



PRESIDENT & CEO

Kerry Smith kerry@mycnr.com 618.225.2253

PRODUCTION

Tripp Co. Creative, Inc. www.trippco.net

ISSN 1045-3792 USPS 988-340

Construction News and Review (CNR) Magazine has more than 4,000 subscribers with an average of eight readers per copy. No material in this publication may be reproduced in any fashion without explicit written permission from the president & CEO.

CNR St. Louis Construction News and Review (ISSN: 1045-3792) (USPS:988-340) is published quarterly for \$32.00 per year by Viva Voce, LLC. Periodicals-class postage paid at New Castle, IN and at additional mailing offices.

POSTMASTER: 930 Jameson Court - New Castle, IN 47362

Editorial material under bylines expresses the opinions of the authors and does not necessarily reflect the policy or opinions of this publication. Acceptance of advertising does not imply endorsement of the product advertised or listed nor statements concerning them.

©2023 Viva Voce, LLC

NOVEMBER - DECEMBER 2023

CONTENTS

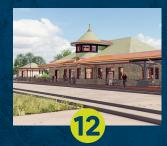
VOLUME 54 | NUMBER 6

FEATURES



2023 Construction Year in Review

By Kerry Smith



Design Firms Adaptively Reuse Century-Old St. Louis Buildings

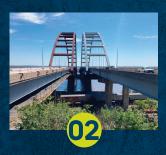
By Kerry Smith



Access Control Technology Grants Access to Legit Occupants, Limits Entry to Others

By Kerry Smith

PROJECTS



KCI, Thomas Industrial Coatings Rehabilitate J.B. Bridge

By Kerry Smith



Multiple Builders, Specialty Subs Bring Chesterfield's Urban Center to Fruition

By Kerry Smith

COLUMNS

Perspective:
Reflecting on
Change
By Kerry Smith

O7 Sales: Excusing Poor Sales Work By Tom Woodcock

Accounting:
Planning
Opportunities
for Sunset
Provision of
the Tax Cuts
and Job Act
By Rich Waigand

DEPARTMENTS.....32



BY KERRY SMITH

Kerry Smith President & CEO

Construction News and Review Magazine

Your Construction Voice

The Opportunity of a Lifetime

Sometimes dreams are born from storms. Literally.

My journey with this longstanding, beloved and respected industry publication began in 2015 as a contributing writer. Having just sold a business journal I'd launched and grown for 13 years, I received a call from then-CNR editor Peter Downs who was searching for a freelance writer who specialized in construction coverage. I jumped at the opportunity, having long been fascinated - and delightfully distracted by - any dirt digging, tower crane moving, concrete placing and rebar tying anywhere.

My freelance reporting for CNR continued for about a year when Peter Downs prepared to step down. He and then-CNR publisher and owner Mike Chollet asked to meet me on a cold January evening in the midst of what later turned out to be one of St. Louis' most severe ice storms on record.

As I drove from
Edwardsville, Illinois to the
Soulard district of St. Louis
to meet these two gentlemen
face to face for the very first
time, I feared I was being
summoned due to an error I'd
made in a story, a source who
didn't take kindly to me or
some other potential blunder.
Such was not the case. Sitting
at a table in a nearly vacant
St. Louis Bread Co. location,
just after they treated me

to supper, Mike and Peter launched into the purpose of our visit: To offer me the chance to work as editor of St. Louis Construction News and Review Magazine, I said ves (one of the best decisions I've ever made) and marveled at the serendipitous nature of the opportunity given to me that wintry evening. I also slid my car slowly across downtown St. Louis to the nearest available hotel, soon realizing that there would be no driving across icy river bridges and interstates back to Edwardsville that night.

Serving as editor of a smallstaffed publication quickly morphed into also serving as the writing staff, each year writing 30 long-version project and issue stories for St. Louis CNR's print edition and 52 weekly e-newsletter pieces. A few years later, my role expanded once again when I was asked to also take on a portion of the advertising sales. When Covid hit, I was incredibly thankful to count CNR as my largest client, my others temporarily waning.

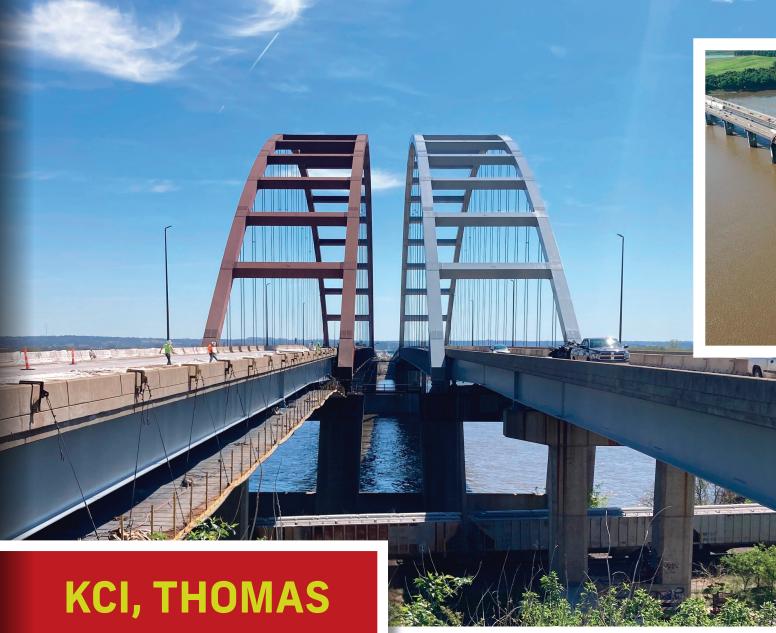
Fast forward to just a few months ago, when Mike Chollet once again phoned me with an opportunity I couldn't pass up: Acquiring St. Louis CNR Magazine and taking the reins of a family-owned business that began on the streets of St. Louis nearly 55

years ago. Little could I have I known at that time - in 1969 when CNR took root and I was five years old, living in a Milwaukee suburb - that one day I'd have the honor and privilege of owning this publication. It's truly a dream come true. And just as it has always been, I can't get enough of construction. I still pull my car over (even if I'm off the clock and far away on vacation!) to watch tilt-up concrete panels hoisted into position, steel beams lifted into place, bridge spans and decks being rehabilitated and hundreds of prefabricated restroom pods magically dropped from above into a healthcare facility. Construction is in my veins, I guess you could say.

After serving in a number of diverse journalistic roles and covering an array of topics for more than 30 years, construction remains my hands-down favorite kind of story to tell. I look forward to continuing to learn from each of you and telling the story of the projects you build, the people you hire and the issues you face – anywhere in the St. Louis region and across the U.S. – for many years to come.

Welcome to CNR 2.0. Let's continue this journey together.





KCI, THOMAS
INDUSTRIAL
COATINGS
REHABILITATE
J.B. BRIDGE

BY KERRY SMITH

The Jefferson Barracks
Bridges – eastbound
and westbound over the
Mississippi River from
Columbia, Illinois to South
St. Louis – are nearly
completely rehabilitated
and ready for significant
Interstate 255 traffic for
years to come.



KCI Construction Company led the team in accomplishing a major rehabilitation of both bridges that together comprise what is commonly known as the J.B. Bridge. The total project cost, according to the Missouri Dept. of Transportation, is \$50 million. Other key project partners on the job, which began in February 2022 and will complete in December, are Thomas Industrial Coatings, Special Inspections & Design, Liberty Maintenance and D&K Welding.

The eastbound and westbound bridges each span 3,998 feet with 909-foot long arches and an 88-foot clearance from the bottom of the bridge to the river.

A routine inspection three years ago revealed structural concerns, which prompted MoDOT to initiate plans to rehab these bridges. The project scope included expansion joint replacement, steel repairs and welding, new hanger cables, cable metalizing, substructure repairs, new overlay and painting. One of the big scopes of work was replacing the six massive expansion joints on each bridge, steel finger joints that allow for temperature-inspired movement of the bridge. KCI Construction Project Manager Ethan Renner says the largest expansion joints measure four feet wide by 51 feet long and weigh 30,000 pounds. D&K Welding assisted KCI with installation of the new joints.

"Each of the J.B. bridges had 306 lineal feet of expansion joints replaced as part of the project," said Renner.

Repairs at the bridges' cables – the longest which measured 180 feet – at seven hanger locations was also performed, as were substructure repairs at pier caps on both bridges. Cable metalizing – thermal spraying of a metal coating onto the bottom 25 feet of the cables on both bridges – was done to protect against corrosion and extend the lives of the bridges.

A unique aspect of the bridge rehabilitation project, he adds, is specific to the type of concrete utilized to pour back the expansion joints.

"Typically, it's standard concrete," Renner said, "but on this job, MoDOT specified ultra-high-performance concrete that reaches between 22,000 to 24,000 pounds per square inch, as compared to typical concrete that has a PSI of 4,000 to 5,000. The J.B. Bridge project is the first such project in which KCI has used this concrete. It's more fluid and requires a forming system that sealed more tightly than standard forming."

Because the upgraded concrete is much more fluid, it required forming the top sides of the joint along with the bottoms and sides.



INCLINATOR - Series 300



Inclinator delivers the safest, most reliable residential elevators in the industry, custom-designed to fit unique spaces. We can provide an American-built elevator to your home that you'll take pride in for years to come.

For more information please contact us:

Phone: (314) 423-1620 Toll Free: (800) 783-1620

www.customhomeelevators-stlouis.com



8582 St. Charles Rock Road P.O. Box 142725 St. Louis, Mo 63114-2725

Just Made Choosing Sides A Lot Easier.

Now the #1 commercial real estate brokerage firm in Southern Illinois is also serving St. Louis.

BARBERMURPHY

Commercial Real Estate Solutions barbermurphy.com 618.277.4400

One of the most difficult aspects of this project was access. The majority of the project is over the river, which makes access challenging. We also had to access the top of the arch span steel, which was approximately 180 feet above the road deck.

Another unique material specified by MoDOT was polyester polymer concrete for the bridge deck overlays. "MoDOT has only used it on a few bridges so far," said Renner. "We had to mill the top inch of existing roadway off to apply the PPC."

This product seals the roadway, permanently adhering to the bridge deck. It has superior bond strength and durability.

The painting scope of the project was a major portion of the work, Renner says. KCI phased the painting with the eastbound and westbound bridge phasing. The painting scope included painting the outside face of the lower exterior girders from Illinois to Missouri and painting the upper steel in the arch span. Approximately 284,000 square feet of steel was painted per bridge. Thomas Industrial Coatings painted the lower portions and subcontracted to Liberty Maintenance who painted the upper sections.

Before any painting could commence, the team needed to build access to the structures.

