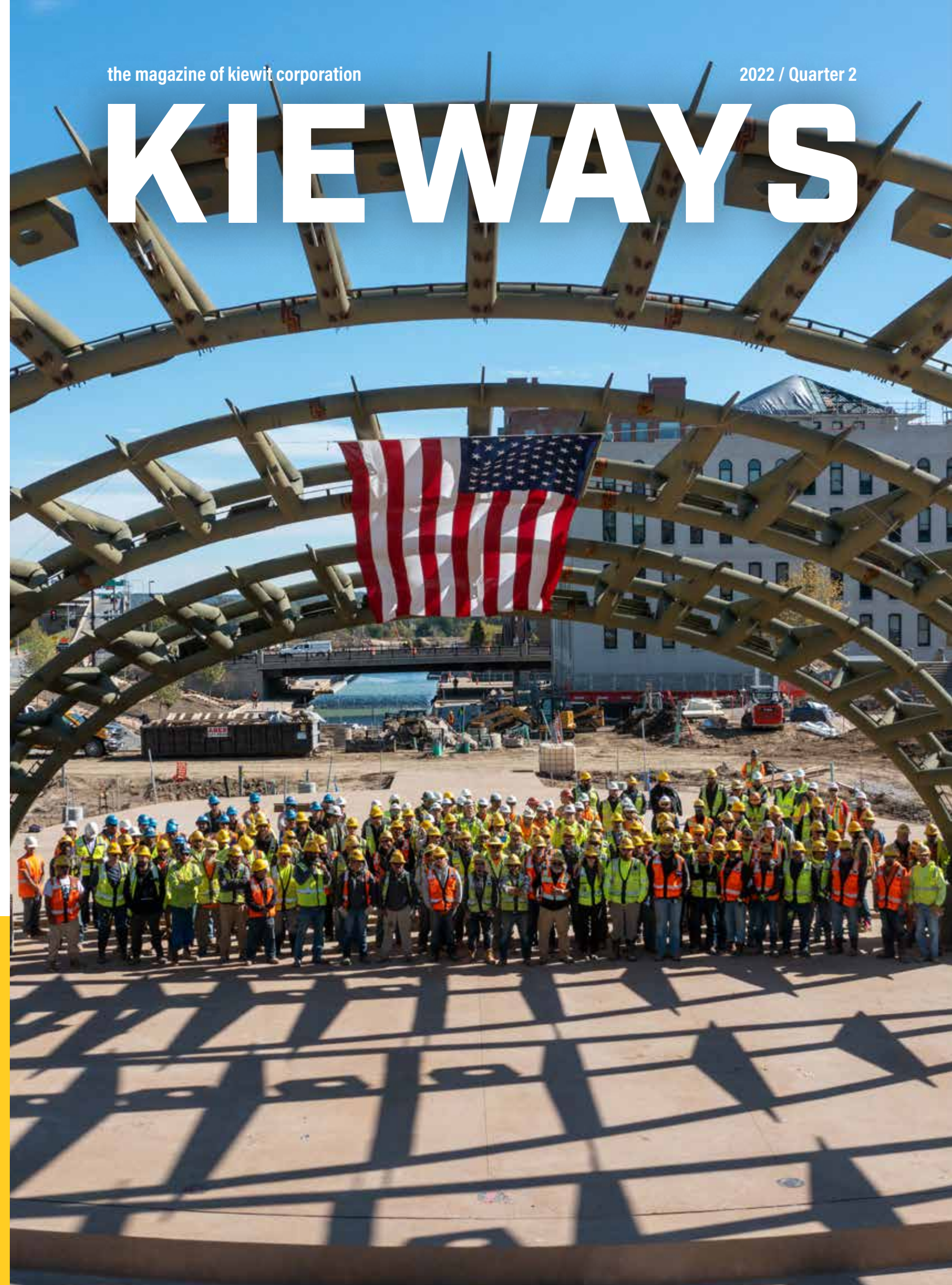


SINCE 1884

the magazine of kiewit corporation

2022 / Quarter 2

KIEWAYS





WORKING THE NIGHT SHIFT
Kiewit crews work along 22 miles of the U.S. Highway 101 to fast track the daily commute for California residents. Read more beginning on Page 6.



PROJECTS LEAVE LASTING MARK

At Kiewit we are privileged to work on some amazing projects — bridges, roads, buildings, power plants, dams, water and wastewater treatment facilities and more. Many of our projects have positive impacts on local communities for generations.

Occasionally, though, we not only build a project that leaves a lasting mark but is personal in meaning and value to our company. The Kiewit Luminarium is one of those projects. On Page 25, read about this innovative, interactive hands-on learning center focused on science, technology, engineering and math (STEM). Located in Omaha, Nebraska, the facility is expected to attract visitors of all ages and backgrounds, and inspire young people to get excited about subjects that are crucial to future generations of engineering and construction talent. The Luminarium is part of a bigger project to transform about 72 acres of riverfront property into an outdoor venue for Omaha-area families. Read about it on Page 20.

This issue of Kieways also includes stories on two impressive road projects. On Page 14, read about the award-winning Kake Access Road in Southeast Alaska. The road connected the Kake community to a new boat launch on the eastern shore of the island.

To the south, a Kiewit team found a way to minimize disruption to traffic on a 22-mile stretch of Highway 101 in San Mateo, California, that is used by about 280,000 vehicles per day. The team added express lanes in each direction, completing 95% of the work at night. Read about it on Page 6.

Finally, read about a new tool that Kiewit is using companywide to verify safeguards are in place and teams are focused on eliminating events that can cause injury before they ever start an operation. It's part of Kiewit's commitment to continuous improvement in safety. Read about it on Page 10.

I hope you enjoy these stories. Thank you and stay safe.

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 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 2021 revenues of \$12.1 billion and employs 28,800 staff and craft employees.

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KIEWAYS
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A ROAD LESS TRAVELED

Although serving a small population, a Kiewit team makes a big impact by constructing a year-round access road through a remote Alaskan island. Read about it on Page 14.

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SHINING A LIGHT ON OMAHA'S RIVERFRONT

Kiewit successfully manages the 72-acre Omaha Riverfront Revitalization project, welcoming visitors back to the Gene Leahy Mall this summer with more parks to re-open next year.

