2024 Engineering Excellence Awards

ACEC

American Council of Engineering Companies of Ohio

March 14, 2024
Vitria on the Square
Columbus, Ohio

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THE ENGINEERING EXCELLENCE AWARDS

The ACEC Ohio Engineering Excellence Awards Competition is a national program that, for over 50 years, has recognized engineering companies for the role they play in developing projects “that demonstrate a high degree of achievement, value and ingenuity.”

Every year, engineering companies from across the country enter their most innovative design projects and studies in state competitions, such as ACEC Ohio’s, with the top entries from each state advancing to the national competition in Washington.

Projects are judged according to these five criteria:

- Original or Innovative Application of New or Existing Techniques
- Perception by the Public
- Social, Economic, and Sustainable Design Considerations
- Complexity
- Successful Fulfillment of Client/Owner Needs

Congratulations to all the award winners in the 2024 ACEC Ohio Engineering Excellence Awards Competition!

Competition Judges

Cash Misel, P.E.	Former Assistant Director, Ohio Department of Transportation, retired
Jon Link, P.S.	Civil Engineering & Surveying Program Coordinator, Columbus State
William Shelley, P.E.	Former President, Shelley, Metz, Baumann & Hawk, Inc., retired
Lyle Flower, P.E.	Former Administrator of Consultant Services, Ohio Department of Transportation, retired
Mike Duffey, P.E.	Former Principal, SSOE Group, retired

2024 Scholarship Winners

Colby Croxton
University of Akron

Carter Taylor
Ohio State University

Zoe Eagon
Stark State College

Madeline Fisher
Ohio Northern University

Jaclyn Bashore
University of Cincinnati

2024 Engineering Excellence Award Winners

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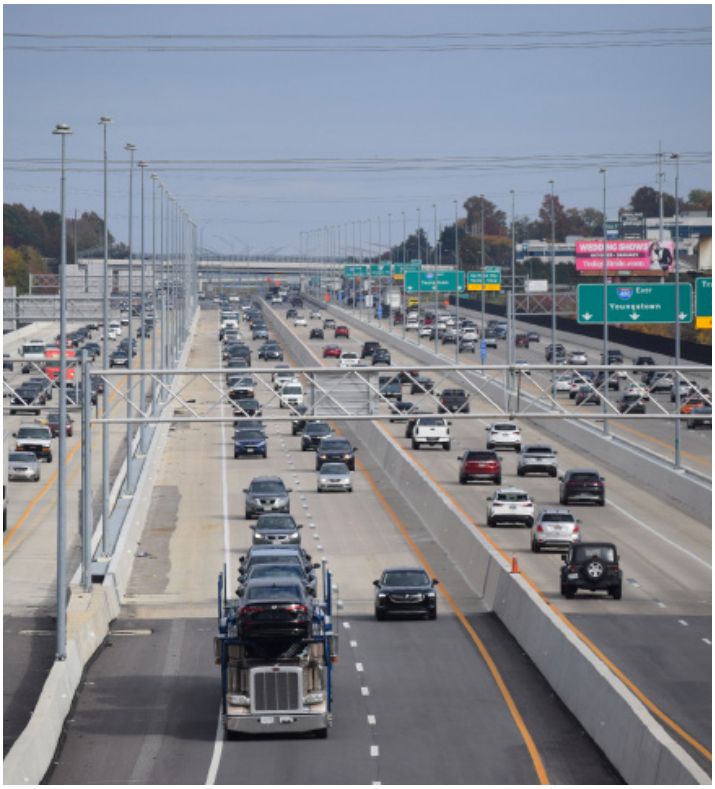
Woolpert, Inc.
BRO-221-5.47 Bridge Replacement &