"One of the most difficult aspects of this project was access," said Renner. "The majority of the project is over the river, which makes access challenging. We also had to access the top of the arch span steel, which was approximately 180 feet above the road deck."

Thomas Industrial Coatings built a Safespan suspended exoskeleton scaffold platform below the arch and roadway on each bridge. For the upper arches, a combination of Safespan and QuikDeck were used to provide a walk platform so workers could walk across the steel framing above the arch and also access the bridges to tarp them in order to blast off the old coatings. "It was an intricate platform spanning the entire arch span," Renner said. The Safespan platform allowed multiple trades to work concurrently, and provided a floor for containment of materials so they didn't impact motorists.

While Thomas was building access to the structures, it was also mobilizing equipment for the abrasive blasting process. The cumbersome equipment spanned up to 300 lineal feet and included a reclaimer - the machine that performs the blasting - plus fueling and dust collection equipment and a bevy of air compressors.

Blasting occurred next. Thomas **Industrial Coatings Senior Project** Manager Josh Teddleton says crews hung tarps on the outside of the bridges and used a recyclable abrasive, steel grit (rather than sand), paired with a machine that captured the particles so they could be reused. Thomas utilized customized tarp



Thomas Industrial Coatings, Inc. is a multi-certified industrial painting and coatings contractor dedicated to quality, safety, and efficiency. We take great pride in our work, and it shows on every job we do across the country.



thomasindcoatings.com (636)475-3500

For career opportunities please visit thomasindcoatings.com/careers sizes to enclose workers and materials. The tarps are made of the same material as a vehicle airbag, Teddleton says, and are 100 percent impermeable by dust. A portable bag house sucked in the particles, creating a draw and pulling negative air out of the containment. Workers wear air-fed helmets that deliver fresh, filtered air to protect their lungs from any contaminated air.

During year one of the project, the eastbound bridge was painted, followed by painting of the westbound bridge in 2023.

Traffic logistics in each direction on the three-lane bridges proved to be another anticipated challenge. According to MoDOT average daily traffic volume statistics, more than 50,000 vehicles travel the bridge in both directions within a 24-hour period. From February through April 2022, KCI built crossovers on the Illinois and Missouri sides, reducing traffic down to two lanes. Lane reduction occurred first on the eastbound bridge and later the westbound bridge.

Teddleton says the J.B. Bridge project is unique with respect to two distinctly different coating systems, one for the arch above and one below. "There's a two-coat system on the bridge trusses, with the product for the top coat providing higher gloss and UV protection," he said.

Once the blasting is completed, the steel is inspected and a profile of the steel is taken to determine peaks and valleys in the steel on a microscopic level. "This is how the coating is going to adhere," said Teddleton. "We have to be within two to four mils on that profile," he added.

The first coat of paint is then applied, which is a zinc primer. "Zinc is used because of its ability to become sacrificial to the steel and offer up the metallic pathway through the coating to complete the corrosion cell," he said, "as compared with uncoated carbon steel being the metallic pathway." The next coat is an acrylic that acts as a barrier coat to create a membrane that protects against any moisture finding its way to the zinc coat.

Thomas then adds the top coat of paint, a polyurethane acrylic that provides an additional barrier and UV protection.

Teddleton says 13,000 gallons of paint were used to complete the J.B. Bridge project, along with 12 spray pumps, 36 spray guns and eight air compressors.

Long recognized for its brown hue, MoDOT chose a light gray color for the newly rehabilitated J.B. Bridge. MoDOT St. Louis District Bridge Engineer Joe Molinaro says the new color will make it easier to detect the presence of rust via future bridge inspections.



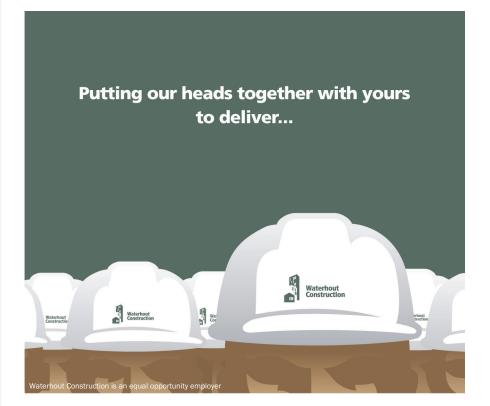
David M. Duree & Associates, P.C. Attorneys at Law

Licensed and Practices in Illinois and Missouri

David M. Duree PE & Attorney

www.dmduree.net law@dmduree.net

312 South Lincoln Avenue O'Fallon, IL 62269 618.628.0186 (T) • 618.628.0259 (F)





Waterhout Construction

314-781-1178 phone | 314-781-1176 fax waterhout@waterhout.com

Quality • Safety • Efficiency • Teamwork



BECOME A CONTENT PARTNER **MyCNR.com**

Don't wait: There are only a limited number of packages available. Contact kerry@mycnr.com or 618.225.2253

FEATURES INCLUDED	CONNECTOR	COMMUNICATOR	COLLABORATOR
INFINITE EDITORIAL CONTENT/IMAGE SUBMISSIONS	WEB	+ E-NEWS	+ E-NEWS
LINKEDIN SHARING OF YOUR FIRM'S CNR CONTENT	/	/	/
SINGLE-BOX AD IN WEEKLY E-NEWS EDITIONS	/	/	/
YOUR LOGO SCROLLING ON CNR HOME PAGE	SMALL	MEDIUM	LARGE
PROJECT VIDEO POSTS ON CNR WEBSITE		Up to 6	Up to 12
1 BUILD STL OR BUILD AMERICA POD GUEST SPOT			✓
2 MAJOR PROJECT/PRODUCT ALERT E-BLASTS			/
YOUR FIRM'S STORY IN JUL-AUG PRINT EDITION			/
PAY ANNUALLY NOW AND GET NOV & DEC 2023 FREE	\$375/MO	\$790/MO	\$990/MO

*publication of submitted content subject to CNR editorial criteria **each content package requires 12-month signed agreement (billed monthly)

AVAILABLE FULL-COLOR PRINT AD SIZES: FULL PAGE: \$2000 (ONE-TIME INSERTION) | HALF PAGE: \$1350 (ONE-TIME INSERTION) | QUARTER PAGE: \$1000 (ONE-TIME INSERTION)

PACKAGE ADD-ONS: CNR 2024 SIGNATURE PRINT EDITIONS: JAN-FEB "SALUTE TO THE AGC OF MISSOURI KEYSTONE AWARDS" EDITION | JUL-AUG "MULTI-GENERATIONAL CONSTRUCTION COMPANIES" EDITION



SALES V TOM WOODCOCK

Tom Woodcock, president of seal the deal, is a speaker and trainer for the construction industry nationwide. He can be reached via admin@tomwoodcocksealthedeal. com or (314) 775-9217.

Excusing Poor Sales Work

T've worked with hundreds of people responsible for their company's sales effort. I've seen some incredible individuals who seem to be in the mix on every deal they go after. They nail it and ask little in return, except for their bonus or commission check. Their companies thrive and their profit margins are strong. The economy doesn't affect them whether poor or booming.

They are producers. Simple and true. They may not be the thriftiest among us, but who cares if they bring home the bacon. For those of you out there who fit into this category, I salute you.

Then there is the "other" category. These folks complain about every aspect of sales. They blame the economy and complain that everything is all about price. They find fault with their own company and seldom act proactively. They will argue with you that sales work doesn't make a difference, but when they get a deal they'll tell you how they got the inside track on the project or received inside information. It can drive a manager crazy! These responses are very simple to explain: They're excuses.

I promise you! I have contractor clients that are securing work in minimum or no-bid competition. They are winning them without being the low number. They are getting good margins and repeat business. Their clients call them first or have them on a short list of options. These contractors set aside time in every work week specifically for sales work. They market properly and do the extras to develop relationships. These folks are networking and are not qualifying away opportunity.

Don't get me wrong. Not all of them come by it naturally. Some of them were also excuse makers at one time. The change came for some when there was virtually nowhere else to go but sales

work to gain profitable business. A few were sweating things out before they turned the corner. The first step to excelling in the way you sell is to quit with the excuses. It may seem like I'm being harsh, but do we really have time to waste here?

When I begin working with a someone who is a sales agent for his or her company, the first place I start is how that individual is using his or her time. Most of us get things thrown at us regularly that take us off task. Having a plan in place that forces you to incorporate sales time can start to stabilize your schedule. The more you learn and yes, train your customers, the more control you are of your schedule. My next step is to find out why they feel they're not having the sales success they'd like. This flushes out the excuse. Trust me, there are only about three to four total sales excuses in the construction industry. They might have slight variations, but really they're all very common although they feel unique to each person. Then we set a sales strategy for specific customers and targets. If you were to only accomplish these few steps, you'd be doing more than the majority of contractors - or for that matter, most companies in general.

The pressure to perform in a construction environment as competitive as the current one is great. Many are experiencing failure at a rate they've never seen before. The easiest explanation is to find fault in some other area besides one's sales work. The more difficult response is to adjust your sales approach and put the same level of attention to that effort as you would to finding profitability on a project. Freshening marketing, finding time to connect through business oriented social networking and setting an aggressive call schedule takes time, combined with planning. Finding excuses not to take that time will only result in the same pattern of sales. If that pattern is trending down, deeper it will go.

So many contractors are looking for ways to get an edge or find new opportunity. How do you propose to do this if you are continually excusing a weak or ineffective sales effort? Multitudes of contractors across the country are struggling with the challenge of getting business. Productivity for most contractors is at an alltime high. Field performance is at a premium. Many are working ridiculous hours and giving the operations aspect of their business everything they have. They've cut cost to the bone. Still, they see no light at the end of the tunnel. As we head into the winter we are entering a prime sales season. Filling your pipeline with quality opportunity now will bring results in the spring.

Construction lives and breaths with sales, just like any other business.

The easiest explanation is to find fault in some other area besides one's sales work. The more difficult response is to adjust your sales approach and put the same level of attention to that effort as you would to finding profitability on a project.

MULLOC ders cialt Juos Bring Chesterfield's **Urban Center** to Fruition BY KERRY SMITH

A \$500 million, 80-acre mixed-use development is rising from the ground just west of downtown Chesterfield's planned \$2 billion remake of the former Chesterfield Mall.



PIER PROPERTY GROUP+ HOLLAND CONSTRUCTION SERVICES THE FOUNDATION OF TRUE PARTNERSHIP

Over the years, we've had the good fortune of partnering with Pier Property Group on a number of special projects.

And we're doing it again, with Wildhorse Village in Chesterfield — an exciting new development that will offer individuals, couples, and families the opportunity to call this new, trail-lined, waterfront community home.