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Kiewit launches a new tool to improve the safety of operations through a structured, daily focus time before the start of every operation.

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IMPRESSIVE WORK IN REMOTE ALASKA

Overcoming significant logistical challenges, a Kiewit team completes an award-winning project, making a lasting impact on a remote Alaskan island.

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KIEWT LUMINARIUM

Kiewit nears completion on the Kiewit Luminarium, which is set to become an inspirational destination in Omaha, Nebraska, for visitors of all ages and backgrounds.

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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TOP RANKED

Kiewit Corp. ranked No. 3 on Engineering News-Record's 2022 Top 400 Contractors and No. 18 on ENR's Top 500 Design Firms lists.

Other notable contractor rankings include No. 1 for domestic heavy, transportation and petroleum markets and No. 2 for power. Notable design rankings include No. 7 for industrial process/petroleum and power markets and No. 20 for transportation.

NO. 3

ENR's Top 400
Contractors

BEST WORKPLACES IN CANADA

Kiewit has been named a Best Workplace in Canada for the 12th year in a row, coming in at No. 22 this year. Kiewit is one of only 12 companies that have been on the list for 10 consecutive years. The list is produced by Great Places to Work® Canada.



COLORADO ASPHALT PAVEMENT ASSOCIATION AWARDS

Congratulations to Harvey Elger on his induction in the Colorado Asphalt Pavement Association's (CAPA) Hall of Fame. The induction ceremony was held at the Annual Best in Colorado Awards ceremony, where two Kiewit projects were recognized for excellent work.

The Colorado Asphalt Hall of Fame recognizes those from the industry who have made significant contributions to advance the use and quality of asphalt pavement in the state. To date there are only 19 members who have received this honor. Elger has been with Kiewit for over 50 years.



The projects recognized with Best in Colorado Awards included the Central 70 Project and the Colorado Springs Airport Top Gun Project.

AGC CONSTRUCTION SAFETY EXCELLENCE AWARDS

Kiewit Infrastructure West Co. took top honors in the AGC of California's 34th Annual Construction Safety Excellence Awards, winning in the Heavy/Civil/Highway Division — 1 to 2 million worker hours.

Neil Gibson, California safety manager for Kiewit Infrastructure West Co., was honored with the 2021 Harry Eckstein Safety Professional of the Year Award.

KIEWIT PROJECTS RECOGNIZED BY VRCA FOR EXCEPTIONAL WORK

Kiewit teams in British Columbia, Canada, were recognized by the Vancouver Regional Construction Association (VRCA) for their work on two Kiewit projects — the G3 Terminal Vancouver Project and the Fraser River Big Bar Landslide Remediation Project.

The G3 Terminal Vancouver Project earned the Gold Award in the 2021 General Contractor \$50M+ category. Kiewit engineered, procured, constructed and commissioned the grain export terminal on Canada's west coast to optimize receiving, storage and shipping.

The Fraser River Big Bar Project team received the Silver Award, also in the 2021 General Contractor \$50M+ category. After a devastating landslide blocked salmon migrations in Canada's Fraser River, Kiewit was brought in to remediate the damage and restore the habitat, preserving valuable commercial fishing and food supplies.

Both projects also received Judges Awards — a special recognition for projects that the judges found to be exceptional and worthy of special recognition.

PROJECT WILL POWER LAS VEGAS WITH CLEAN ENERGY

After a comprehensive and detailed procurement process, Primergy Solar LLC selected Kiewit Power Constructors Co. as their engineering, procurement and construction (EPC) partner for the highly anticipated \$1.2 billion Gemini Project.

Gemini is a solar array and storage facility project located 30 minutes outside of Las Vegas, Nevada. Completion is scheduled for 2023 after 1.8 million solar modules have been installed on less than 6,000 acres of federal land. When completed, the project will produce enough clean energy to power more than 400,000 homes.



U.S. SECRETARY OF ENERGY AND GUESTS VISIT CONNECTICUT STATE PIER PROJECT

In May, U.S. Secretary of Energy Jennifer Granholm toured the Connecticut State Pier Infrastructure Improvements project accompanied by New London Mayor Mike Passero; David Ortiz, head of Northeast market strategy, Ørsted; Joe Nolan, president and CEO, Eversource Energy; Connecticut Governor Ned Lamont; U.S. Senator Richard Blumenthal; U.S. Senator Chris Murphy; U.S. Rep. Joe Courtney and Keith Brothers, president, Connecticut Building Trades.

"The President has this goal of getting to 100% clean electricity by 2035," said Secretary Granholm during her visit. "The reason why the President was fascinated by what you are doing is because we want to replicate this."

The project is redeveloping the existing pier into a heavy-lift capable port facility to accommodate offshore wind staging and assembly and greater, more diversified cargo handling opportunities.



WELCOME TO KIEWIT

Kiewit welcomed 829 summer interns this year. The interns come from 55 states and provinces and 220 universities. They will work at Kiewit offices and projects in the United States and Canada. More information about the summer interns will be published in the Q3 issue of Kieways.

PUTTING BAY AREA DRIVERS IN THE

FAST LANE

One thing all drivers try to avoid is getting caught in a traffic jam. Unfortunately, it's been all too common for Bay Area drivers commuting to and from Silicon Valley or headed to the San Francisco Airport.

The Bay Area, stretching from San Francisco to San Jose, is home to a booming economy, but outdated highway infrastructure in the area created congested traffic on U.S. 101. The San Mateo 101 Managed Lanes project team, led by Kiewit Infrastructure West Co., has been working around the clock to get these drivers out of a jam.

The project will create a managed lane system, including express lanes in each direction, to lessen congested traffic along 22 miles of highway. These express lanes give drivers incentive to carpool or use public transit systems, since vehicles with three or more passengers have free access to the express lanes.

Kiewit won the contract in the spring of 2018 based on qualifications as the best value contractor for the Construction Manager/General Contractor (CMGC) contract. The CMGC project delivery method allowed Kiewit to integrate early on with the client, California Department of Transportation (Caltrans), District 4.