Woolpert, inc.
Carillon Park Railway

Grand Award Winner



Jacobs

I-480 Valley View Bridge Design-Build Project

ODOT's $229M I-480 Valley View Bridge Design-Build Project rehabilitated the existing twin bridges and constructed a new center bridge nearly 200' above the Cuyahoga River Valley. The new center structure has 14 piers, most supported on driven pipe pile foundations, and is over 4,000' long with 18M pounds of structural steel. The constrained space between the existing structures and the height of the new bridge made ground-mounted crane erection of the center bridge nearly impossible and posed significant safety and cost impacts. To mitigate risk, gantry cranes spanning between the existing structures were used. Extensive analysis of the structural steel erection sequence was completed to confirm the adequacy of the existing bridges to support the gantry cranes. Jacobs also implemented an innovative Alternative Technical Concept that accounted for pile setup in the determination of pile capacities which justified pile capacities three times greater than traditional pile capacity based only on end-of-drive criteria. The resulting higher driven pile capacities saved an estimated 20 miles of piling on the project. Ultimately, the center bridge was successfully constructed without impacts to the existing structures or the traveling public. The project was completed ahead of schedule and $25M below initial project cost estimates.

Franklin County James A. Karnes Corrections Center

Outstanding Award Winner

DLZ Architecture, Inc.

Considered a “Center for Innovation”, the Franklin County James A. Karnes Corrections Center (JAK) has redefined how to address inmate needs. DLZ developed a design that is considered by the National Institute of Corrections to be the premier facility in the United States to address mental health, medical, behavioral management, and addiction issues.

The JAK is a substantial value to our community and region it serves. Often cited as the center of the opioid crisis, the JAK is designed to help reduce recidivism while providing the required opportunities for inmates to become rehabilitated through a variety of options including Evidence Based Treatment approaches for the integration of wholistic treatment, responsiveness to criminogenic and healthcare needs, trauma informed treatment, programming classrooms, and many more to significantly improve the health, safety, and welfare of the inmates it serves.

The Franklin County James A. Karnes Corrections Center is forever changing how we successfully design detention facilities.

Stark-77 Bridge Replacement and Rehabilitation

Outstanding Award Winner

Gannett Fleming

Gannett Fleming delivered a first-in-state, innovative solution after a typical ODOT bridge re-decking project quickly morphed into two complex bridge replacements. Inspection of the STA-77-0936 bridge unveiled a difficult challenge — the 50-foot wall abutment on six rows of piles was sliding laterally atop two highly charged aquifers.

To help solve this complex issue, Gannett Fleming delivered the first augured cast-in-place pile bridge foundations for ODOT. This use of ACIP piles for a large bridge foundation advances the future of bridge engineering in Ohio and helps drive national adoption for the transportation industry.

The project team successfully addressed many challenges, including extreme skew, forward abutment stability during construction, hydraulic no-rise certification, 60-inch sanitary sewer impacts, and maintaining interstate traffic on an existing bridge acting as a strut restraining the forward abutment movement. To effectively address numerous site constraints, unique details were used from the foundations to the superstructure and roadway joints. Despite these challenges, the team successfully replaced two highly skewed bridges atop the aquifers on failing foundations and rehabilitated three bridges, all while maintaining traffic. Due to the urgency of the moving foundations, the final design advanced from concept to tracings in 13 months, expediting substantial completion nine months early.

Upper Tuscarawas WWTP #36 RBC Replacement Project

Outstanding Award Winner

ms consultants, inc.

The Upper Tuscarawas Wastewater Treatment Plant, located in Springfield Township, has operated since the late 1970s under the Summit County Department of Sanitary Sewer Services. As the plant aged, it faced a critical issue. The plant's Rotating Biological Contactors, which had treated wastewater for nearly 50 years, needed replacement. A new solution was imperative to meet NPDES limits for phosphorous and ammonia.

In collaboration with ms consultants, the County opted for a hybrid Biological Nutrient Removal process, known as BNR. This hybrid approach combines features from both the Modified University of Cape Town processes and the Virginia Initiative Plant methodology. Its innovative design includes an initial anaerobic stage followed by anoxic and aerobic zones, while also providing adjustable and sequentially different environments for efficient ammonia and phosphorus removal.

