2018 Engineering Excellence Awards

March 8, 2018

Bridgewater Banquet & Conference Center

Columbus, Ohio

"Recognizing engineering firms for projects that demonstrate a high degree of achievement, value and ingenuity."

ACEC

American Council of Engineering Companies

of Ohio

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 2018 ACEC Ohio Engineering Excellence Awards Competition!

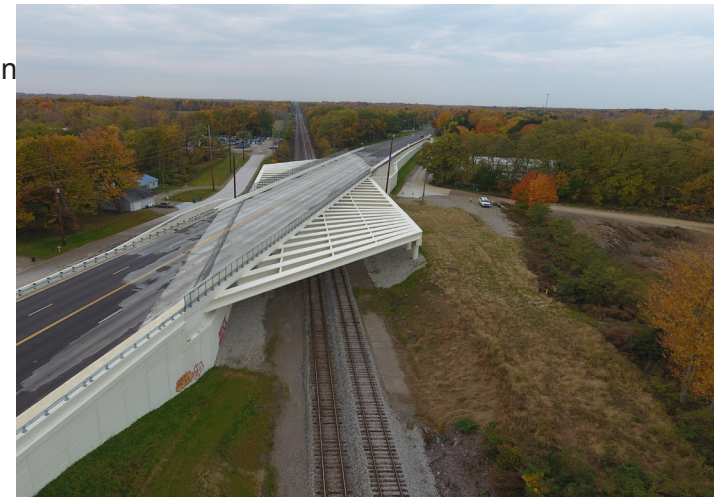
Competition Judges

Cash Misel, P.E.	Former Assistant Director, Ohio Department of Transportation, retired
Jon Link, P.S.	Civil Engineering & Surveying Program Coordinator, Columbus State
William R. 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

Outstanding Achievement Awards

Palmer Engineering

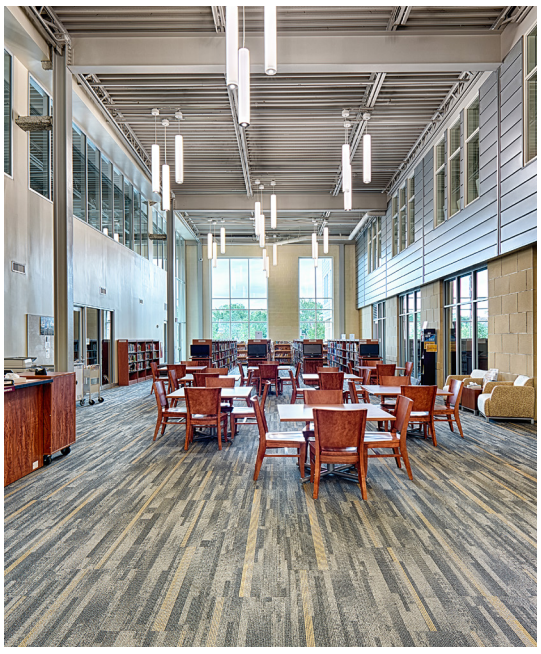
ATB-20-21.43 Bridge Replacement



Due to advancing deterioration, the bridge carrying US 20 over Norfolk Southern rail lines on the border between the City of Conneaut and the Village of North Kingsville needed to be replaced. However, the 72-degree skew of the crossing created significant complications for the design of the replacement structure. Additionally, the design would need to accommodate two future railroad tracks adjacent to the existing lines and meet current horizontal and vertical clearance standards. To satisfy criteria, Palmer Engineering devised an innovative single-span, prestressed concrete I-beam structure that offered significant savings over a conventional bridge type. Palmer's innovative bridge design proved to be as efficient to build as projected, with the majority of construction completed in a single season, allowing the contractor to meet the aggressive 270-day road closure schedule. Additionally, the final construction price was within three percent of the engineer's estimate, an impressive feat on a project of this size.