FROM EACH TEAM MEMBER TO EVERY TRADE PARTNER, FROM CONCEPT TO COMPLETION, **HOLLAND IS...**

PIER PROPERTY

Named Wildhorse Village, the multifaceted project includes a dynamic urban center focused around a 15-acre lake with single-family homes, apartments, condominiums, townhomes and nearly one million square feet of office, restaurant and retail space. The waterfront - open to the public - will be lined with trails, a plaza, a boardwalk, an amphitheater, a boathouse and public art.

CRG - the development arm of Clayco - is the master developer for Wildhorse Village.

Michael Hamburg, owner of Pier Property Group, is the developer of the apartment and townhome projects. Holland Construction Services is the builder for the 266-unit luxury apartment community - known as The Flats at Wildhorse Village - and 70 townhomes called The Terraces at Wildhorse Village. Fischer Homes is building attached villas while McKelvey Homes is building singlefamily residences.

Holland Project Executive Rob Ruehl and Senior Project Manager Miranda Stevens say the market-rate apartments - located on the north side of the master development - are all in one building, visible to motorists as they approach Chesterfield Valley just west of the former Chesterfield Mall.

"We began building the apartments in February 2022," said Ruehl. "Our substantial completion was at the end of October. The enormous courtyard with multiple outdoor





Approximately 225 Holland Construction Services and trade partner members worked at the Wildhorse Village site during the apartment and townhome project's peak construction period.

recreational and social amenities is one component that truly sets The Flats at Wildhorse Village apartment community apart from others," he added. Apartment dwellers have access to a four-story, precast concrete parking garage connected to the apartment facility. Amenities, according to Stevens, include a clubhouse, business center, cabana and coffee bar that lead straight to the outdoor courtyard area and an oversized, resortstyle pool. Turfed areas will accommodate a barbecue pit, bocce ball and more. A dog park and dog spa are also included, as is bicycle storage.

The Terraces at Wildhorse Villages encompasses 70 townhomes in 10 buildings. Ruehl says the townhomes will start to be available late this fall and more will come online each month. Approximately 225 Holland and trade partner team members worked at the project site during the apartment and townhome project's peak construction period. A still-sporadic supply chain extended the delivery time available for necessary electrical switchgear and other pieces of equipment and materials. However, with proper planning and communication during preconstruction, the projects are scheduled to be completed on schedule.



Additional project partners at The Flats at Wildhorse Village apartments include Lamar Johnson Collaborative as architect, Arcturis as interior designer, SSC Engineering as structural engineer, Stock and Associates as civil engineer and P&E Services as the mechanical, electrical and plumbing engineer.

Guarantee Electrical Co. and MR Bathe Electric are also part of the Holland team that is building the luxury apartments. Guarantee is building the electrical infrastructure and wiring amenities to advance the vision of the luxury apartments. Guarantee President Dave Gralike says the collaboration between project teams is evident on this massive effort.

"We often team up with fellow IBEW/ NECA Electrical Connection contractors that specialize in residential wiring," Gralike said. "In this case, MR Bathe. Guarantee provides the horsepower to manage a \$6 million project and turnkey completion of the project's core areas and infrastructure. MR Bathe completes the interior units with residential electricians who are highly efficient."

Today's apartments and condos must be wired to the cutting-edge standards set by a generation that relies upon high-speed internet and other conveniences. "While Guarantee is known for highly complex commercial, industrial and healthcare projects, we're also able to bring our technology to bear on Wildhorse Village to deliver greater efficiency and communication," said Gralike. "This includes 3D modeling, robotic station layout, prefabrication and modularization."

Bell Electrical Contractors is part of Holland's team that is erecting and wiring the townhouses, The Terraces at Wildhorse Village.

Grasser Electric is working with Fischer Homes to wire the attached villas and McKelvey Homes to wire the single-family residences. Grasser Electric President Shane Grasser says work on the single-family homes includes wiring for swimming pools and electric vehicle chargers. The contractor is powering a total of 72 attached villas and 35 single-family homes at the site.

"We've been doing work for McKelvey Homes since the 1970s," said Grasser. "This is a unique product unlike anything that McKelvey Homes has built before. The homes sit closely together so it appears as more of an urban living model, and yet it's not in the city (proper)."

Some residents are already living in the single-family homes.

Wildhorse Village Project Team

Construction Manager

Holland Construction Services

Architect

Lamar Johnson Collaborative

Structural Engineer

SSC Engineering

Civil Engineer

Stock and Associates

MEP Engineer

P&E Services

Owner

Pier Property Group Michael Hamburg

Trade Partners

Mechanical

Frank Fischer Inc.

Electrical

Guarantee Electrical

PlumbingFinch Plumbing

Fire ProtectionBoyer Fire Protection

Framing and Finish Carpentry

Titan Carpentry LLC

Concrete

Vee Jay Cement Contracting Co.

Drywall

John Bender, Inc.

Painting

All American Painting

Flooring

Corporate Flooring Group

Masonry

Toenjes Brick Contracting

Metal Panels/ Roofing Missouri Builders

Landscape

Landesign LLC

Aluminum Storefront Presley Glass, Inc.

Wood Wall Panels and Trusses Rehkemper and Son Inc.

Retaining WallsRosch

Construction Testing SCI Engineering Inc.

Earthwork and UtilitiesSemke Grading
and Pipe Works

Precast Parking Garage St. Louis Prestress Inc.

Ground ImprovementsSubsurface
Constructors Inc.

Trellis

Superior Aluminum

Entry Canopy Lawrence Fabric & Metal Structures

PROUD TO BE PART OF THE FLATS AT WILDHORSE VILLAGE

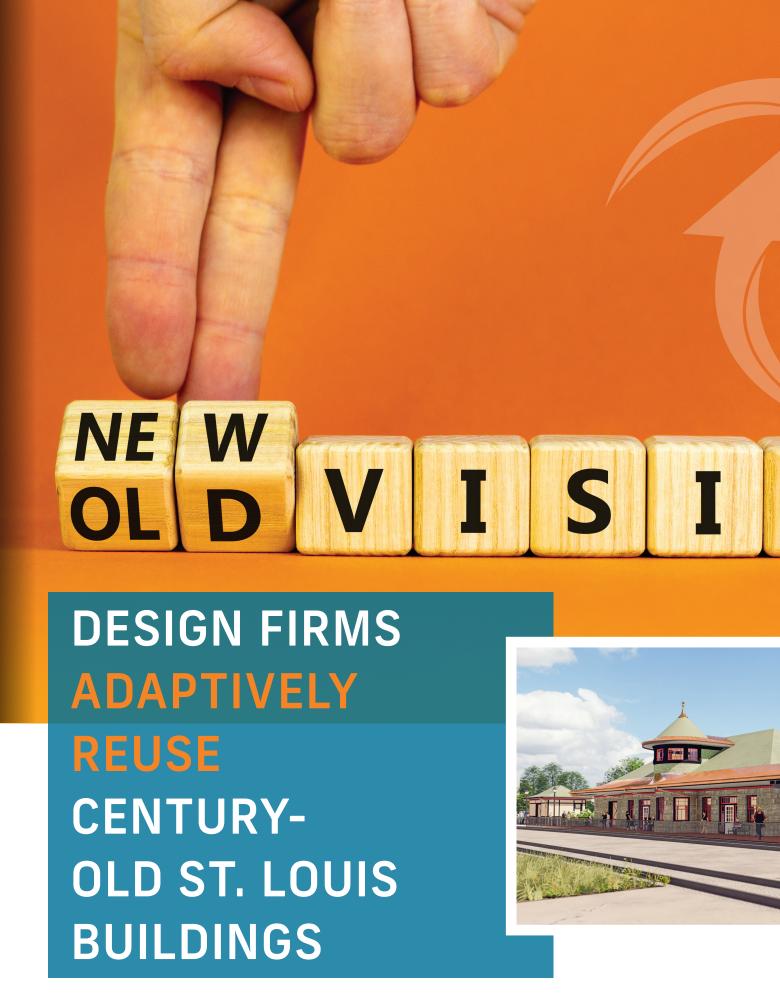
CUSTOM FREESTANDING METAL LOUVERED TRELLIS



LAWRENCE

FABRIC & METAL STRUCTURES

NEW WEBSITE - NEW SPEC BUILDER lawrencefabric.com sales@lawrencefabric.com MO (636) 861-0100 IL (618) 334-3839





BY KERRY SMITH

THE JOB IS THE BOSS

WE ARE THE DESIGN-BUILD FIRM WHERE BUILD SMART® ISN'T JUST A TAGLINE.

IT'S OUR COMPASS.



korteco.com

Become a CNR Content Partner Today!



618-225-2253

Your Construction Voice

daptive reuse - the process of reusing an existing building for a purpose other than which it was originally built or designed for - is occurring across St. Louis, as architects and owners envision ways to repurpose buildings that no longer fit their original intent while retaining much of a city's architectural heritage.

Architectural firms Trivers and Mackey Mitchell Architects are among those who work with owners and developers to reimagine century-old warehouses, office towers and other buildings that currently stand vacant. Recognizing the cores of these structures and - peeling them back,

layer by layer - to envision what they could be is the task welcomed by design and construction firms who are immersed in adaptive reuse projects.

"Much of the time, you'll get to the point where you're undoing layers to take the building back to an identifiable timeframe of importance or significance," said Trivers Principal Joel Fuoss. "Often we need to undo more modern changes that have had a detrimental impact upon the building's core historical characteristics over the years." Balancing modern-day requirements such as accessibilitycompliant, vertical circulation elevators

and modern systems with elements that lend to the historic charm of the structure is the challenge inherent in adaptive reuse

If historic tax credits are funding any portion of an adaptive reuse project, nuances of preservation requirements exist that need to be met. "Even though it's technically an adaptive reuse effort, there are still layers of preservation that you may be doing within the scope to be compliant with the National Park Service standards," said Fuoss. "While you don't have to revert the structure back to its original use, you may be required to meet certain historic preservation requirements within the project, both inside and out."

One example of these hybrid requirements is the Butler Brothers Building, now known as The Victor. The 1906 building in downtown St. Louis, which is on the National Register of Historic Places, once served as a garment warehouse. Trivers and PARIC began the adaptive reuse project three years ago to reimagine and redesign the 700,000-square-foot, eight-story building as a multifamily community. In the process of doing so, the project team encountered 1950s and 1970s modifications that needed to be removed. "Often with adaptive reuse projects, there is often a thread of historic preservation that runs through it...such as original windows and window treatments, interior wood, terracotta brick, stone columns and more," Fuoss said.