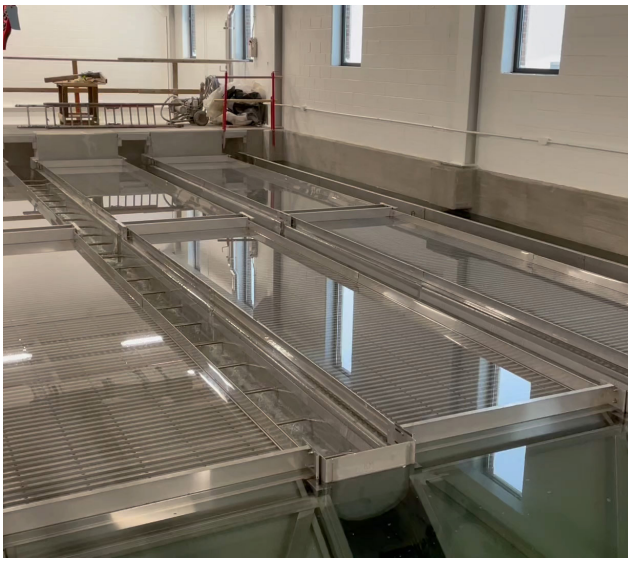
Melding these two methods yields the greatest overall nutrient removal capability and flexibility for continuously changing influent characteristics.

In conclusion, implementing this unique hybrid BNR technique represented a pragmatic and effective solution to address the challenges faced by the County at the Upper Tuscarawas Wastewater Treatment Plant.

Ashtabula Water Treatment Plant Reconstruction

Outstanding Award Winner

HDR



The Ashtabula Water Treatment Plant (WTP) has delivered drinking water to the City of Ashtabula since 1887. The facility has been rebuilt and expanded over the past 100+ years, but some of the core process infrastructure had reached the end of its useful life resulting in deteriorating conditions and operational issues. The facility also had limited operational flexibility and lacked automation.

The $14 million Ashtabula WTP Reconstruction project upgraded the facility's filtration process with new equipment and a fully integrated automation/control system. Most notably, it also included construction of a new flocculation-sedimentation building with state-of-the-art inclined plate settlers, first in Ohio, further improving the water quality of an already high performing WTP and positioning the facility to meet future needs.

The project team encountered significant challenges including a global pandemic and very tight timeline. A progressive design-build contract structure facilitated effective collaboration between Owner, Designer and Contractor. Together, they worked through these challenges by adapting to change, and through regular and open communication. The project was delivered on schedule—conceptual design to fully commissioned in only 19 months—and on budget. With modern technology and automation, the Ashtabula WTP will continue to deliver high-quality, reliable water for decades to come.

Opportunity Corridor Section 3

Outstanding Award Winner

Michael Baker International

The area between the terminus of Interstate 490 and University Circle in Cleveland, Ohio, traversing the Fairfax, Kinsman, and Central neighborhoods, had become known as the “Forgotten Triangle” due to a lack of economic activity and investment. The Ohio Department of Transportation (ODOT) and the City of Cleveland recognized the “Forgotten Triangle” as a remarkable opportunity for neighborhood regeneration.

In late 2021, the long-awaited Opportunity Corridor, a new three-mile roadway that runs from East 55th Street at Interstate 490 to East 105th Street, reached substantial completion. The 35-mph boulevard includes a median, crosswalks, pedestrian and traffic signals, a multi-use path, tree lawns and vehicular, pedestrian and rail bridges. The project brings enhanced transportation, mobility, and connectivity benefits to this area of Cleveland, and it is also spurring new economic development, new jobs and a new identity for the community.

The project was split into three sections. Design-Build was selected as the project delivery method for Section 3, with Michael Baker International serving as the lead designer and Kokosing Construction as lead contractor.

Ohio Nature-Based Shoreline Certification Program and Installation at Old Woman Creek

Outstanding Award Winner

KS Associates, Inc.

The erosion, degradation, and loss of coastal habitats is one of the greatest environmental challenges facing Ohio's Lake Erie coast. KS Associates, Inc., together with the Ohio Department of Natural Resources (ODNR) Office of Coastal Management, led the development of a unique and much-needed program to promote the use of nature-based shorelines. Unlike hard structures, such as stone revetments and concrete seawalls, nature-based shorelines provide opportunities to restore natural structure and function to Lake Erie's coastal areas.

KS worked with ODNR's Office of Coastal Management and ecologists at GEI Consulting, Inc. to develop the Ohio Nature-Based Shoreline and Certification Program, and pilot installation of a living shoreline at Old Woman Creek. This program — the first of its kind in Ohio —certifies practitioners in the design and construction of living shorelines.

This project demonstrates the ability of living shorelines to adapt to dynamic coastal systems, stabilize the shoreline, restore fish and wildlife habitats, and provide much-needed natural sustainable stabilization solutions for Lake Erie.