"Caltrans' design team and Kiewit's construction operations and estimating teams began working immediately to maximize the client's budget and schedule," said Mike Lowe, Kiewit area manager. "During this pre-construction work between Caltrans and Kiewit, the focus was on budget and schedule to provide the best project outcome for the client."

"We have had great success as evidenced by the progress we have had on this project — on schedule, within scope, great work quality and no major safety incidents — this being one of the largest projects for the California Department of Transportation, District 4," said Bonny Nyaga, California Department of Transportation, District 4, Division Chief.

The San Mateo County Transportation Authority's (SMCTA) tolling integrator was also engaged in the early design phase to ensure seamless integration with its systems. The toll systems and continuous road maintenance will be managed after project completion by SMCTA and the City/County Association of Governments (C/CAG).

"We got involved with client relations right off the bat," said Kevin Young, Kiewit project manager. "We were embedded with Caltrans in their office, working with them on pricing different iterations of the design, and we carried that relationship through construction." This partnership was

foundational to building open communication lines and trust throughout some of the project's challenging aspects and allowed for a game-changing early work package.

As part of the early work package, the south segment of the project began in spring 2019. During this phase, the team converted 8 miles of existing carpool lanes to express lanes, placed 28 miles of electrical conduit and 2 miles of concrete barriers, and installed 26 overhead signs and 17 miles of fiber optic cable. This work schedule allowed the tolling integrator to complete its work early and meant the state could begin collecting toll revenue on this portion of the highway while the north segment remained under construction. Tolling of the south segment began in February 2022, ten months ahead of the north segment.

While construction was underway on the south segment, Kiewit continued to support Caltrans in the pre-construction and design effort for the north segment of the project. Construction on the north segment began in 2020. The north segment's design included construction of 16 miles of express lanes in each direction, replacement of 2 miles of sound walls, utility work that stretched through multiple municipalities and sewer work with very limited access.



All night work was completed behind barriers with lane closures communicated well in advance.



PHASE ONE | 8 MILES 2019 - 2021

Existing carpool lanes were converted to express lanes from the San Mateo County/ Santa Clara County Line to Whipple Avenue in Redwood City, connecting the cities of Palo Alto, East Palo Alto, Menlo Park and Redwood City. Express lanes in this section opened February 11, 2022.

PHASE TWO | 16 MILES 2020 - 2022

Construction of new express lanes from Whipple Avenue to I-380 in South San Francisco and connecting the cities of Redwood City, San Carlos, Belmont, Foster City, San Mateo, Burlingame, Millbrae, San Bruno and South San Francisco. Express lanes in this section are expected to open in late 2022.



Over 2 miles of sound walls were replaced in the north segment of the project. All sound wall work was built during the day to minimize noise impacts.

C/CAG and Kiewit as the contractor, all worked in a great rhythm. There were many stressful moments but the harder the situations were, the stronger and more creative the team became."

DRIVING HOME THE BASICS

Because of the high cost of living, it can be challenging to find workers in the Bay Area for projects of this magnitude. The need to develop a strong workforce became clear early on.

"One of the real successes of the project was the number of foremen we were able to hire and train to become key foremen," said Ford.

On a fast-paced project like this one, driving home the basics was key to creating an efficient workflow. Safety practices, streamlined communication and implementation of best practices from day one helped set the team up for success, not only on this site, but for future projects.

"I've worked on a lot of different projects and a highway project like this one really sets the tone for coordination efforts," said Ford. "I think work like this will prepare workers for any type of work that they might encounter in the future."

The SM 101 Managed Lanes project will be completed in late 2022. The new road system is expected to cut commute times significantly, making every minute and every mile count. **K**



K-rail was set in place as protective barriers against the traffic that surrounded crews on site.

DAY AND NIGHT

With 280,000 vehicles traveling this stretch of highway daily, it came as no surprise that work crews would be challenged with scheduling around the daily rush. Due to the lighter traffic and ability to close more lanes at night, approximately 95% percent of the work was completed in the dark.

"We built work during the day, but our primary focus was to do everything we could to make sure the night shift was set up for success," said Construction Manager Jeff Ford. One of the biggest concerns at night was keeping workers protected from traffic.

Blocker vehicles or K-rails were placed as protective barriers against potential accidents on the open lanes. Additionally, traffic was monitored and speeding in work zones was deterred through coordination with California Highway Patrol.

During the day, the team worked primarily on city streets. The project scope included deep utility relocations, installation of sound walls and on- and off-ramp work.

"We had a one-team mentality there," said Young. "It was nice to come to work when everybody was striving for the same goal and working together really well."

It was not uncommon to see employees on-site before or after their shifts, going over the next day's plan. "It took some long hours from everybody, but I would say that was key to having good coordination between the two shifts," said Young.

The team had to adapt and remain flexible during the four-year project timeline. During the pandemic, many companies encouraged employees to work from home, lessening daily traffic on SM 101. Kiewit took this opportunity to extend lane closure times and get ahead of schedule. Likewise, when wildfire risk caused shutdowns and other construction in the area required schedule flexibility, Kiewit delivered solutions to complete the project.

"It was a great success overall," said Nidal Turqan, California Department of Transportation, District 4, Division Chief. "The effort between the project team, our partners, SMCTA,



OPERATIONS START CARD

After almost 10 months of research and development, the company launched the Operations Start Card, a replacement for all previous job hazard analysis (JHA) tools across the organization. The Start Card is part of Kiewit's Life-Saving Actions (LSA) Program, which allows a project team to be proactive about eliminating significant injuries and fatalities through a structured, daily focus time before the start of every operation.

The Start Card was the result of an effort started back in 2020, when Alicia Edsen took over as Kiewit's vice president of safety. One of her first focus areas was to understand how jobs identify, assess and mitigate risks specific to each operation. Through jobsite visits and discussions in the field, it became clear that jobs were using a variety of different JHA forms and often, people would have to re-learn how to do a JHA each time they started a new project.

Most notably, there was inconsistency in how front-line supervisors were verifying and validating LSA safeguards prior to the start of any operation.

"The overwhelming feedback we received from the field was that we lacked consistency with the JHA process from project to project, which led to confusion among the craft, staff and even our clients," Edsen said. "We knew we had to look at a way to streamline this process across the entire organization."