Sometimes, bittersweet as it may be, adaptive reuse efforts involve removing a longstanding, historic artifact or building feature. Such was the situation, says Fuoss, when the Butler Brothers Building project team had to remove century-old elevators that were the size of small train cars. "Removing the elements that don't necessarily have a place in a modern world - in this case, removing the elevator cars, pulleys and wheels - is often a bittersweet necessity due to safety-related criteria,"

But if the original building feature doesn't present a safety/structural issue, it can often be left as is and designed around, leaving another dose of character intact, "With the adaptive reuse of this old warehouse building, we were able to leave the old fire escapes, fire doors and some of the water tanks as they were to lend to the industrial history that remains," said F11088.

The Woodward Lofts in the Forest Park Southeast neighborhood of St. Louis is an example of adaptive reuse where removing - rather than saving - some of the original bones of the 1926 Woodward & Tiernan Printing Co. building contributed to its modern-day charm. Trivers designed

Persistence.





It took years of persistent effort and region-wide collaboration for St. Louis to score an MLS Soccer franchise. It's taken consistent and collaborative effort by an amazing construction team to bring this project to the goal.

Through a pandemic that changed everything, 360 drilled shafts, four wells, a manhole and a spring pump station later, we are honored to have been part of this persistent, talented team.

www.DRILLINGSERVICECO.com | PHONE: (314) 291-1111

the project and ARCO Construction built it. The project scope called for removing the building's interior walls to create a spacious courtyard for residents of the now 164 loft units to enjoy. "Thinking out of the box is essential as you approach these adaptive reuse efforts," Fuoss said. "Sometimes it's not so much about what you keep as it is what you selectively remove. In this example, cutting light wells and cutting circulation through to make new spaces that are open to volumes of light made sense. Adaptive reuse involves not just seeing the building for what it is, but for what it can be."

Sustainability is a major reason to consider adaptively reusing existing buildings rather than building new ones, according to Fuoss and Mackey Mitchell Principal Jennifer Plocher Wilkins.

"We've seen this statement far and wide," said Wilkins, "'The greenest building is the one that's already built.' The sustainability aspect of adapting existing buildings is one of the best reasons to pursue adaptive reuse over new construction. Our built environment is a resource that's valuable...and it's a nonrenewable resource. Not only is adaptive reuse an ideal solution for recognizing investments that have already been made in the fabric of our cities, but also to forego creating new sources of carbon emissions," she added, noting that according to the American Institute of Architects, 40 percent of the world's emissions are tied to construction activities.

Quite a few old structures are very well-built despite their outward appearance, Wilkins says. For example, a concrete-framed structure whose walls are crumbling may have strong "bones," meaning its stone columns are still rock solid. "There's often a lot of durability that still exists, regardless of the old structure's exterior appearance," she said. "A lot of times, the issues in these historic buildings aren't related to structural capacity factors, but rather to building systems constraints such as nonexistent central air conditioning, and antiquated electrical systems and fire suppression systems."

Other constraints relate to the structural system itself. Low existing floor-to-floor heights can limit available space for new electrical and HVAC systems. Column spacings can impact floor plans because moving column locations can be very costly, Wilkins says. Mackey Mitchell is currently creatively redesigning an existing building into classroom space, using the constraints of the structural grid to achieve learning spaces of the appropriate sizes with unique nooks that will give the classrooms character.



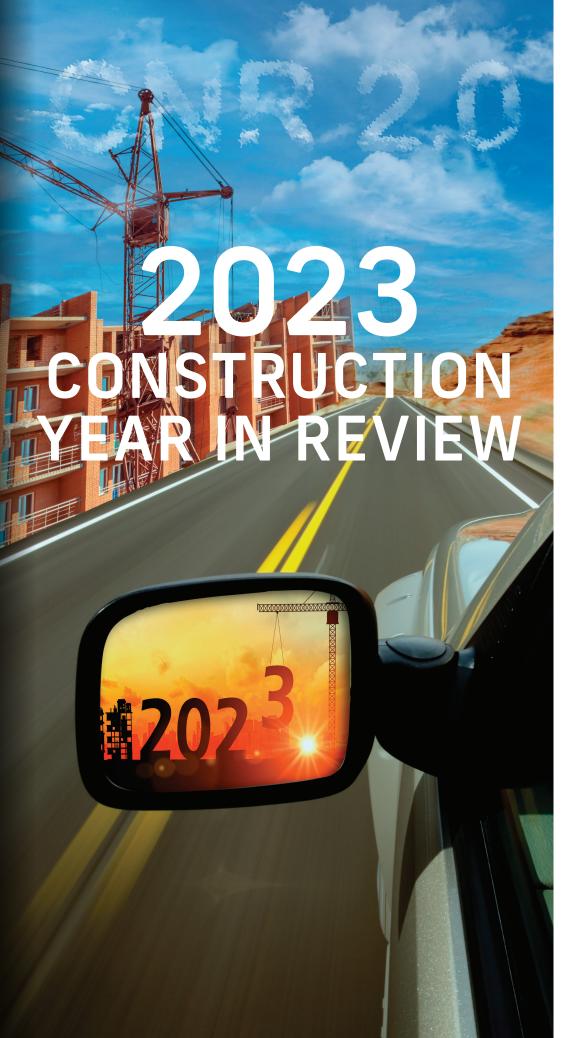
The renovation of the Kirkwood Train Station serves as a mixture of historic preservation, adaptive reuse and modern-day renovation. The City of Kirkwood bought the station from Amtrak nearly two decades ago, and Mackey Mitchell has been working with the city to renovate the building.

"The reality of adaptive reuse is that most buildings are capable of being reused, but it's always a cost question," said Wilkins, whose office is in one of the Cupples Station buildings in downtown St. Louis, originally built in 1894. Ten of the original 18 heavy timber, brick-façade buildings are still standing, she says.

Although it doesn't qualify as a fully adaptive reuse project, the renovation of the Kirkwood Train Station serves as a mixture of historic preservation, adaptive reuse and modern-day renovation. The city bought the station from Amtrak nearly 20 years ago, and Mackey Mitchell

has been working with the city on a new project to renovate the building. A train still stops at the station twice daily, but Kirkwood also rents it out during non-peak times for special events. Designing larger, accessible restrooms in the space that formerly stored baggage, reconstructing part of the passenger canopy that was removed in the 1940s and reducing the footprint of what was the ticket counter without changing the character of the space are examples of how the architectural firm is working with the city to reimagine and more fully use an iconic structure.





The following projects represent just some of the robust construction that occurred in and around St. Louis during 2023.

Brinkmann Opens \$90 Million Expo at Forest Park

In January, Brinkmann
Constructors Celebrated
the completion of a \$68
million, 455,00-square-foot,
287 market-rate apartment
community to transform
the Skinker-DeBaliviere
neighborhood of St. Louis.
The Expo at Forest Park
development includes two
seven-story apartment
buildings, 30,000 square feet
of ground-floor retail, a fullservice grocery story and a
taproom.

Tegethoff Development led the project, which broke ground in early 2020. Trivers designed the project, built by Brinkmann. Additional project partners included Bi-State Development, Great Rivers Greenway, Citizens for Modern Transit, Forest Park and the City of St. Louis.

The project site, which borders Forest Park and the Missouri History Museum, is situated just northwest of the Forest Park-DeBaliviere Transit Center, where Metrolink's Red and Blue lines meet. Residents may ride the MetroLink to Forest Park, the Cortex Innovation District and nearby medical campuses. Garage parking for commuters is part of the development.

KWAME Completes Section of Brickline Greenway

In February, Kwame Building Group completed the first portion of installation of a new public art exhibit, one that will eventually link a onemile stretch of the Brickline Greenway from Harris-Stowe State University to St. Louis CITY SC's CITYPARK Stadium downtown.

The permanent exhibit features art that acknowledges the 1959 displacement of nearly 20,000 Black residents of the Mill Creek Valley neighborhood, formerly located at the site. The more than 10-mile Brickline Greenway will connect 14 city neighborhoods and is part of the Great Rivers Greenway network of accessible, carfree paths under development throughout the region.

As construction manager and program manager for the Brickline Greenway project, KWAME is overseeing and directing the project. A focal point of the artwork, located at the southwest corner of the stadium site, is a monument by St. Louis resident and nationally acclaimed artist Damon Davis that features a series of 10- to 12-foot black granite and limestone pillars, each in the shape of an hourglass. Interpretive signs, maps and quotes from Mill Creek Valley residents also tell the story of the community that was cleared because of what the city described as "urban renewal."

The entire Brickline Greenway is estimated to be completed in seven to 10 years, with three segments open to the public by 2026.

Midas Finishes Clayton Extended-Stay Hotel

In February, Midas Construction completed a \$47 million, 170-room extended-stay hotel in the heart of Clayton. The Residence Inn by Marriott is the first new hotel built in Clayton since 1990.

The hospitality project was initially designed in 2019 as a fully volumetric modular building that would have been the tallest such domestically built modular structure in the U.S. But the pandemic's chokehold on materials availability, paired with a major spike in trucking costs, pressured the team to rethink project delivery.

Initially the 12-story project was intended to consist of two floors of concrete podium and 10 floors of fully modular rooms above that. But when the pandemic hit in March 2020, an integral components factory shut down, trucking costs soared and workforce became restricted. Quick, detailed dialog with the project's engineering consultant, SSC Engineering, and its subcontractor Ceco Concrete reconceived the future Residence Inn by Marriott build as a post-tension, cast-in-place concrete structure with cold-formed metal studs. The team was able to eliminate a great deal of pricey structural steel and met the City of Clayton's requirement and cantilevered the building, adding wings to it so it would conform to the curve on Forsyth Boulevard at that location. Reworking the structural grids and switching to cast-in-place concrete kept the project on track within two months of the original start date.

Beneath the former structure that had been demolished at the site were approximately 80 drilled piers. Within two weeks Midas and partners provided new drilled pier foundation designs to mobilize and complete that piece of the project sooner before finalizing building design. The tight site proved to be another formidable challenge. Two 15-story office buildings bookend the Residence Inn site and three active parking garages sit directly behind and next to the office towers. Continual vehicular traffic pours along Forsyth. Midas stored a lot of materials atop the parking garage located directly behind the jobsite and relied on a lot of just-in-time materials delivery.

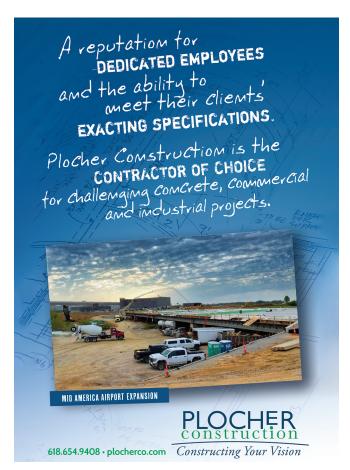
Castle Contracting, LLC served as the design-build contactor, providing civil engineering for the site as well as demolition, earthwork, structural excavation and site utilities installation.