Karpinski Engineering

Heights High School

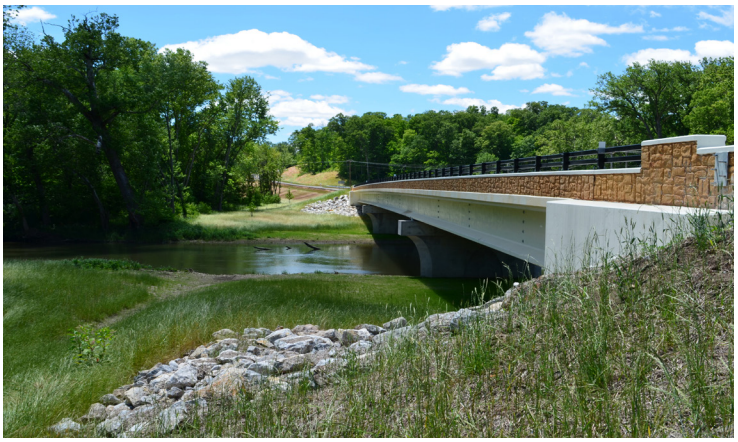


This new building serving 1,700+ students, thoughtfully combines heritage and tradition with practicality and innovation. The original school building, built in 1926, along with several additions, was past its prime of service with few areas having air conditioning. With modern updates and features including a hybrid geothermal system, the school is up for an LEED Gold certification. The team blended the past and the present, rehabilitating the original 1926 building's clock tower, an emblem of the school district, while inside designing and constructing sustainable, accessible, modern systems throughout. The school includes classrooms and labs, two gyms, a natatorium, an auditorium, art studios and a media center/library. It features robust technology systems, including classroom smart projectors, wireless access to classroom A/V, recording systems in the music rooms and a network capable of streaming their digital media management system.The community has been on board and intensely involved with the new school project, having passed a bond issue to fund it.

Korda/ Nemeth Engineering, Inc.

Scioto Darby Road Over Big Darby Creek

The structure carrying Scioto-Darby Road (CR 22) over Big Darby Creek in Northwest Pickaway County, known locally as the “Gantz Bridge”, was over 100 years old when the County Engineer initiated a project to replace it. The two span, 255’ long truss bridge was constructed in 1910 and was structurally deficient and functionally obsolete. The bridge’s location over Big Darby Creek, a highly protected and National Scenic River, required diligence in project development to ensure the County’s goal of a cost-effective, low maintenance replacement structure. The new 362’ long, three span bridge with 0.53 miles of realigned roadway met the County’s goals and project requirements. One unique approach to the project was the early engagement of the multitude of environmental and permitting agencies. A similarly simple but non-conventional aspect of the project was the ultimately selected alternative – moving the bridge on a new alignment approximately 150’ downstream of the existing structure. The new bridge was open to traffic after just five months of construction.



DGL Consulting Engineers

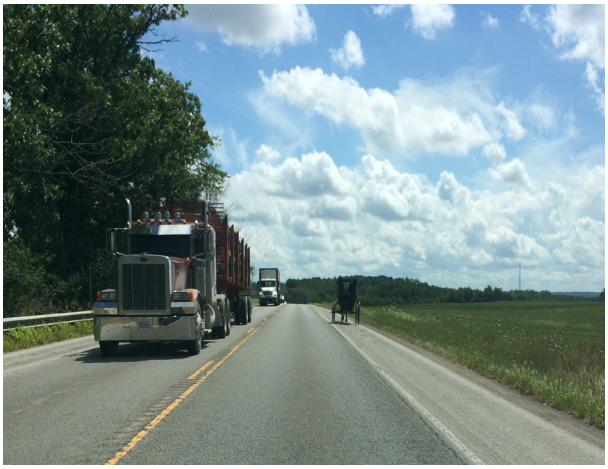
Diverging Diamond Interchange

DGL Consulting Engineers was enlisted by ODOT to help transform the existing diamond interchange at SR 25 into a diverging diamond interchange (DDI). This would be the first DDI in Northwest Ohio and only the second in Ohio. The existing diamond interchange did not meet the needs of the significantly growing community of Perrysburg resulting in increased traffic, congestion causing backups and insufficient left turn lane storage along SR 25, which increased safety concerns. The DDI allows free flowing left turn movements, therefore increasing capacity and reducing queuing. The project utilized the existing bridge, maintained traffic during construction, minimized right-of-way acquisition and complemented the adjacent I -75/I-475 systems interchange. The DDI promotes public health, safety and welfare with the addition of a 10’ bike path for cyclists and 6’ sidewalk for pedestrians. The design schedule for this project was fast-paced and every challenge was met with an effective solution and remained within the agreed upon schedule.