THE ROAD TO THE START CARD

In early 2021, Andrew Cowart, safety operations director and sponsor for development and implementation of the Start Card, formed a team of operations experts from across the organization to research and develop how we could streamline our JHA process to ensure safety expectations are clear companywide, and most importantly, further focus efforts on eliminating events that can cause severe injury.

Bud Wall, general superintendent at the Federal Way Link Extension project in Federal Way, Washington, was one of the team members.

"We took the time to do our homework on the best of the best JHA ideas from across the company and outside the organization," he said. "We talked with a Kiewit group from Western Canada that used a type of 'start card' and they had very strong safety performance. We liked the idea of having everything we'd need to think about on one card that folds up and that you can carry with you."

Dan Campos, construction manager at California Emergency Project Phase 2, was also a part of the research team, and he explained some of the thought that went into the development of the Start Card.



The Start Card was created to ensure a standard process for evaluating and mitigating workplace hazards. Ray Zinser and Benjamin Snow (pictured above) use the start card to plan daily activities.

"We asked ourselves, 'What is the real objective here?' All of us on this team come from the trades and we're putting ourselves back in those shoes," he said. "We looked at it from a craftsman's point of view and we said, 'What would be useful and most beneficial to them?'"

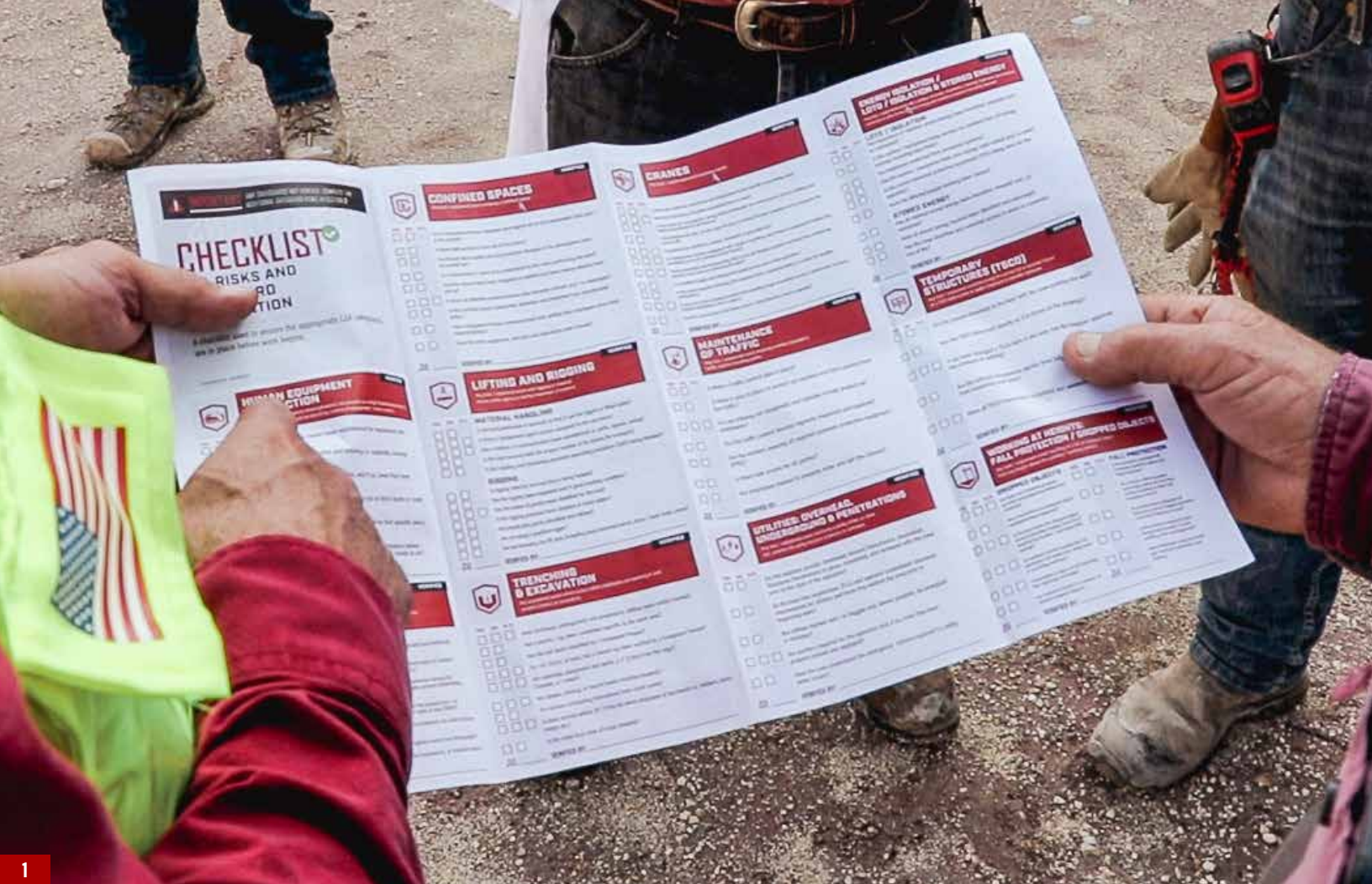
The answer was a new card that would identify what is happening on a given day and eliminate concerns about missing a step.

SETTING EVERY OPERATION UP FOR SUCCESS

After months of development and testing in the field, the two-sided, quad-fold Start Card was launched companywide. The focus is to ensure employees evaluate risks and put steps in motion to mitigate them.

The Start Card is completed daily for each operation before the operation begins. While the Start Card covers many routine items such as specifying tasks and risks for the operation, identifying access, tools and personal protective equipment (PPE), the new card calls out specific items supervisors should consistently think about as they look for hazards.

This includes verifying all safeguards that will prevent life-changing events are in place before the operation begins. There are new things to think about on the card. A section



Construction Safety Week

The construction industry observed Safety Week 2022 on May 2-6. This year's theme was, "Remain Connected. Be Supported. Stay Safe." Throughout the week, discussions occurred across Kiewit staff and craft with the goal of maintaining a strong safety culture through open and honest dialogue. Kiewit highlighted companywide initiatives such as the LSA Guidelines, "Under the Hat" mental health programming and the newly released Operations Start Card to further engage teams with these tools.