BEX Opens New Corporate Headquarters

In March, BEX Construction Services employees moved into its brand-new headquarters, celebrating their new digs at 12173 Prichard Farm Road in Maryland Heights' Deerwood Commerce Center industrial park.

President Randy Bueckendorf says growth in business and staff propelled the move. When he incorporated BEX in June 2014, the firm rented a space on Watson Road near Webster Groves and operated from there for two years. BEX then bought a building in St. Charles and outgrew it in four months. Next, BEX purchased a





larger building in downtown St. Charles and worked there for five years before realizing the company needed to build its own headquarters.

On nights and weekends, BEX employees volunteered their time and talents to build out the new location. Director of Human Resources and Administration Meredith Greene says their work produced more than the end product.

The new, two-story headquarters totals 6,900 square feet. Bueckendorf says BEX's Vice President of Engineering Tim Marstall initiated a layout to make the first floor flow from the generous entrance foyer past the project managers' offices and beyond. The original bones of the building were solid, said Bueckendorf, so BEX invested significantly in all new windows, a new heating, ventilation and air conditioning system, accessible restrooms and new lighting. The second floor was reconfigured into a special events, conference space and future office space.

Poettker Completes Riverport Trade Center Buildings in Maryland Heights

Also in March, Poettker Construction completed NorthPoint Development's

\$66 million, three-building warehouse distribution facility in Maryland Heights known as Riverport Trade Center.

The nearly 725,000-square-foot project is located on 50 acres at 13955 Riverport Place Drive, four minutes south of Interstate 70 in the heart of St. Louis' industrial submarket.

Large storefronts, wall bump-outs and a plethora of windows to welcome natural daylighting are stand-out features of the warehouse development's design. Each of the three buildings feature 36-foot clear heights. In total, the buildings offer 79 dock positions and seven drive-in docks. Riverport Trade Center's parking lot includes more than 640 car stalls and 160 trailer stalls.

General contractor Poettker Construction says each of the three warehouse buildings varies in size: building one spans 249,500 square feet, build two totals 160,070 square feet and building three encompasses 312,000 square feet.

With the industrial park's location just east of the Missouri River and the levee, special site challenges existed. Poettker utilized 24 inches of rock beneath building slabs and eight to 10 inches of rock beneath the concrete and asphalt paving – two to three times what would normally be required – to support the loads.

Riverport Trade Center's location just 1.5 miles north of Hollywood Casino Amphitheatre necessitated construction of an emergency access road to carry concert goers to and from the entertainment venue throughout the project's construction schedule, especially during the spring and summer of 2022. The road wound through the project site.

Alberici Finishes Mercy Multispecialty Center

In April, Alberici completed the 272,000-square-foot Mercy Center for Performance Medicine & Specialty Care. The multispecialty center and 1,000-space parking garage is located on the campus of Mercy Hospital St. Louis. Alberici deployed prefabrication and offsite construction as well as early procurement of raw steel to maintain the schedule and deliver cost savings, ensuring the project was completed on time and within budget.

The high-tech, five-level outpatient center is designed with the patient experience in mind. Specialties at the new building include bariatrics, neurosurgery, orthopedics and sports medicine, reconstructive surgery and urology. Additionally, the facility includes weight and wellness programming, imaging services and an ambulatory surgery center including 10 operating rooms, eight post-anesthesia care unit (PACU) bays, and space for two MRIs, two CT scanners, seven X-rays and 33 prep and recovery bays.

The patient-centered design improves interactions between physicians and other providers through a combination of collaboration spaces and technologies. The coronavirus pandemic informed design, resulting in co-worker and lounge areas that flex to be both spaces for collaboration and separation, as needed.

Keystone Construction Wraps Up Next Phase of The District

In May, Keystone Construction Co. completed the next phase of development at The District of St. Louis with the Hub Stl, a \$4 million state-of-the-art outdoor entertainment space in Chesterfield at Boones Crossing.

Construction of the live outdoor music venue began in Fall 2022. Keystone built a 70-foot by 21-foot elevated performance stage with a synthetic turf viewing area to hold up to 400 people.

Keystone previously built two other anchor destinations within The District: Main Event and The Factory. Main Event is a 50,000-square-foot indoor entertainment center and The Factory is a 52,000-square-foot indoor concert venue which is the first performance venue to be constructed from the ground up in the Midwest in more than 20 years.



Holland, Plocher Build Multiple MidAmerica St. Louis Airport Projects

Terminal

In June, MidAmerica St. Louis Airport in Mascoutah cut the ribbon on a new and expanded passenger terminal.

Holland Construction Services served as construction manager, HOK as architect and Crawford, Murphy & Tilly as engineering consultant for the \$31 million, 43,000-square-foot project that nearly doubles the size of the existing 51,000-square-foot terminal. The project represents completion of phase three of a multiphase expansion.

Construction crews built a temporary partition between the existing and new terminals and an access road to divert all construction activities and separate work from 24/7 airport traffic. Working around 150-foot crane height limits set forth by the Federal Aviation Administration and special permitting to utilize a crane within yards of the runway were necessary.

Technology and security improvements are a big part of the terminal expansion. One of the more interesting features is a new exit lane breach control device, manufactured by Dormakaba, which serves as the dedicated exit for passengers from the secured area of the terminal. The

one-way exit corridor guides the flow of arriving passengers, allowing for fast and safe passage.

Taxiway Bridge

Also in June, Plocher Construction Company continued leading the effort to build a new Taxiway Lima Bridge over Crooked Creek at MidAmerica St. Louis Airport as part of a taxiway extension project. Crawford, Murphy & Tilly is the engineering consultant with HNTB as a subconsultant on the bridge design.

The \$37.5 million project is adding nearly 3,100 linear feet and a taxiway bridge to initially serve the new 34-acre, \$200 million Boeing Production Facility but was designed to accommodate up to 200 acres of future aviation development in this quadrant of the airport. The work, which began in April 2022, wrapped up in late summer and is providing airfield access to Boeing.

Project components include construction of the Airside Service Road, installation of new perimeter fencing and gates, drainage improvements, installation of new edge lights and related electrical improvements to the taxiway and roadway, seeding, sodding, mulching and other erosion control measures.

Structural engineering requirements were significant in constructing a bridge capable of carrying 767 airplanes. The

taxiway bridge is built out of precast concrete beams. In contrast with highway bridge beams that are spaced four to five feet apart from center to center due to the structural loading, the edge-to-edge distance from flange to flange was a mere eight inches.

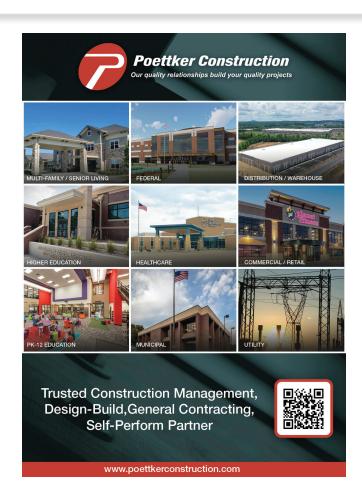
McCarthy Completes Neuroscience Research Building

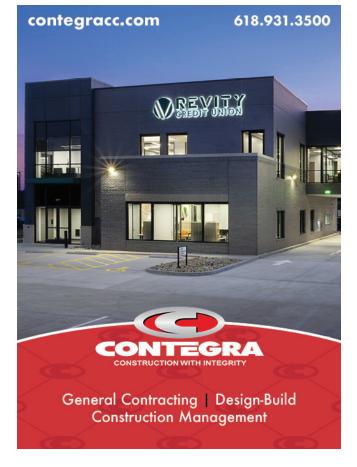
In August, McCarthy Building Companies completed Washington University School of Medicine's Neuroscience Research Building in St. Louis' Central West End.

The 11-story, 609,000-square-foot, \$616 million facility, which broke ground in April 2020, was designed by Perkins+Will and CannonDesign. The project includes an 1,846-space parking garage and 2.5 floors of shell space.

The new Neuroscience Research Building brings together more than 100 research teams from across the university. Labs relocated from 11 building locations to the new facility and are now housed by research theme rather than by department as they'd long been. Primary areas of research performed within the new building are neuroscience, aging and brain science.

At prime occupancy, the NRB will house





1,300 full-time employees. Key areas on each building floor are designated for specific purposes to encourage collaboration.

A new utility plant and extended pedestrian walkway were also part of the construction scope. The two-story, 24,775-square-foot plant contains five 1,250-ton chillers, five cooling towers and two 3,000-kilowatt emergency power generators. Crews extended a 12-inch-high pressure steam line and five-inch condensate return line 2,400 feet underground from the Euclid Power Plant to the new NRB utility plant for the building's steam utility needs.

The medical campus' elevated link system was extended 1,000 feet through an existing parking garage, around an existing building and above Newstead Avenue. Drilled pier foundations surgically step around a spaghetti network of existing utilities which allows a 120-foot span above.

The NRB facility is on track to achieve Leadership in Energy and Environmental Design Gold status.

IMPACT Strategies Finishes Godfrey Outpatient Center

In September, IMPACT Strategies completed construction on the new BJC Outpatient Center in Godfrey. The 20,000-square-foot outpatient clinic offers care for patients of all ages, with space for primary and specialty care, laboratory and radiology services. Additionally, BJC Medical Group will relocate its Alton Memorial Convenient Care to this new Godfrey Road location. The building is within the Alton Memorial Hospital EMS coverage area, and an ambulance post will be established at the location.

IMPACT Strategies President Mark Hinrichs says this represents the 8th project that the builder has completed with BJC HealthCare.

SCOUT Capital Group of St. Louis, MO, led by Chris Zoellner, was the developer for the outpatient center. IMPACT Strategies worked in collaboration with SCOUT and BJC to complete both the exterior construction and interior buildout of the space.

Contegra Construction Completes NuWay Rebar Plant Expansion

In September, Contegra Construction celebrated the completion of a plant in Troy, Ill. for Nu Way Companies.

Nuway is set to produce 15,000 tons of reinforcing steel or rebar annually in its new Troy, Ill. fabrication facility.

Contegra completed the 35,000-squarefoot fabrication facility for the 68-yearold, family-owned business - one of the largest construction material and equipment suppliers in Metro St. Louis. The state-of-the-art facility quadruples Nu Way's annual rebar production capacity, responding to significant demand for the reinforcing product in the construction industry.