Outstanding Achievement Awards

Mott MacDonald

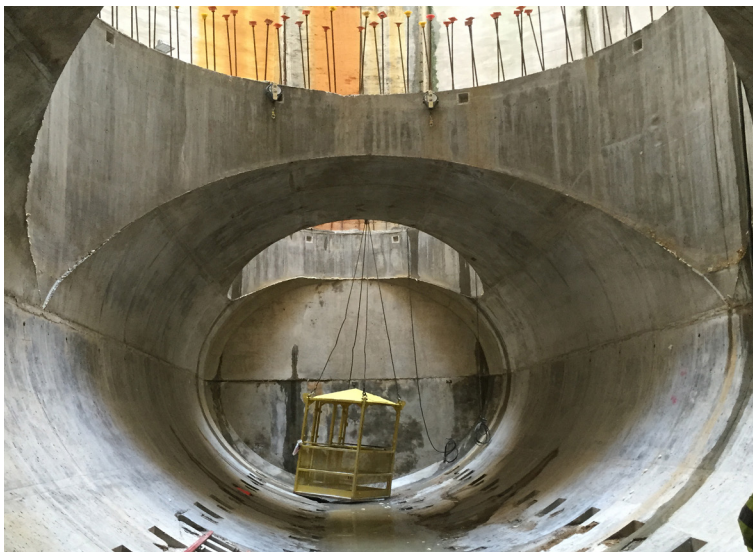
Ohio Strategic Transportation System Freight Study



In studying the statewide transportation system, ODOT recognized the role that Ohio two-lane routes play in moving freight. Determining crucial two-lane freight routes, ODOT commissioned a study to learn more about operations, inconveniences, priorities and needs to enhance freight flow as well as economic development in the State of Ohio. The corridor tested and observed was US 250, stretching from Sandusky to Steubenville. Mott MacDonald alongside Economic Planning Systems worked with ODOT to develop unique metrics to assess the current situation. A resulting five-step process involving (1) Stakeholder Outreach, (2) Data Collection, (3) Existing and Future Corridor Assessment, (4) Evaluation and (5) Strategic Plan creation. 45 potential improvements at 39 locations to address freight needs were carried forward. Projects could be implemented in less than one year. The study proved fruitful for testing and refining methodology, several improvements have been scheduled for implementation.

DLZ Ohio, Inc.

OARS-OSIS Augmentation & Relief Sewer



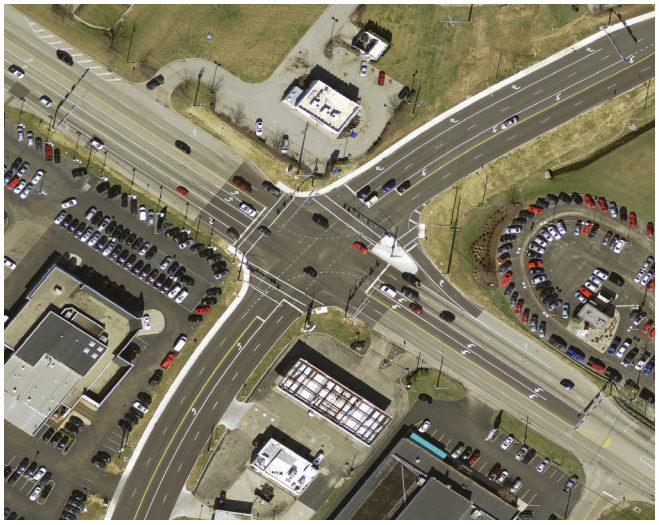
The new OARS tunnel provides wet weather relief to the existing OSIS Sewer, the main combined sewer through downtown Columbus. The $370 million project is approximately 180 feet below downtown Columbus, extending from the Arena District to the Jackson Pike Waste Water Treatment Plant. Designing a relief sewer tunnel system allowed for operations eight years earlier than planned, maximized treatment and provides storage capacity. The OARS tunnel is the backbone of the Columbus wet weather plan, designed to reduce sewer overflows in downtown Columbus for a 10-year level of wet weather flow protection. Adjustable weirs will allow for future real-time control capabilities. Surge control systems were designed into the drop shafts. Techniques were developed to successfully tunnel through karstic limestone rock with high pressure groundwater inflows The project benefits a community of over one million people, bringing Columbus into compliance with the Clean Water Act. The main combined sewer system has been operating since 1935, the OARS project is the largest capital improvement project in the history of Columbus.

Outstanding Small Project

LJB Inc.