Research Support Building

Honor Award Winner

HEAPY

The new Research Support Building at NASA Glenn Research Center is a 60,000-square-foot facility that marries functional research and office space with sustainable, resilient, and inspiring design. Located along the main thoroughfare through campus, the Research Support Building is a signature facility – built to inspire visitors and employees, and foster creativity and collaboration between diverse teams. Providing research and office space for 164 occupants, as well as conference rooms, dining, an exchange store, and common areas, the building's amenities attract employees from across campus and provide an inspiring location for collaboration with outside stakeholders.

The Research Support Building was designed to be highly efficient in both energy and water usage, while also prioritizing flexible, modular space that could adapt to current and future needs. HEAPY worked in partnership with the project team to overcome complex challenges, such as integrating mechanical systems discreetly within the building's sleek profile, utilizing software tools for precise security camera placement, and ensuring all designs were future-proof for campus expansion. Despite tight spatial constraints and budget adjustments, HEAPY delivered a facility that is both an inspiring workspace for NASA professionals and a testament to the transformative power of the engineering profession.

Lowry Student Center Category

Honor Award Winner

Karpinski Engineering

The College of Wooster's iconic Lowry Center has undergone a remarkable transformation, becoming a beacon that exemplifies the institution's core values and solidifies its place as the heart of the campus community. This renovation and expansion, encompassing a phased 77,900 square foot renovation and 2 small additions, was designed to foster inclusivity, accessibility and community engagement. The project's most extraordinary feat lies in its innovative approach to renovation, as the Lowry Center remained operational throughout its transformation, requiring an immense collaborative effort, forward-thinking strategies and meticulous planning.

The transformation began with the construction of a new kitchen while the existing one continued to serve the entire campus. The three-level facility underwent extensive renovation, maintaining the existing kitchen on the third floor during demolition and construction on the other floors. The renovation project also implemented a robust emergency power system, turning the Lowry Center into the campus's emergency center. This adaptation highlights the institution's dedication to sustainability, heritage preservation, and its overarching mission, infusing fresh vitality into the very heart of the campus.

The renovated Lowry Center stands as a testament to the power of innovation, collaboration and unwavering commitment to the well-being and continued growth of the campus community.

Liberty Bridge

Honor Award Winner

The Mannik & Smith Group, Inc.

MSG was retained by the Henry County Transportation Improvement District to provide design services for the completion of The Liberty Bridge, a new $14M Maumee River Crossing. The project followed ODOT's Major Project Development Process, which required MSG to complete all of the necessary environmental studies and engineering design work in order to ensure compliance with the National Environmental Policy Act of 1969.

The project involved construction of a new bridge spanning the Maumee River in Henry County and Napoleon, Ohio. The purpose of the project originated from the need to better connect the northern and southern halves of Napoleon and the communities of Henry County, improve access to future development areas, decrease downtown traffic congestion, and enhance public safety.

The bridge and connecting roadways, which were officially opened in December 2021, carry two lanes of traffic over the Maumee River and connect the Industrial Drive interchange at US 24 with local industry areas south of the river. An enclosed storm drainage system minimizes adverse impacts to the Maumee River. The bridge length is approximately 950 feet and utilizes Glass Fiber Reinforced Polymer concrete pavement in place of traditional steel to eliminate corrosion and extend the life of the bridge.

BRO-221-5.47 Bridge Replacement

Honor Award Winner

Woolpert, Inc.

The BRO-221 bridge over White Oak Creek was facing a structural threat and required full replacement. The existing bridge featured undesirable, fracture-critical steel pier caps, and the Creek had scoured approximately 16 feet since original construction in 1948; both elements increased the risk of catastrophic failure. To meet ODOT's needs in the replacement, Woolpert's team performed survey, limited right-of-way services, complex 2D hydraulic analyses, roadway design, complex bridge design, and geotechnical engineering. Based on Woolpert's type study and hydraulic analysis, ODOT selected a single-span, composite steel plate girder alternative. The bridge, at 225 feet, is the longest of its type in the state and presented unique design challenges. Woolpert's solution prioritizes scour protection by eliminating midstream substructures, a strategy that has normalized flow rates in the bridge area. The finished bridge offers a resilient structure that is well equipped to face extreme weather events made more frequent by the effects of climate change.