The team at Jack-Stone 10 in Little Rock, Arkansas, celebrated the outstanding achievement of working more than 125,000 man-hours without a recordable safety incident. The team used Safety Week as a great opportunity for on-site trainings on topics such as human equipment interface and crush points. In addition, it was a time to stop, hit the reset button and work on the cleanliness and organization of job trailers, equipment and work areas.



The Jack-Stone 10 project team held a demonstration of crush and pinch points mitigation techniques while handling a precast concrete traffic barrier.



1. The Start Card checklist is used to ensure the appropriate LSA safeguards are in place before work begins. 2. By empowering employees at all levels, teams can be proactive about eliminating injuries and fatalities.

named "Crew Check" challenges everyone to think about why they work safe and to ask whether the crew is both physically and mentally prepared to do the work that day.

A front-line supervisor must verify and sign off that all safeguards are in place before work can begin and review the same Start Cards throughout the day to verify safeguards are still in place and account for any change in condition.

Clint Yates from the safety team at TVA, a client for Kiewit's Shawnee project in Paducah, Kentucky, noted, "the Start Card is a great tool. It's simple to use and allows the crew to get engaged. We especially like the Crew Check section as it prompts the crew to identify what motivates them to work safe and if they are physically and mentally prepared to work. Being mentally prepared is just as important as being physically prepared."

START CARD IMPLEMENTATION

In October 2021, the Rondout Tunnel project in New York was one of the first projects to implement and train their people on the new Start Card as the main JHA tool. Matthew Cirish, the project's safety manager, was a key part of the training and rollout.

"One of the biggest hurdles we faced with the Start Card implementation was that we're a project composed of many different teams — and those teams all historically used different JHA tools," he said. "We knew we had to help everyone understand why this new, standardized card is going to make us safer."

Cirish believes the Start Card has improved many aspects of the JHA process, including assisting front-line supervisors who are now more proactive and more involved in what's going on in the field. He sees this form as a better opportunity to see the bigger picture, allowing the team to verify all the safeguards for an operation are in place. If not, he asks, "What are we doing about it?"

Additionally, Cirish believes the Start Card brings a new level of accountability for many of the staff. He likes to see the team review the work plans, then jump right into the Start Card. Mike Roberts, Rondout's project safety manager,

noted that implementation of the Start Card has created a proactive environment among the superintendents and the foremen. "If a new person walks into an active working area, the foreman proactively approaches the person and adds them to the Start Card and addresses the hazards and mitigations."

Cowart noted that with any new tool introduced across the organization, implementation is a process and areas of the Start Card may need to be reevaluated and refined for maximum success and to see the results Kiewit wants. However, Cowart said, "the positive feedback we have received thus far and the buy-in we are seeing from our people shows us that we are headed in the right direction with the Start Card. While the Start Card is getting a lot of engagement, I believe one of the most important things is front-line supervisors engaging with the craft, helping them understand and mitigate risk — and we're excited this tool will help start those conversations. It is our job to give our crews the best tools to start their workday with the right mindset to achieve our goal of Nobody Gets Hurt. The Start Card is a tool to help us achieve that." **K**



If you're looking for a project that required true out-of-the-box thinking due to remote location, weather limitations, permitting requirements and more, look no further than the Kake Access Road on Kupreanof Island, Alaska.

Kiewit Infrastructure West Co. was recently recognized for its impressive work on the Kake Access Road project, receiving numerous industry awards, including the 2021 Associated General Contractors of Alaska Excellence in Construction, 2021 Excellence in Safety and Top 10 Roads by Roads and Bridges magazine.

When this level of peer-recognition is achieved, it warrants a closer look.

PLANNING FOR SUCCESS

The location of the project set the stage for the complexity of the job. Kake is the largest settlement on the 52-mile by 20-mile island of Kupreanof in southeastern Alaska, with a population of less than 1,000. The goal of the project was to increase access across the island for recreational and subsistence activities and emergency evacuation purposes. The scope included building a road to provide year-round transportation access between Kake and a new boat launch on the eastern shore of the island. This access also increased economic development with another nearby community, Petersburg.

The original plan from the Alaska Department of Transportation and Public Facilities (ADOT&PF) was to construct 14 miles of road and five bridges through the undeveloped Tongass National Forest on the island. This plan was estimated to cost almost \$60 million and many logistical difficulties would have needed to be overcome.

Through the Construction Manager/General Contractor (CMGC) contracting method, Kiewit and the project owner were able to collaborate to optimize the original scope and reduce costs significantly, while still achieving the project goals. During preconstruction, Kiewit walked the site with the client to analyze the scope and design, and determined that by using existing roads in the area, they could reduce the need for 7.6 miles of new construction and eliminate four of the originally planned bridges, saving the client \$25 million.

OPTIMIZING SCHEDULE

The project's remote location, only accessible by boat or floatplane, made procurement and transportation of materials a complex and challenging endeavor. Further, weather conditions and environmental factors restricted when work could be done.



Kiewit Infrastructure West Co. is recognized for its ability to overcome obstacles and successfully deliver an access road through a remote Alaskan island.



Amanda Lundgren (left), Joe Myers (middle) and Daniel Stacey (right) provide perspective to the size of the trees in the area. Some were 8 feet in diameter.

"When we got out there at the beginning of April, there was still quite a bit of snow on the ground," Field Engineer and Drill and Blast Supervisor Amanda Lundgren explained. "So, we had to plow the roads and get ourselves set up. We wanted an early start so we could make it in one season."

Project Manager Clint Lane has more than 30 years of experience building challenging projects on remote islands in Alaska. He said, "The logistics on a job like this is the toughest aspect. Nothing will make or break a job more than logistics."

Material management was a crucial component of the project. All equipment and materials had to be delivered to the work site via barge. A comprehensive logistics plan was in place to ensure the camp and project site had the

required food, materials and equipment at the right times. Kiewit established close working relationships with local suppliers to obtain fuel, food and materials. A meticulous procurement schedule was set up to meet the project timeline.

The team was challenged by the presence of large expanses of wetlands and muskeg. A corduroy road made up of a series of logs laid perpendicular to the direction of travel and covered and finished with embankment was determined to be an optimal solution. This eliminated the need to excavate many areas, minimizing impact to surrounding geography.