Greenroads Sustainable Intersection Improvements

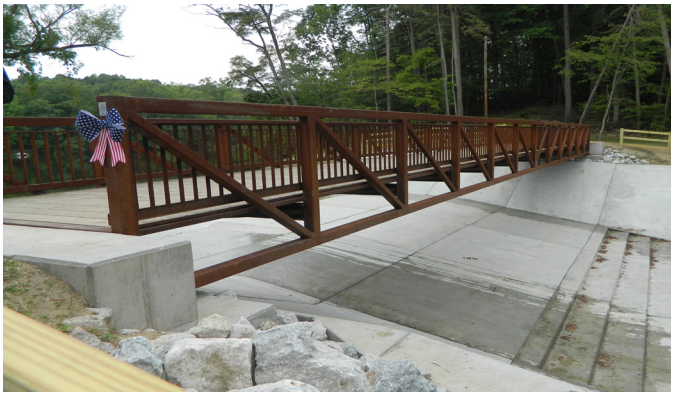
The State Route 4 and South Gilmore Road/Holden Boulevard Greenroads Sustainable Intersection Improvements improved safety and traffic flow at the intersection of State Route 4, Gilmore and Holden, one of the busiest and most accident-prone locations in the City of Fairfield, Ohio. Before the improvements, the intersection had the highest crash rate in the City, including 131 accidents between 2007 and 2009. The project involved realignment and widening of the Gilmore and Holden approaches, restriping State Route 4 to include a second left-turn lane, addition of sidewalks and conversion of the existing span wire signal to a City standard mast arm connected to the city's central signal system. While designing the project, the team applied sustainable transportation practices that led to the project becoming Ohio's first project certified by the Greenroads Rating System, which rates the sustainability of roadway design and construction projects.



Honor Awards

Hammontree & Associates

Camp Y-Noah Nimisila Spillway

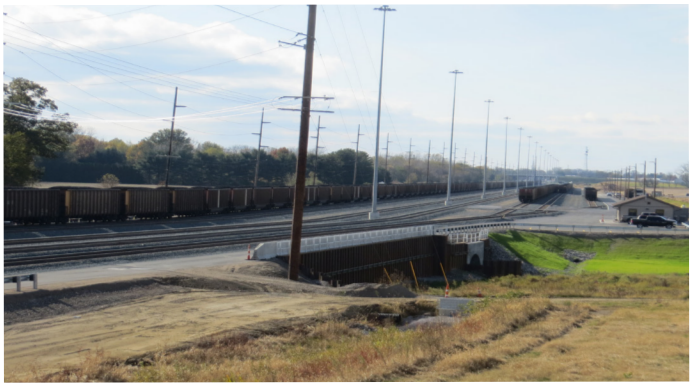


Hammontree & Associates was retained by the Akron Area YMCA for engineering and surveying services to address replacing the failing Nimisila Spillway. Preserving the auxiliary, spillway and consequently the lake, allows the camp to remain a prime destination within the YMCA camp community. The team worked closely with the Akron Area YMCA and ODNR to provide a full replacement of the failing secondary spillway as well as provide a new pedestrian bridge and bridge abutments. The plan was initially designed as a rehabilitation, but worsening conditions necessitated a complete redesign. The existing concrete spillway was undermined with cracked and failing slabs. The new pedestrian bridge was designed as a single span structure, allowing for the removal of a pier in the spillway.

Honor Awards

Michael Baker International

Swanton Yard



In 2016, Norfolk-Southern Railway engaged Michael Baker International to design a staging yard on a 100-acre greenfield in the Village of Swanton to support its operations. This ambitious project both in scope and timetable, supports overall transportation demand, reduces congestion and optimizes interstate rail transportation. The Swanton Yard project was complex, involving the design of approximately 11 miles of new track, six miles of new roadways, two culvert extensions and a mainline bridge rehabilitation. An important part of the project was reducing the impacts to the Waters of the United States and removing the need for more extensive, time-consuming permitting. Michael Baker completed the design in four months. The Swanton Yard opened in October 2017, allowing NSR to continue optimal operation of its Chicago Line.