Berlin Station Roundabout

Honor Award Winner

TranSystems

TranSystems was selected by the Delaware County Engineer's Office for the widening and reconstruction of Berlin Station Road. Part 1 of the project included the development of a single-lane roundabout at the intersection of Piatt Road. After investigating several options, our firm designed a peanut-shaped roundabout which had the distinct benefit of minimizing right-of-way impacts to sensitive properties on opposite corners of the intersection. Significant coordination was required with several adjacent land developers performing concurrent and interrelated designs that required access to a new extension of Piatt Road coming from the north leg of the roundabout. The project also included widening of Berlin Station Road to provide a left turn lane directly out of the west leg of the roundabout for the Berlin High School entrance. The project was designed to seamlessly connect to Part 2 of the project which will widen and reconstruct additional sections of Berlin Station Road east and west of the roundabout to improve safety throughout the corridor.

Glosser Road Pump Station & Columbia Road Booster Station

Honor Award Winner

Burgess & Niple, Inc.

In Lebanon, Ohio, 80% of the city's wastewater flow is received by the Glosser Road Pump Station and pumped five miles through a force main to the wastewater treatment plant. Due to the pumping distance, the 60-year-old pump station could not accommodate large wet weather events. After four overflows that discharged millions of gallons of sewage to a National Scenic River tributary within a two-year period, the Ohio EPA issued a Notice of Violation to eliminate future discharges.

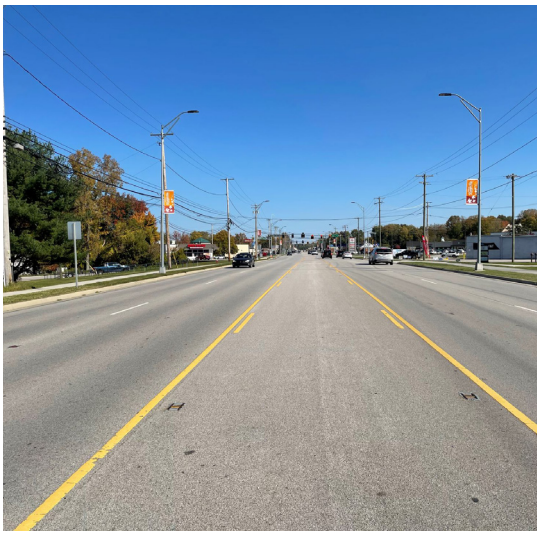
Burgess & Niple's solution significantly increased capacity to prevent future overflows. This included the construction of a pump station, booster station and operational modifications that added capacity and storage in the existing equalization basin. This increased the facility's peak influent flow rate capacity from 7.5 MGD to 20 MGD.

This approach cost significantly less than replacing the force main or upsizing the pump station. Additional cost savings were realized by repurposing diesel pumps at the equalization basin and newer pumps from the former pump station. A $4 million Water and Wastewater Infrastructure Grant from the State of Ohio and a $9 million loan from Ohio's Water Pollution Control Loan Fund offset project costs.

LOR-20-22.13 Center Ridge Road

Honor Award Winner

Engineering Associates, Inc.



Engineering Associates completed the design of the LOR-20-22.13 - Center Ridge Road project which runs 2.3 miles through the core business corridor of North Ridgeville. The project widened the roadway from three lanes to five lanes and added sidewalks and a multi-use path to reduce accidents, relieve congestion, and improve pedestrian/bicycle safety.

Project highlights include:

- Coordinated the relocation of nine utilities through the corridor.
- Improved geometric deficiencies at three intersections.
- Added four detention basins following a flood event in North Ridgeville.
- Replaced the old waterline with a new waterline and constructed five retaining walls to save approximately $4 million.
- Maintenance of traffic plans enabled traffic to be maintained to all 200 drives during construction and to avoid conflicts with utility relocation.

Engineering Associates is proud to have collaborated with District 3 and all stakeholders through the ten-year design and construction process to bring this project to a successful completion. The project has met the goals of the safety and congestion study and has improved air quality, improved physical activity levels of school children who use sidewalks to get to school, increased economic development, and decreased localized flooding.