Taking place simultaneously with construction, Lundgren and the project team engaged in efforts to design blast

patterns to produce the materials needed in construction of the road, eliminating the need to bring in additional materials and saving nearly a full construction season of work.

"The team's resourcefulness and diligence was impressive," said Lane. "We wound up having exactly the right number of explosives we needed, meaning once arriving on site, we didn't have to bring additional in and we didn't have to dispose of any."

Understanding the seasonal schedule limitations, Lane and the Kiewit team worked closely with ADOT&PF and the project designers to explore alternative materials and concepts to provide cost and schedule savings to the project.

One advancement included the use of logging equipment specially designed to handle timber up to 8 feet in diameter. Working with a trusted subcontractor to cut and clear trees in advance helped maintain the project's schedule. This equipment was also reused in other parts of the job, including the placement of a 16-foot structural steel multi plate — a versatile and economic bridge and culvert product.

“In place of using a bridge in one location, we figured out we could use a multi plate,” said Lane. “Because of access issues, we had the multi plate designed in 4-foot segments. Instead of assembling this so that the pipe was laid out linearly on the ground. We stood the pipe on end and put together a 4-foot section at a time and stacked the sections together.”

This innovative thinking allowed the team to assemble the multi plate in increments, cutting installation time in half

and improving the safety of operations by eliminating the need for manlifts. This also reduced fall hazards because installation never exceeded shoulder height.

NOBODY GETS HURT

In challenging site conditions, safety must be at the forefront of planning. “Our work in Alaska is diverse, requiring project-specific safety plans to address site-specific conditions such as harsh winter weather, remote locations with difficult access, communication challenges, crane safety, traffic control, human/equipment interface and in-water work,” Lane explained.

The team prioritized proper planning and continuous communication to mitigate safety hazards and prevent damage and injury.

Because cell service was limited in the area, the entire Kiewit team was equipped with satellite phones and



navigational devices that used GPS and provided texting capabilities. Each team member's location was monitored, and all devices maintained contact with the Coast Guard and emergency services.

Despite a challenging project location and complex work, the Kiewit team worked 45,554 hours without a recordable incident. Kiewit Infrastructure West Co. was awarded the 2021 Excellence in Safety Award, in part, because of the impressive feats achieved on this project.

Reflecting on the honor of this award, Lane noted, “it is one of the most important awards we can win. We want to attract and retain the best talent — and to be the best talent, you have to share our Nobody Gets Hurt safety philosophy. We want our clients, employees, future employees, partners and future partners to think of safety when they see the name Kiewit.”

COMMUNITY IMPACT

The impact of this project to the communities on Kupreanof Island cannot be overstated. The access road established an emergency evacuation route and economic development opportunities for all who live on the island.

Despite the challenges of the project site, the team completed the job more than one year ahead of plan. Today, motorists can drive over 40 miles from Kake to a concrete boat ramp with access to navigable waters on Frederick Sound. A true game-changer for the island communities. **K**



1. Crews assembled the multi plate on site in 4-foot sections due to access and transport limitations. 2. The road was constructed with materials obtained through the excavation and drill and blast process.

SHINING A LIGHT ON

OMAHA'S RIVERFRONT

For pioneers, the Missouri River represented a new frontier — a place where the future was uncertain but, at the same time, unlimited.

That same spirit of discovery and possibility is alive and well in Omaha, where two Kiewit projects are reshaping the future of this community.

RIVERFRONT REVITALIZATION

KIEWIT LUMINARIUM



RIVERFRONT REVITALIZATION PROJECT

At its heart, Omaha has always been a river city. Now, the Omaha Riverfront Revitalization Project is bringing the community back to its roots. Rebranded under one identity as The RiverFront, the redesign and redevelopment of the area includes Gene Leahy Mall, Heartland of America Park, Lewis & Clark Landing and the opening of the state-of-the-art Kiewit Luminarium (more details on page 25).

Visitors to the three parks, located near or on the Missouri River, will find a range of reasons to make the area a frequent destination.

They'll be able to take in a show at the Performance Pavilion, watch their pets at the dog park, get a match together at the bocce courts, play sand volleyball, splash in one of the water features, stroll the 10 miles of walkways and paths — or simply kick back at the urban beach or on the 5 acres of grassy lawn. The Kiewit Luminarium, opening in spring 2023, will provide a year-round venue for families to bring their kids and engage with hands-on educational activities.

Kiewit Infrastructure Co. is the construction manager for the 72-acre project, in charge of oversight of all construction activities for project owner Metropolitan Entertainment & Convention Authority (MECA).

As part of its responsibilities, Kiewit assembled packages for scopes of work to go out for bid and hire subcontractors. About 50% of the work — most of it focused on park infrastructure — has been self-performed by Kiewit, including:

- Demolishing and removing material in the existing parks
- Placing 90,000 linear feet of underground utilities
- Conducting 500,000 cubic yards of excavation and embankment work to change the grade and shape of the parks
- Fabricating and installing above-ground architectural amenities
- Placing 10,000 cubic yards of cast-in-place concrete structures

Each existing park was completely removed and built back from scratch. A major portion of the project involved heavy civil operations that changed the grade and shapes of these parks.

At Lewis & Clark Landing, new features will include a destination children's playground, an urban beach, pickleball courts, a renovated marina and more. This segment of the project required special protocols when

disturbing the ground, said Construction Manager Brett Bergdolt.

"We understood the complicated history of Lewis & Clark Landing and Heartland of America Park. This helped shape safety efforts and remediation protocols during renovations," he said. "All the excavations were observed, and any questionable material has been stockpiled and tested."

Procuring the highly customized, specialized materials and finishes for The RiverFront's above-ground amenities was another priority for the team, Bergdolt said. That included everything from the custom-fabricated, custom-designed children's play equipment to the architectural design of the restroom buildings.

The specifications for each structure meant the procurement process would require long lead times, as well as cost and schedule constraints.

"This isn't off-the-shelf equipment that anybody can buy," said Bergdolt. "It's all customized and highly specified for the intent of each area."

The specialized equipment and material would have been difficult to procure under normal circumstances, but the

COVID-19 pandemic amplified complications. Material and labor shortages, price increases and shipping delays were all impacts that needed to be managed.