Pennoni

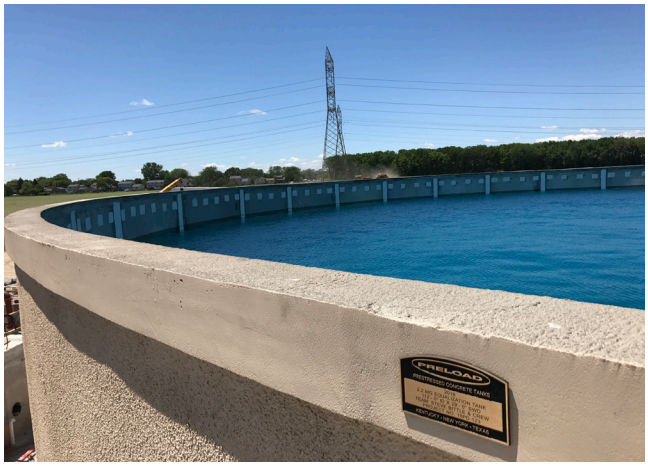
Veterans Bridge: Fountain Avenue over Buck Creek

The Fountain Avenue Bridge provides a vital link between Wittenberg University and downtown Springfield for both pedestrian and vehicular traffic. The renovated bridge offers four lanes for traffic and 8+ foot wide sidewalks. In homage to the City's past, the aptly named "Veterans Bridge" contains several elements that connect it to the rich history of the area's military heroes. Stone columns, reclaimed from Memorial Hall (an auditorium dedicated to Clark County's armed service members), were used on the four corners of the bridge, creating a visual gateway into the City. An overlook on the west sidewalk was designed to accommodate the City's annual Veteran's Day ceremony, where a wreath is launched into the creek.

Honor Awards

Jones & Henry Engineers

SS-200 Flow Equalization Improvements



The $6 million SS-200 Flow Equalization Improvements project, located in Northwood, Ohio, used an innovative approach to maintain wet weather flow at planned limited flow rate. Jones and Henry contributed design services that met the needs for basin size, water flow management, sizing of materials needed, equipment selection as well as details concerning bids and funding for the project. Specific priority being the drainage of the basin occurring within a reasonable amount of time. The project detail included flexibility, functionality and significant savings on construction and operations as well as helping to ensure that safe drinking water can be drawn from Lake Erie.

Osborn Engineering

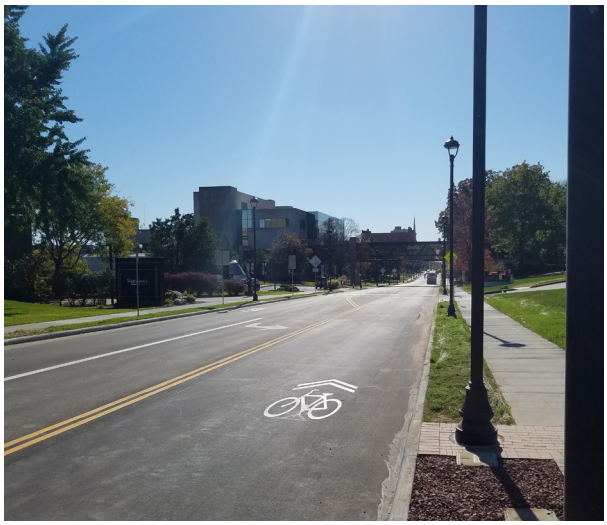
Cuyahoga Falls Downtown Transformation

The City of Cuyahoga Falls is focused on creating a more successful and vibrant central business district by opening up the downtown core that was closed off to traffic over 40 years ago. The project consists of opening Front Street to one lane of traffic in each direction with on-street parking. The design included the flexibility to utilize the space for street festivals, including the installation of water and electrical connections for street vendors. Streetscaping was designed by City Architecture and reflects the image of Cuyahoga Falls. Two-way traffic was established on the parallel Second Street.