West Franklin Boulevard Rehabilitation

Honor Award Winner

GPD Group

West Franklin Boulevard in Cleveland is commonly used as a cut-through for area motorists. In response to residents' concerns about speeding, safety, and traffic volumes, the City of Cleveland and the NE Ohio Areawide Coordinating Agency prepared a TLCI plan for the corridor. As part of the plan to slow traffic down and improve safety in the corridor, a total of seven mini-roundabouts were installed from West 85th Street to West 25th Street. The mini-roundabouts were tailored to the unique geometry of each intersection and accommodated the access needs of large vehicles. With the design progressing during the height of the COVID-19 pandemic, traditional evening meetings were not permited due to local health restrictions. It was determined that the best way to reach people during these trying times was to build a website for residents to view the project information. GPD created the website for the City and compiled public comments for the City to respond to. The website proved successful, as the City received over 150 comments from residents that were addressed during design.

Fall Protection Design for Critical Care Building

Honor Award Winner

LJB Engineering

When a new $600 million healthcare facility is planned, the first thought is not typically the safety of workers who will eventually operate and maintain the building. But, Cincinnati Children's and LJB Engineering knew that the best time to incorporate safety measures was during construction of the new Critical Care Building at the organization's main campus in Cincinnati.

LJB provided consulting and design for a variety of fall prevention and protection solutions that facilitate safer working conditions for the maintenance and operations that must be performed at height on building, which features roof heights ranging from 3 to 8 stories. LJB's work included performance specifications, schematic and final design, as well as construction period services.

HAM-Plainfield Road Roundabouts Project

Honor Award Winner

American Structurepoint

Heavy congestion, excessive motorist speeds, numerous crashes, and severe crashes with injuries plagued the Plainfield Road corridor, a major commuter route in the City of Blue Ash, Ohio. Traffic backups were common at the intersections of Peppermill Road, Hunt Road, and the eastbound ramps for SR 126. The Plainfield Road-Hunt Road intersection was particularly treacherous for motorists and pedestrians alike. The intersection stood out as the most dangerous in the city and ranked twelfth on a list of most dangerous intersections in the entire state of Ohio.

The $15 million HAM-Plainfield Road Roundabouts project, completed in July 2023, solves those problems. American Structurepoint partnered with the City of Blue Ash to deliver a traffic-calming system of three roundabouts to improve traffic flow, ease congestion, slow down traffic, reduce accidents, and enhance public safety.

The City of Blue Ash is quite pleased with the corridor's performance. Traffic flow is vastly improved thanks to a reduction in traffic backups along the corridor. More importantly, public safety is enhanced with no injury accidents occurring since the roundabouts opened.

MFD Reconstruction of Apron A and Hangar Taxilanes

Honor Award Winner

CHA Consulting, Inc.

Mansfield Lahm Regional Airport (MFD) is in the heart of North Central Ohio, north of downtown Mansfield. This general aviation airfield is a crucial take-off and landing point for the region, as well as the Mansfield Lahm Air National Guard and NASA. Its 9,001-foot-by-150-foot primary runway and 6,795-foot-by-150-foot crosswind runway handle large commercial and military aircraft, including the USAF C-5 and the Antonov 124-100 and NASA craft such as the Super Guppy and Orion spacecraft.

To ensure safety and support the local economy, the City of Mansfield sought to reconstruct its Aprons and Hanger Taxilanes. After successfully reconstructing Apron B and rehabilitating Apron C, MDF embarked on a new project to Reconstruct Apron A and the Hanger Taxilanes G, H, H1, H2, J, L, M, and N which service all the general aviation t-hangers and box hangers at the airport.

3P Safety Improvements at US68/SR32

Honor Award Winner

Crawford, Murphy & Tilly

US 68 near the Village of Mt. Orab had been plagued by a history of accidents and listed among Governor DeWine's top 150 safety projects. A safety study conducted by Crawford, Murphy & Tilly (CMT) identified crucial countermeasures to enhance safety performance and led to funding for improvements. The Village of Mt. Orab, in conjunction with ODOT District 9, spearheaded an accelerated design process on a project that became an example of inno-vation and excellence.

Because it was a Governor's priority project, the design was fast-traced and completed in just 10 months.