To help expedite fabrication and troubleshoot shipping constraints, the team turned to Kiewit's Supply Network (KSN) organization. The team utilized KSN's resources



1. Gene Leahy Mall, reopening summer 2022, features a Sculpture Garden, Arches Playground, Performance Pavilion and more. 2. Crews constructed Arches Playground with extra special areas for kids to explore, including a climbing wall, rope forest and plenty of shade for the hot summer months.

throughout the country to visit various fabrication shops to complete quality control inspections, as well as provide real-time updates on fabrication schedules.

Juggling all the elements of this high-profile project hasn't been a simple proposition, but it's one that Kiewit was prepared for, Bergdolt said.

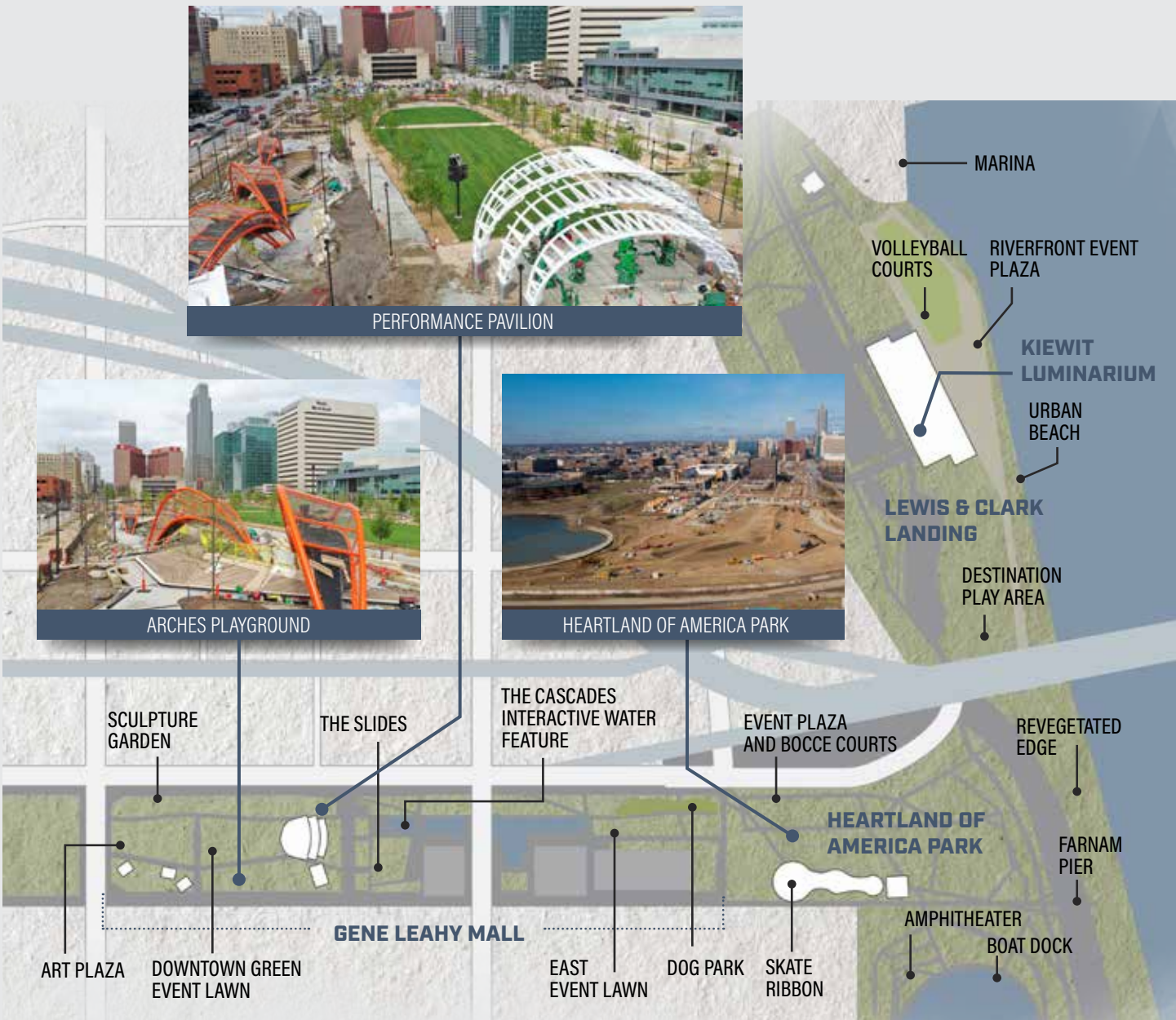
"We have discipline managers for all the different contractors and scopes of work. By setting up an organization structure that way, you can really boil down to 'this person is in charge of this specific thing and specific

area.' So, you narrow this large project across three parks down to very specific scopes or areas, and we manage it that way from the bottom up."

Bergdolt said he's proud of the team's work and its significance in bringing people back to the river in Omaha.

"To step back and think about the work that we're doing for the community, what it means regionally and what it means to Kiewit as a company, this is a very special project to be a part of."

Project scope



KIEWIT LUMINARIUM

Soon, construction will be complete on the Kiewit Luminarium, an innovative, interactive hands-on learning center focused on science, technology, engineering and math (STEM). The experiential destination is expected to attract and inspire visitors of all ages and backgrounds from the local community and the greater region.

Located at Lewis & Clark Landing at the river's edge, the Kiewit Luminarium is a shining centerpiece of the Omaha Riverfront Revitalization Project.

Kiewit Building Group Inc. is in the process of constructing the finished building to be ready for exhibit installation starting in fall 2022. When it opens to the public in spring 2023, the two-story glass-walled structure — at 82,000 square feet, about the equivalent of 1 ½ football fields — will welcome visitors of all ages.

A COLLABORATION WITH LONG-TERM IMPACT

This hasn't been the usual construction project for Kiewit.

That's because in addition to serving as construction manager and general contractor, the company also has

been a steward in fundraising and establishing a vision for the center.

Those efforts have been led by Chairman Bruce Grewcock and Senior Vice President and Chief Financial Officer Trent Demulling, who also serves as board chair for Omaha Discovery Trust, the project owner.