The new production facility features three overhead cranes and customizes rebar supplied by steel mills for all types of construction needs. The building touts a 31,000-square-foot fabrication shop and 4,000 square feet of office space. The 21-foot clear height fabrication area holds three bays and can process rebar on 3.5 ton coils and straight lengths up to 60-feet long. Each bay is served by an overhead crane, including a 16-ton magnetic crane and two five-ton cranes. The facility also has five drive-in doors.

Joining Contegra on the project were J.F. Electric, Vee-Jay Cement Contracting, Illinois Electric Works and Affton Fabricating and Welding Company.

The Korte Company Completes Subsurface Constructors' New HQ

Subsurface Constructors has a rich history



in the St. Louis region, operating from the same location for more than 115 years. In 2014, recognizing the need for growth and modernization, the company decided to relocate its offices to an adjacent lot across the street while preserving its ties to the original location and service yard.

The company identified the need to expand its 11,270-square-foot building to meet evolving needs. The site's unconventional triangular shape, limited by railway tracks and driveways, required a thoughtful approach to maximize the available space as vertical expansion wasn't an option.

A small first-floor expansion introduced two new offices, while a larger second-floor expansion relocated two offices and gained three new ones along with a spacious meeting/education area. The existing second-floor office space was transformed into a kitchenette to support after-work activities.

The project prioritized capturing scenic views of downtown St. Louis and the equipment storage yard while ensuring architectural harmony with the region's historic brick structures. The existing building featured tall vertical windows within masonry walls and a composite metal cornice above horizontal windows, creating a unique aesthetic. The expansion followed suit, using brick and the same composite metal panel as cladding to seamlessly integrate with the existing entry locations, incorporating larger windows to infuse the new interior spaces with natural light.

This design approach not only enhanced the building's aesthetics but also gave it a more inviting and commercial appearance when viewed from the nearby interstate and surrounding roadways.

Contegra Construction Building AZZ Precoat Metals Production Facility

In December, Contegra Construction Co. will be continuing toward substantial completion of a 220,000-square-foot production facility in Washington for AZZ Precoat Metals. The independent metal coil coating manufacturer is the first tenant to emerge in the new 155-acre Oldenburg Industrial Park.

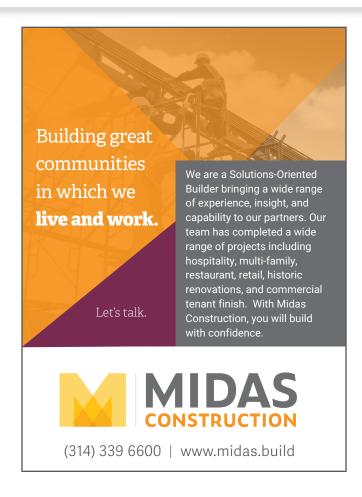
Precoat Metals' production expansion will meet increasing demand for coated aluminum coils slit to custom widths and will augment the firm's current production capabilities for customized steel, aluminum and galvanized metal coils used in containers, buildings, housing, automobiles, product storage, appliances, HVAC and more. The plant will employ approximately 88 once production commences.

Among the most challenging project aspects to date has been blasting rock to create a 40-foot-deep pit that will be used in the process of slitting coils to custom

Precoat Metals' pre-engineered building will host a 212,000-square-foot production zone and 8,000 square feet of office space. The production zone will be served by three 30-ton overhead cranes and advanced equipment for preparing, coating, slitting and packaging aluminum coils. The facility will feature eight loading dock bays and six drive-through bays.

Joining Contegra on the project are Vision Electric, electrical; Jarrell Mechanical Contractors, HVAC; O.J. Laughlin Plumbing Company Inc., plumbing; and Musselman & Hall Contractors, concrete.

Contegra previously built a 53,000-square-foot expansion at Precoat's MMC Granite City production facilities growing the operation to 143,000 square feet of processing and storage space. Contegra anticipates completing construction of the current building in Spring 2024.













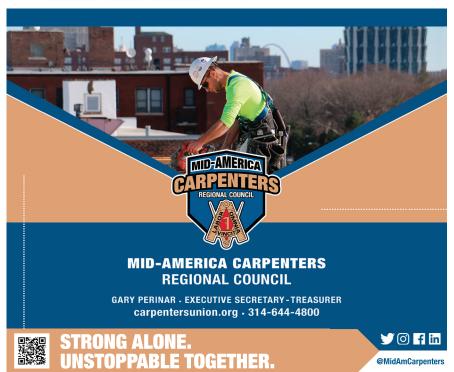
commercial access pros agree.



Access control professionals agree that the best rule of thumb in designing access security is to automate it, simplify it and don't make it a burden on those maintaining and using it. Smartphones commonly serve as a control device for perimeter and interior access control systems.







Affording individuals access to where they do belong - while prohibiting access to where they don't - is the mission of building owners, managers and the specialty subcontractor firms developing access control systems. From schools to manufacturing plants, Class A office buildings to warehouses, high-tech access control is a must-have.

Types of access control include on-premises access control, cloudbased access control and stand-alone access control. Using a smartphone as one's credential, these systems can be customized to permit or deny access at a moment's notice.

"We bring in a rep to demonstrate specific access control systems and technologies," said Zac Loraine, owner of Paramount Companies, a St. Louis-based low-voltage electrical contractor. "If there are 45 steps to create it, it's not going to happen. "These systems are sophisticated, but they also must be easy to use."

Access levels, audit trails and integration of the camera system into access control are all vital components for private-sector companies to consider. Public facilities, Loraine says, such as government buildings, generally limit the vendors who are eligible to design and install access systems. "Many of the data encryption options that are available to private firms are not permissible in the public sector," he said. "Under the McCain Act, the National Defense Authorization Act, a short list of eligible access control suppliers are allowed."

Paramount's scope also includes wiring access control systems for integrators and training IT professionals in back-end surveillance.

Mitigating the response and audit time is the number-one goal of access control companies, Loraine says.

"As security professionals, we can't stop bad things from happening, but we can greatly reduce the time it takes to react to an incident," he said. "One example of this is if we install a video camera at Mardi Gras and there's a shooting that occurs on the east side between 10 p.m. and midnight by an individual wearing a yellow shirt. We can sort by image and time stamp to positively identify the alleged perpetrator within 10 minutes, or at minimum, narrow our search down significantly. Prior to all the technological advancements in access control, this would have taken several hours to accomplish."

Another example of advanced access technology at work is a scenario that occurred at a St. Louis-based university in which two students brandished a weapon when a pizza delivery person arrived at their door.

"Through the system's specific time parameters, we immediately accessed footage of when the incident occurred,

narrowed down the specific dorm quadrant and then further narrowed it down to which cameras captured and recorded the motion," Loraine said. "Within 15 minutes, we were able to ID two football players as suspects. Without the latest access technology resources at our fingertips, that situation could have continued for days."

Expertise in selecting the types of access control cameras is essential, according to Loraine. For example, a resolution of 35 megapixels is the minimum video quality that's admissible in court. Watermarked video footage allows the building's security officer to immediately transmit it to the authorities. "All camera servers and camera manufacturers don't have the same security protocols," he said.

Facial recognition via a smartphone is still a solid option with regard to access control, Loraine says, as are encrypted credentials via Bluetooth. "Keys are too easily duplicated and fobs can be lost. Smartphones are generally the best option."

Bob Kramer has 40 years' experience in access control engineering. The TIE Engineering principal and senior vice president says his firm is on the project team that is renovating and expanding Powell Hall, the St. Louis Symphony Orchestra's long-time home. Other highprofile access control projects TIE has engineered include the Saint Louis Zoo's WildCare Park in North St. Louis County (currently under development) and the Steinberg Ice Skating Rink in Forest Park.

"Any building owner should initially be asking, 'What am I trying to protect?'" said Kramer. "What are your perimeter and interior spaces?"

Using Powell Hall as an example, Kramer says, there are administrative workers, musicians, patrons and others, and each likely has their own level of access to various portions of the facility. "When the renovation and expansion is complete, musicians and other artists will access an entrance where technology will read their license plates for entry," he said. "They'll no longer have to roll down their windows and insert an access card into a reader. This is just one example of more streamlined access control."

Even the basic information that exists on a physical employee access ID card differs in detail depending upon the nature of the facility, according to Kramer. "In a healthcare environment, for example, a worker's ID serves a dual purpose... it grants them access and identifies who they are," he said. "But in a corporate environment, we recommend making the ID card as generic as possible, even leaving out the company's name, in case it is misplaced. Just a plain white ID card with a PO box on it makes sense."

Biometric technology that was broadly introduced into healthcare facilities

during the pandemic - technology that identifies individuals by reading their face and hands - continues to be adopted as tech-forward access technology, Kramer says.

Perimeter-door access control, such as on emergency department doors and classroom doors, works to lock authorized individuals in and out of spaces as needed. "Most hospitals have 10 to 15 unique code alarms that sound in a number of emergency scenarios, from infant abduction to fires and shooters," he said. "And staff is trained in precisely how to respond to each. Access control can be uniquely complex. There are a lot of moving parts."

Within a healthcare environment, for example, panic buttons are common addons to access control systems and serve multiple functions, such as tracking staff, alerting security to an aggressive family member and calling for help in moving a bariatric patient.

As the years ensue, Kramer sees medical lockers becoming more commonplace in hospitals and clinics. "Instead of storing all the medications in one room, med lockers - for example, 30 rooms down a hallway that are accessible by pharmacy staff - contain separate lockers for each medication. Cameras in each of these rooms serve to prevent theft

of controlled substances. Access control definitely goes hand in hand with video surveillance."

The integration of access control with a company's human resources system, he says, is also occurring. When HR enters information for a new employee, that information can be automatically pushed into the access control database where it is assigned security credentials and access to specific locations. If the employee leaves or is terminated, such access can be immediately revoked.

"The best rule of thumb in designing access security is to automate it, simplify it and don't make it a burden on those maintaining it and on users," said Kramer.

As security professionals, we can't stop bad things from happening, but we can greatly reduce the time it takes to react to an incident.



COMPANIES

EPARTMEN'

Construction is underway on City Foundry Development Phase 2 - Vande East in Midtown St. Louis at the corner of Forest Park and South Vandeventer Avenues. Vande East will include a 14-story, 270unit residential tower, 13,000 square feet of prime retail space on the main level; and a 481-space parking garage. Designed by lead architect and interior design firm Lawrence Group with affiliate developer New + Found, Vande East at City Foundry is a \$125 million mixed-use development that extends City Foundry STL Phase 1 - an entertainment, retail and dining destination, also designed by Lawrence Group/New + Found, that opened in August 2021. City Foundry is the redevelopment of a century old, 15acre former foundry once used by Century Electric Company to manufacture motors and generators.