The project includes the first teardrop roundabout in District 9, a configuration chosen to optimize the use of existing infrastructure and to fit seamlessly into the existing right-of-way. Innovative traffic management techniques using a queue detection system were implemented at the interchange exit ramps to ensure excessive ramp queues do not occur. Coordinate and a unique public/private approach with the Kroger Co. led to a needed property donation and private improvements to their property that allowed for the safety improvements along Sterling Run Boulevard.

This project not only achieved its safety objectives but also garnered approval from both the community and its leadership.

Newark-Heath Airport Terminal Relocation

Honor Award Winner

Crawford, Murphy & Tilly

Newark-Heath Airport underwent a series of improvements, highlighted by a new terminal facility, as it prepares to serve growing demand. After listening to the owner's vision and goals for serving the growing community, an existing plan to relocate the existing terminal quickly evolved into an entire program of improvements that would help to bring that vision to reality.

As the region prepares for a $20B computer chip manufacturing facility, the airport's leaders wanted to create a gateway into the region that would reflect its growing prosperity and impor-tance. In response, a terminal building was designed that is much more upscale and distinctive than is found at a typical general aviation airport.

This project was one of the first two to receive funding through the FAA's Airport Terminal Program (ATP) grants, a new funding source included in the IIJA, and proved pivotal to achieving the client's goals.

The program included three new hangars, a terminal apron/ taxilane and an airfield electrical vault. A unique Geopier system was designed for the terminal foundation to address porous soils created by an underground oil remediation sparge system that was built partially on airport property to mitigate the effects of seepage from a nearby oil facility.

The Swan Creek Preserve Experience

Honor Award Winner

DGL Consulting Engineers, LLC

Metroparks Toledo selected DGL to design two access features that would allow visitors to the Swan Creek Preserve the ability to venture further into nature. The Connector Trail consists of a multi-use path, pedestrian bridge over Swan Creek, and an elevated concrete boardwalk through a mature tree canopy above the floodplain. Visitors can experience a unique perspective of the park, while not disturbing the wildlife below.

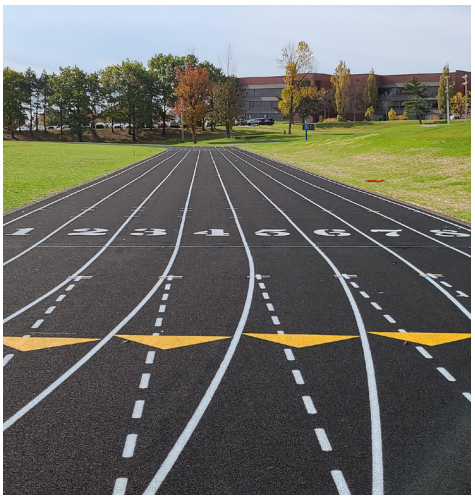
The second feature is a new Suspension Bridge and Observation Tower in the Brookwood Area. This links the existing special-use venue with the nature preserve area to the west. The timber boardwalk approach from the east leads to a 90-foot main suspension bridge that ends at an observation tower on the west. Visitors can enjoy a birds-eye view of the floodplain from the upper platform or take the staircase down to explore the preserve.

Both features within the Swan Creek Preserve considered the best methods for accessing the site, traversing the terrain, avoiding landmark trees, and limiting impacts to naturally sensitive areas. The Swan Creek Connector Trail and the Brookwood Suspension Bridge and Observation Tower offer visitors the opportunity to explore nature and engineering concepts in unique ways without leaving the city limits.

East Campus Quad Town Center (Phases I-III)

Honor Award Winner

Osborn Engineering and City Architecture



Osborn Engineering in collaboration with City Architecture and a team of consultants led the transformative Cuyahoga Community College (Tri-C) Eastern Campus Quad Town Center Project. Tri-C's vision was to convert a traditional two-year commuter campus into a modern campus with experiences similar to four-year academic institutions that have an around-the-clock student presence. Throughout four summer construction seasons, the team successfully implemented the first phase of a long-term masterplan. This phase of the transformation provided the key infrastructure for the college's future vision of building on-campus student housing facilities and amenities.

The project involved a comprehensive campus transformation spanning 43 acres, with construction costs exceeding $18 million. Major design elements included underground utilities, hardscape, landscape, roadways, parking lots, and stormwater management.