"The Luminarium fills a gap in the community because there isn't a science center in Omaha currently," said Demulling. "It's going to be a great resource for educators to be able to partner with the Kiewit Luminarium and learn and share best practices to become more innovative."

Inspiration for the Kiewit Luminarium's look and feel has come from the Exploratorium, a world-renowned science museum and developer of transformative learning experiences in San Francisco, California. Exploratorium leaders came on as collaborators with Kiewit, designer HDR and project owner Omaha Discovery Trust.

"One of the needs we see in society is to get younger

people — particularly those 8 to 18 years old — interested in STEM careers,” said Grewcock.

“This building will be a regional draw, attracting visitors from Sioux City to Des Moines to Kansas City to Lincoln. We are trying to cast a wide net to inspire kids and individuals from all backgrounds and locations on what’s possible in STEM fields.”

Together with community advisors, this team has crafted a place that uniquely reflects Omaha and the surrounding region.

“Anything we can do to stimulate the curiosity within STEM is a benefit to Kiewit and the broader community,” said Demulling.

Getting there has been made easier thanks to Kiewit’s established connections in the construction industry and the consideration the team puts into planning a job, says Rachel Jacobson, president of Heritage Omaha, the philanthropy organization that oversees fundraising for the project.

“The biggest thing — and I think this might be the result of

relationships Kiewit has globally — is that we haven’t seen the kind of supply chain issues that have slowed down other projects,” said Jacobson.

She praises the construction team’s communication and ability to roll with the changes. “They’ve been ahead of schedule, which is always wonderful. They’ve been able to keep the budget in check.”

CONSIDERING BUDGETS AND SAFETY

Before construction on the building could begin in fall 2020, the team had to consider several important elements, including budgets and safety.

Early on, a Guaranteed Maximum Price (GMP) needed to be set based on the yet-to-be-finalized design development documents, said A.J. Klebba, project sponsor.

With the help of design-assist subcontractors, the team was able to establish budgets for design work and guarantee a dollar value for the completed design.

“One of the advantages of bringing on design-assist subcontractors early on in the process is they don’t need a complete set of design documents to provide a complete

price,” Klebba said. “I think that’s one of the things that really made this project possible.”

At the job site, the team had special safety considerations.

The project sits on land that was the site of a lead refinery. After the plant was demolished in the late 1990s, the soil was remediated and hazardous debris was encapsulated below a geosynthetic clay liner.

In preparing the foundation for the Kiewit Luminarium, the team took additional precautions to ensure the existing soil

would be disturbed as little as possible, said Josh Dudzinski, foundations project manager.

“Our team really took a hard look at making sure that not only our assets — our company, our equipment — were being taken care of properly, but also anyone in the future that is coming to enjoy the Luminarium.”

Staff and craft took part in 40 hours of education to understand which contaminants potentially were still in the soil and steps required to protect themselves.

The simple building structure will provide the flexibility to adapt and change to multiple exhibit configurations and many possible future uses.



What’s waiting for visitors

Inside, the Kiewit Luminarium has an industrial look with exposed mechanical, electrical and plumbing, exposed structure/steel and panelized plywood on the walls.

The facility includes classroom and field trip space, maker space, multiple exhibit areas, a café, a gift shop, administrative space and an exhibit workshop area. Kiewit has constructed structural elements for large-scale, immersive exhibits, including Stella, a stellated dodecahedron; a geometric climber for whole body math-learning; and The Grid, a two-story tower with 360-degree exposure.

Visitors of all ages and backgrounds will explore and learn through engagement with hands-on exhibit and program experiences organized around STEM-related themes:

- **Find Yourself** – Humans as collections of cells, individual identities and societies
- **Dig Deeper** – Landscape, environment, design, engineering, construction, agriculture and more
- **Catch Waves** – Universal physical phenomena: light, motion, energy, sound and electricity
- **Make It Count** – Immersive geometry, numbers sense and financial literacy

“I hope kids go back to their schools and get inspired about what’s possible for them — becoming an engineer, a mathematician, an accountant or a chemist,” said Bruce Grewcock. “I hope the Luminarium opens up their minds to more great career opportunities.”

Trent Demulling adds, “After coming to the Luminarium, I hope that visitors have been inspired, that they’ve smiled, that they’ve had fun, that they’ve laughed while they’ve been in there, and that they can’t wait to go back.”



“It’s hard to overstate the value and the importance of Kiewit as a lead for the Luminarium. I think folks know when Kiewit is involved in a project, it’s going to get done. It’s going to be on time, it’s going to be on budget and it’s going to have a level of excellence.”

SILVA RAKER

CEO, KIEWIT LUMINARIUM

Placing supports called micropiles was selected as the cleanest technique to minimize interaction with the material below the clay liner that was displaced by the drilling process, Dudzinski said.

The team carefully set the 7-inch reinforcements, ranging in length from 45 feet to 68 feet long, at 207 locations, until they hit bedrock.

It’s a time-consuming process: Each micropile takes about 3 to 4 hours to place. The process was compounded by sub-zero temperatures in February 2021, when compressor issues stopped the drills and work came to a halt.

But the foundations team quickly pivoted, pulling in equipment from all four corners of the country.

“They were able to finish early and set the rest of the project up to continue to beat schedule and improve on our planned durations. That set the tone for the project,” said Project Manager Jon Babovec.

The foundations work was successful in managing the schedule and creating a clean site for generations of future visitors. To ensure proper remediation, the team engaged in extensive testing and tracking of all debris encountered below the geosynthetic clay liners.

A ‘BEAUTIFUL CONTAINER’

As building construction prepares to wrap and inside work continues, the Kiewit Luminarium’s CEO reflects on the work so far.

“Not only has it been seamless in terms of the handoff, but more importantly, there’s been a commitment and kind of a passion that’s been held collectively around what we’re doing here,” said Silva Raker, who joined the new organization in July 2021 after a decade as a senior executive with the Exploratorium.

The building structure is simple, allowing the flexibility to adapt and change to multiple exhibit configurations and possible future uses, and provide a “backdrop” for the building contents.

Raker added, “The building is this beautiful container, this platform that is going to glow on the riverfront of Omaha and signal the things that are going on within, but also the things that are going on in the broader region that are connected to it.” **K**