A.C.T. Metal Deck Supply, the nation's largest metal deck distributor, announces the grand opening of its newest location in Orlando. This opening increases its network to 15 distribution centers

A.C.T. Metal Deck Supply has more than 53 years of experience in the industry and a complete inventory of metal roof deck, form deck and composite floor decks in stock at locations including Albany, N.Y.; Atlanta, Ga.; Aurora, Ill.; Columbus, Ohio, Fort Worth, Texas; Greensboro, N.C.; Hagerstown, Md.; Houston, Texas; Indianapolis, Ind.; Jacksonville, FL; Kansas City, MO; Knoxville, TN; Orlando, Fla.; San Antonio, Texas and St. Louis.

..... **Brinkmann Constructors**, in partnership with Lamar Johnson Collaborative and Cobalt Construction Consulting, recently celebrated the topping out of First Bank's 87,000-square-foot, state-of-art headquarters and stand-alone parking garage in Creve Coeur. Incorporating a variety of contemporary amenities designed to promote employee wellness and flexibility, the four-story building will feature multiple outdoor workspaces and a multipurpose innovation hub for team collaboration and social events. The project also includes a separate two-story, 82,000-square-foot parking garage for both employee and visitor use. Spanning four acres total, the revamped workplace will be located near the site of the original headquarters on Olive Boulevard near Interstate 270. Temporarily operating out of an office branch adjacent to the new headquarters, the facility is planned for completion in the second guarter of 2024.

.....

Integrate Construction Partners has completed construction of a second Metro MedSpa location in Town and Country. The boutique beauty spa opened its first location at 12608 Lamplighter Square Shopping Center in St. Louis County in August 2021. Construction on its second, larger location at 971 Brittany Parkway Drive in Fall 2023.

After narrowing from more than 25 nation-wide teams, Boeing has selected the PARIC-led joint venture of PARIC Corp. and Barton Malow for a million-plussquare-foot expansion of the company's Air Dominance production site near St. Louis Lambert International Airport. Construction of the various facilities is expected to employ an estimated 1,200 construction craft workers over the course of the build. Detailed preconstruction planning is underway with initial construction estimated for Q1 2024. The PARIC/Barton Malow team includes Arch Key/Sachs, icon Mechanical, Murphy Mechanical, PayneCrest Electric and Shannon & Wilson. Industrial Project Innovation serves as the owner's representative. Jacobs will provide engineering services. The PARIC/Barton Malow team currently is completing construction of the new Children's Hospital for the University of Missouri at Columbia and has worked together on a range of other significant efforts over the past decade, Barton Malow, a 99-yearold firm based in suburban Detroit, MI. focuses on commercial and institutional construction, specializing in projects using innovative practices.

Integrate Construction Partners served as the general contractor on Alamo Drafthouse Cinema's newest Midwest location in City Foundry STL.

.....

McCarthy Holdings, Inc. joined with many others across the industry to celebrate Construction Inclusion Week in mid-October. CIW is designed to amplify awareness while celebrating diversity, equity and inclusion across the construction industry. Open to firms of all sizes, CIW provides educational and business resources for the construction industry including craft professionals, jobsite and office teams and industry affiliates. Engagement in the 2023 event has more than doubled from 2022 participation, surpassing more than 5,000 firms registered.

.....

Keystone Construction Company has begun construction of the 131,000-squarefoot headquarters and manufacturing facility for Tubular USA, one of the largest suppliers of in-line galvanized pipe and tubing in the United States. The project is located within phase two of Spirit Valley Business Park in Chesterfield Valley where Keystone recently began construction of the infrastructure to support multiple future buildings. The facility will replace Tubular's two existing buildings in Weldon Spring. It will feature offices, a steel fabrication manufacturing facility, warehouse space and room for future growth. Tubular's steel products are integrated into the architectural design to represent the brand. The architect is Gray Design Group. Engineering is being provided by Stock & Associates Consulting Engineers, Inc. and Knapp Engineering. Construction is scheduled to be completed by June 2024.

.....

The Rehabilitation Institute of Town & Country has made some rapid advances with IMPACT Strategies, Inc. at the helm as the construction manager. With the foresight of utilizing prefabricated exterior wall panels, the entire perimeter wall system was erected in nine working days, allowing for the roof to be completed in two weeks following the wall erection process. Under the design guidance of **Gresham Smith**, the one-story building will contain 47,000 square feet of acute rehabilitation care with forty private inpatient rooms, a kitchen, dining room, exercise room, pharmacy, therapy gym, dialysis room and therapy courtyard. This rehab hospital will be an expansion of the current strategic partnership between Encompass Health Corp. and BJC HealthCare, which already includes three hospitals known as The Rehabilitation Institute of St. Louis, The Rehabilitation Institute of Southern Illinois and The Rehabilitation Institute of St. Louis located in St. Peters. IMPACT Strategies previously completed the facility in 2021 for Encompass Health and BJC HealthCare located Shiloh, Ill. The new hospital in Town and Country is expected to begin accepting patients in 2024 as they will be offering comprehensive rehabilitation services including physical, occupational and speech therapies.

KAI Founder Michael E. Kennedy, Sr. has been honored with a Lifetime Achievement Award at Harris Stowe University in St. Louis.

.....

.....

COMPANIES CONT.

Western Specialty Contractors - Kansas City Branch had the honor of restoring historic Giralda Tower in Kansas City, Mo. The brick, marble and stone KC landmark, a half-scale replica of Seville, Spain's 12thcentury Moorish tower of Giralda, stands 138 feet tall in Country Club Plaza at West 47th Street and Mill Creek Parkway. Designed by urban developer J.C. Nichols, Giralda Tower was officially christened in 1967 - the same year that Kansas City and Seville became sister cities. Western was contracted by the owners of Country Club Plaza to address repair and maintenance items from the tower's top patio down to its base. Project engineering and consulting was provided by THP Limited. Scaffolding was erected around the tower to allow for safe work access and containment of construction debris.

After recently passing the Kids FIRST zerotax-rate-increase bond issue, Jefferson City School District has contracted with **S. M. Wilson** to serve as the district's construction manager at risk to complete work throughout the district. S. M. Wilson

.....

is partnering with contractor **Reinhardt** Construction and The Architects Alliance is serving as the architect. The largest project within the bond issues is the construction of a new early childhood center. The new facility will increase the district's capacity to approximately 350 preschoolers from the existing 150. The district's existing early childhood center will be extensively renovated and receive maintenance improvements to become the relocated Jefferson City Academic Center.

.....

The Alberici/KAI Build Joint Venture partnership recently completed construction of The Mercy Center for Performance Medicine & Specialty Care and its connected 1,000-space parking garage. The multispecialty center is located on the campus of Mercy Hospital St. Louis and is one of the largest and most technology-rich outpatient surgery centers in the United States. The high-tech, fivelevel outpatient center is designed with the patient experience in mind. Specialties at the new building include neurosurgery,

orthopedics and sports medicine, reconstructive surgery, bariatrics and urology. Additionally, the facility includes weight and wellness-related care, imaging services and a multispecialty outpatient surgery center including 10 operating rooms and eight post-anesthesia care unit

.....

Logistics Park Kansas City, a major distribution hub in Edgerton, Kan., is adding another one million-squarefoot distribution facility. Contegra Construction Co. is building Inland Port 9 for Northpoint Development at the 3,000-acre, master-planned development which began 10 years ago. The project will be completed in February 2024 and is the second distribution center at the development that Contegra has built for Northpoint.

icon Mechanical has been awarded the Innovation Award from Industrial Project Innovation, an industry-leading owner's project management firm.

.....

.....

PROMOTIONS

Lawrence Fabric & Metal Structures announces Kathy Terry's promotion to vice president, finance. Terry joined Lawrence in 2016 as its accounting manager, helping to grow the financial position of the company and playing a significant role in navigating the intricacies of being an ESOP, 100 percent employee-owned organization. In her new role as VP, Terry will continue to help maximize shareholder value for Lawrence's employee owners by leading the accounting department and other front-office teams, managing the ESOP and 401K plans and providing management insights along with the leadership team to further advance the firm's future success.

S. M. Wilson & Co. recently expanded its number of project managers on its operations team with the promotion of Kim von der Heyde to project manager.

.....

Brinkmann Constructors has promoted **Rebecca Randolph** to executive director of marketing and business development. Randolph, who recently celebrated her 10-

.....

year anniversary with the firm, has more than 30 years of experience in business development, marketing, strategic planning, and organizational leadership. In her expanded role, she will continue to source new opportunities and build relationships with industry leaders while overseeing operations within Brinkmann's marketing and communications department.

Terracon announces a strategic organizational change to support client service, innovation and project delivery as the company continues to grow. **Jeff Magner** has been promoted to director of Terracon's technology (digital infrastructure) business sector.

Carmody MacDonald P.C. announces the promotions of Joseph D. Palumbo and **Branden S. Stein** to partner.

.....

.....

Brinkmann Constructors' Jared Cox has been promoted to director of project controls.

Tarlton has promoted Ryan Schaal to senior project manager and **Diane Grimsley** to project director.

Steve Bostic and Dave Klug have each been promoted to project director at Brinkmann Constructors, and Mike Duehren, Noah Perry and Kyle White have each been promoted to project executive.

.....

Mike Hagemeister has been promoted to environmental service line director at Terracon.

Brinkmann Constructors has promoted Charlie Hart to regional director of field operations. With more than 30 years of industry experience as a project superintendent, Hart has significant experience in managing project teams for clients in the commercial, educational, multifamily, healthcare and government sectors.

......

HIRES

Bill Slater has joined BEX Construction Services as a project manager.

.....

Brinkmann Constructors has hired Mark Spraul as a project executive in the St. Louis office. With over 30 years of industry experience, Spraul has worked on a variety of extensive industrial projects for end users such as Amazon, Chewy, Walmart and Caterpillar. As project executive, he will work to expand Brinkmann's reach in the industrial

market while overseeing high-volume projects and providing leadership to multiple project teams.

Citizens for Modern Transit announces that Karen Troxell has joined the transit advocacy organization as program and membership manager.

..... Terracon has filled two key leadership roles. Eddie Norse, Jr. has joined Terracon

as a program manager and senior associate. Chawn Stich has rejoined Terracon as a client development manager and senior associate.

Louer Facility Planning, Inc. announces the addition of Jamie Spann to its team as design director.

.....

HONORS

Oculus Inc. announces that Jack Bowe and Cody Harvey have been accepted into the AIA St. Louis Chapter's 2023-2024 class of the Christopher Kelley Leadership Development Program. Bowe and Harvey are two of 16 applicants competitively selected to represent a diverse group of emerging professionals that demonstrate strong potential as future leaders in the region.