The project achieved a range of significant goals. Modern utility infrastructure was strategically installed so that it meets Tri-C's current needs and is capable of expanding. An existing parking lot and roadway were converted into a new quad and campus spine, prioritizing pedestrian use and creating gathering spaces. Landscaping design was coordinated with Tri-C's Plant Science Program to benefit students with outdoor learning. The addition of walking paths and a reconstructed track are enjoyed by Tri-C and the community.

Lockbourne Road Quarry Embankment Repair

Honor Award Winner

Resource International, Inc.

The City of Columbus DPU's Lockbourne Road Quarry Embankment Repair is considered a Special Project initially beginning as a task to provide a sustainable engineering design solution to repair a partial embankment failure. However, that plan quickly changed after a rain storm and snowmelt occurred in February 2022 resulting in the total erosion and collapse of the embankment. At this time, a brand new survey, revised construction drawings, and now a USACE Nationwide Permit were needed as soon as possible. The consultant team worked diligently to expedite the services needed to urgently repair the embankment while continuously being challenged by changing site conditions.

Resource International's engineering solution included a deep-driven sheet pile wall and permanent erosion control measures designed to withstand creek water overtopping the embankment up to 20-year flood events. Additionally, Resource International's innovative design fortified the embankment to eliminate future failures due to creek overtopping. The team also incorporated sustainable features during the construction of the project including using recycled concrete; replacing lost trees in greater number, and planting native vegetation to protect against erosion while restoring the natural environment. Construction was substantially completed in April 2023 a month ahead of schedule.

Carillon Park Railway

Honor Award Winner

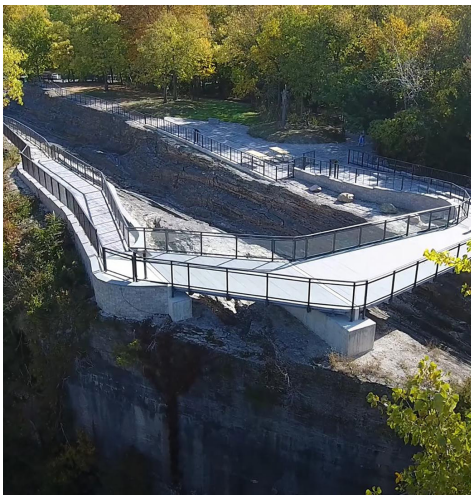
Woolpert, Inc.

Woolpert provided engineering design for a new railway inside of Dayton, Ohio's Carillon Historical Park museum. Woolpert engineers successfully navigated the complex terrain and valuable museum landmarks to create the necessary grade and turn radii. This history-themed railway features a zero-emission battery train with narrated tours, a 1-mile loop, multiple types of retaining walls, and Contech arch structures. Woolpert's engineering design integrates seamlessly with the existing open-air museum landscape. The railway provides a tangible educational tool that inspires visitors to learn about the Dayton area's rich history.

Kelleys Island Glacial Grooves Erosion Protection and Site Improvement Project

Honor Award Winner

S&ME, Inc.



The Glacial Grooves Erosion Protection and Site Improvement project safeguards a National Natural Landmark from continuing erosion and degradation while delivering an immersive barrier-free viewing experience.

This geologic feature has been exposed to weathering and erosion since fully excavated in 1972. The project implemented protective measures to address rock weathering, surface water seepage, and erosion. Site improvements were incorporated to replace aging infrastructure, improve access, enhance the visitor experience and provide better safety.

The custom pedestrian bridge incorporates a mid- span forward-looking point to reflect the form of a glacier advancing over the land. At the forward pinnacle, visitors experience the natural history and culture of Kelleys Island, looking west across the historical quarry, and east and down vertically into the grooves.

The site location five miles from the mainland in Lake Erie presented design and construction challenges. The unique logistics meant that all personnel, equipment, and materials were transported via a 40-minute seasonal and weather-dependent ferry boat trip.

The site arrangement, design, and selection of materials sought to minimize the visual impact of the infrastructure while integrating engineering and stormwater management solutions and allowing the visual focus to remain on the glacial grooves and surrounding vistas. erosion while restoring the natural environment. Construction was substantially completed in April 2023 a month ahead of schedule.

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