RETIREMENTS



Stephen Sandherr

Associated General Contractors of America CEO Stephen Sandherr announces his retirement effective March 31, 2024. Sandherr has served the AGC as its chief executive for 27 years. AGC of America COO Jeffrey Shoaf will serve as the association's next CEO.

ASSOCIATIONS

The American Subcontractors Association ASA Midwest Council recently elected its officers and board of directors for the 2023-24 fiscal year. Dennis Voss, Golterman & Sabo, was elected as the 2023-24-chapter president. Voss succeeds Dan Tucker, MC Mechanical Services. Voss will serve a one-year term as president, which began July 1 and will expire June 30, 2024.

Ryan Spell, Precision Analysis, was elected vice president. Matt Tucker, Affton Fabricating & Welding Co., will serve as secretary and Mark O'Donnell of Schmersahl Treloar & Co. will serve as the association's treasurer. Tucker will serve one additional year as the immediate past president.

Members of the 2023-24 Board of Directors also include: Steve Cummins, Bell Electrical Contractors; Rose Kastrup, CSA Advisors LLC; Scott Meyer, Meyer Painting Co.; Rob Meeh, R.F Meeh Co.; Ryan Hermann, T.J. Wies Contracting; and Stephanie Woodcock, Too Creative.

.....

On behalf of the Home Builders Charitable Foundation, HBA President Jeremy Roth and HBA Executive Vice President Celeste Rueter presented a \$20,000 donation to Habitat for Humanity Saint Louis Resource Development Operations Manager Deirdre Schaneman. The donation will go toward the building of multiple new Habitat for Humanity Saint Louis homes for families living at or below 50 percent of the area median income. The families chosen to purchase an affordable, quality

Habitat home must complete 350 hours of sweat equity to help build their new home. To ensure the homebuyers' long-term success, part of the sweat equity commitment includes coursework in home maintenance, insurance and budgeting.

.....

Beth Letscher has been named executive director of the Urban Land Institute St. Louis. Letscher previously held roles at the Cortex Innovation Community and St. Louis Economic Development Partnership, focusing on real estate and community development. Letscher succeeds Kelly Annis as executive director. Annis is shifting to serve ULI nationally as a consultant focused on its industry-leading advisory services and technical assistance panels. Annis will remain in St. Louis.

The American Society of Safety Professionals announces that CEO Jennifer McNelly has been appointed to the board of directors of the American National Standards Institute.

.....

Concrete Strategies has successfully completed a record-breaking tilt-up of 16 massive, insulated panels at the site of Pernod Ricard's upcoming Jefferson's Bourbon distillery. The 18-inch-thick, 91-foot-tall panels, weighing nearly 340,000 pounds, are the largest insulated panels ever erected using tilt-up construction, according to the Tilt-Up Concrete Association. They required an 880-ton crane to lift them.

.....

Missouri Green Schools recently announced its 2023 honorees, recognizing 18 schools for their commitment to improving the health and wellness of students and staff, lowering their environmental impact and providing place-based education. They are: Bridgeway Elementary School, Central High School, City Garden Montessori School, Holland Elementary, Marvin **Elementary School, Normandy Early** Childhood Center, Oakville Elementary School, St. Teresa's Academy, Brittany Woods Middle School, Central Primary School, Crestwood Elementary, Hixson Middle School, Patrick Henry Downtown Academy, Forsyth School, Flance Early Learning Center, Nerinx Hall, Principia School and Sunrise R-9 School.

The IBEW/NECA Electrical Connection partnership is providing critical support to a pioneering construction preapprenticeship program at St. Mary's South Side Catholic High School in St. Louis. Missouri Works Initiative will use a \$30,000 Electrical Connection donation to expand its St. Louis Building Union Diversity program to the independent Catholic high school and potentially expand it to other high schools. The Electrical Connection is a partnership of the International Brotherhood of Electrical Workers Local 1 and the St. Louis Chapter of the National Electrical Contractors Association.

.....

.....





Rich Waigand, CPA, is a partner at SFW Partners, LLC, CPAs and Management Consultants. He specializes in helping construction companies get better and more timely information from their accounting systems and provide guidance on proper financial reporting that is relevant to management, lenders and bonding companies. Waigand can be reached at rwaigand@sfw.cpa or (314) 569-3333.

Planning Opportunities for Sunset Provision of the Tax Cuts and Job Act

hanging tax laws are a → natural response to the evolving economic, social and political landscape. Understanding the dynamics behind these changes and their impact is essential for individuals and businesses. By staying informed, seeking professional advice and adapting to the shifting tax landscape, individuals and businesses can navigate changing tax laws effectively and make informed financial decisions. This article covers some of the key tax law changes scheduled to sunset in 2026 under the Tax Cuts and Jobs Act that could have significant impact on business owners with flow-through income (such as Schedule C, sole proprietors, S-Corporations and Partnerships). That is, unless Congress takes action to extend the TCJA before the end of 2025.

Individual Tax Rates: The TCJA reduced individual tax rates for most income brackets. These reduced rates were scheduled to revert to the pre-TCJA rates after 2025. Under pre-Act law. the Internal Revenue Code included seven tax rates for individuals filing a tax return: 10 percent 15 percent, 25 percent, 28 percent, 33 percent, 35 percent and 39.6 percent. For tax years beginning after December 31, 2017 and before January 1, 2026, the TCJA established seven tax rates of: 10 percent, 12 percent, 22 percent, 24 percent, 32 percent, 35 percent and 37 percent. Each individual tax bracket adjusts annually for inflation.

Standard Deduction: The standard deduction amounts were increased significantly under the TCJA but were set to revert to their previous levels after 2025.

Planning Opportunity: Take advantage of the increased standard deduction for the next three years by

"bunching" charitable contributions or other deductions. This allows you to potentially take a large, itemized deduction in one year and take the standard deduction the other two years. You can bunch charitable contributions by using a Donor Advised Fund.

State and Local Tax (SALT) Deductions: The TCJA limited the deduction for state and local taxes to \$10,000, which was scheduled to continue until 2025.

Planning Opportunity: As discussed more in depth in my March 8 CNR article, "Understanding the New Missouri Pass-Through Entity Tax," businesses that elect to make a PTE payment can generate federal tax savings for the business owner(s) of approximately \$13,000 per \$1 million of flow-through income.

Oualified Business Income Deduction: The TCJA introduced a 20 percent deduction for qualified business income from Schedule C sole proprietors and pass-through entities (S-Corporations and Partnerships). This deduction is also set to expire after 2025.

<u>Planning Opportunity:</u> It has been a long-time planning strategy to defer income as long as possible with accelerated depreciation and deferring accrual basis income; however, if you are a business owner taxed as a sole proprietor, an S-Corporation or Partnership, you may want to consider accelerating income while individual tax rates are lower, and the QBID is still in place. The current federal tax on \$1 million of income taxed in the highest tax brackets is approximately \$100,000 (\$396,000 vs \$296,000) less than if the TCJA is allowed to sunset in

Estate Tax: The TCJA doubled the estate tax

exemption in 2018, effectively reducing the number of estates subject to the estate tax. This exemption is set to revert to pre-TCJA levels, indexed for inflation.

Planning Opportunity: If your net worth (including the value of your business) is approaching the current exemption of \$12.9 million (\$25.8 million for married couples), you may want to consider estate planning strategies such as gifting nonvoting shares of your company to a Spousal Lifetime Access Trust prior to 2026 to capture the higher exemption. Given the rush of estate planning that will take place if Congress does not extend the current exemptions, now might be the best time to plan to avoid the rush for professional services in 2025.

It's important to note that tax laws are subject to change, and Congress can pass new legislation that either extends or modifies these provisions. Therefore, I recommend checking the most recent tax laws and consulting with a tax professional to get the latest information on tax changes and whether these provisions have been extended or altered beyond 2025.





GROUND IMPROVEMENT • DEEP FOUNDATIONS • EARTH RETENTION



Since 1906

From Aggregate Piers to Drilled Shafts to Earth Retention and everything in between, we can help determine your BEST approach to challenging projects.



SUBSURFACE CONSTRUCTORS

HEADQUARTERS

St. Louis: 866-421-2460

Philadelphia: 609-577-2724 Pittsburgh: 412-420-8383

Minneapolis: 612-280-8940

www.subsurfaceconstructors.com

ADVERTISER INDEX

Company	Page	Website	Phone #
A.C.T. Metal Deck Supply	23	metaldecksupply.com	800-894-7741
Alberici Constructors	18	alberici.com	314-733-2000
BARBERMURPHY	03	barbermurphy.com	618-277-4400
BEX Construction	17	bexstl.com	314-932-2100
Charles E. Jarrell Contracting	25	jarrellcontracting.com	314-291-0100
CK Power	23	ckpower.com	314-868-8620
Contegra Construction Co.	19	contegracc.com	618-931-3500
Custom Home Elevator	03	customhomeelevators-stlouis.com	314-423-1620
David M Duree & Associates	05	dmduree.net	618-628-0186
Drilling Service Company	14	drillingserviceco.com	314-291-1111
Grasser Electric	09	grasserelectric.com	636-441-5200
Guarantee Electrical	10	geco.com	314-772-5400
Holland Construction Services	09	hollandcs.com	618-277-8870
IMPACT Strategies	20	buildwithimpact.com	618-394-8400
KCI Construction	ВС	kciconstruction.com	314-894-8888
Lawrence Fabric & Metal Structures	11	lawrencefabric.com	800-527-3840
Mackey Mitchell	15	mackeymitchell.com	314-421-1815
Mid America Carpenters' Regional Council	24	carpentersunion.org	314-644-4800
Midas Construction	21	midas.build	314-339-6600
Plocher Construction Co.	17	plocherco.com	618-654-9408
Poettker Construction Co.	19	poettkerconstruction.com	618-526-7213
Shade, Shades and More	21		314-241-4798
Subsurface Constructors	31	subsurfaceconstructors.com	314-421-2460
The Electrical Connection	IBC	electricalconnection.org	314-781-0755
The Korte Company	13	korteco.com	314-231-3700
Thomas Industrial Coatings	04	thomasindcoatings.com	636-475-3500
Waterhout Construction	05	waterhout.com	314-781-1178

Reliability and Excellence Powering the Future







150+ Proficient Electrical Contractors

5000+ Skilled IBEW Electricians and Communication Technicians

100+ IBEW/NECA Projects Honored in the AGC Keystone Awards

Career Opportunities for All



Where Quality Matters

Learn more by contacting: Jim Curran 314-781-0755 jim@electricalconnection.org





Vision

To be the preferred builder of people, communities, and relationships throughout the Midwest



Proud Builder of the **JB Bridge** Rehabilitation



www.kciconstruction.com