Honor Awards

CT Consultants

Wick Avenue Improvements

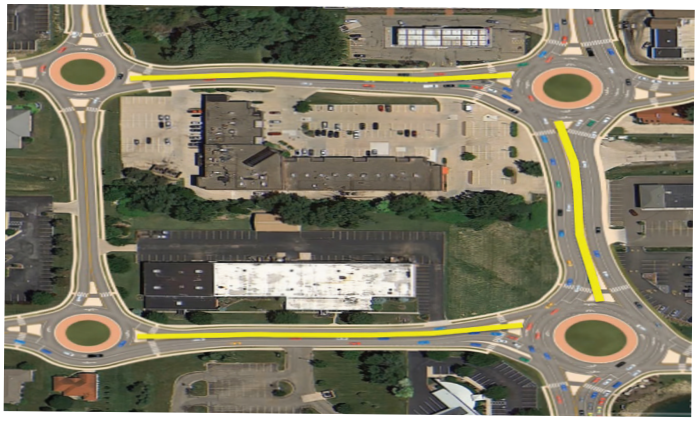


CT Consultants teamed with CityScape to complete the vision of improving the aesthetic of Wick Avenue to create a more inviting corridor. CT completed the design of the Wick Avenue improvements between Rayan Avenue to Madison Avenue Expressway. The project replaces nearly all city infrastructure from right-of-way to waterline, sanitary sewer, storm water collection system and the relocation of overhead utilities underground requiring the design of a new multi-conduit duct bank for a variety of utilities. Improvements to the corridor included repaving, reconfiguring the roadway from four lanes to three with one lane in each direction and a center turn lane, signing and light level analysis as well as safety. New and improved pedestrian facilities are included as part of the project including pedestrian crossings at Youngstown State University and Ursuline High School along with new and enhanced decorative street lighting.

Environmental Design Group

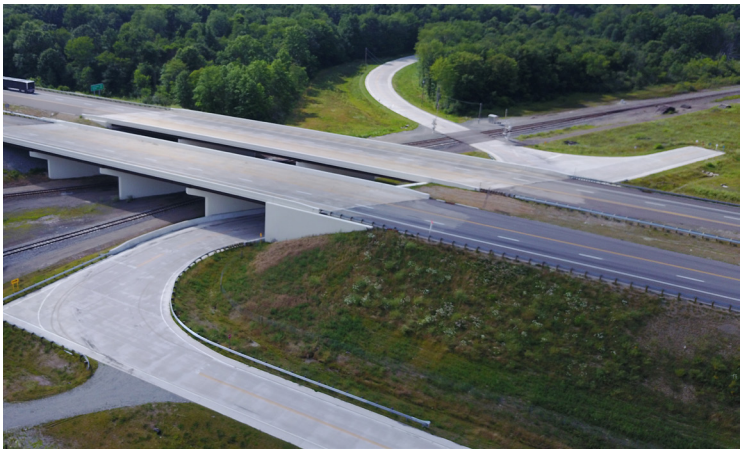
The City of Green "Box"

Applying four roundabouts at four adjoining intersections in one city blocked called "The Box," holds the promise of transforming the shape of the Massillon Road corridor in the City of Green, Ohio. This project will greatly improve the heavy flow of traffic as well as reduce the probability of accidents and vehicular congestion and strife. Environmental Design Group and American Structurepoint evaluated the intersections, analyzed traffic flow and took rapid growth in the area into consideration in order to devise plans to best address the public needs as the project goes forward.



CT Consultants

Replacement of Interstate 80 Twin-Bridge

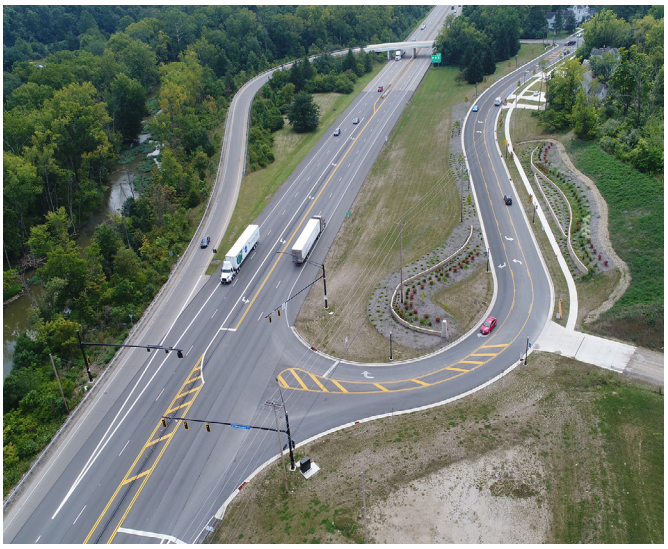


CT Consultants designed the replacement of two deficient/deteriorated six span twin mainline structures along I-80 in Trumball County. The mainline profile was raised to accommodate the effects of deck widening and provide the minimum vertical clearance above the railroad tracks. The project involved the realignment and reconstruction of Mt. Everett Road beneath the I-80 mainline structures. CT was responsible for roadway design, bridge design, bridge inspection, structure type study, bridge load ratings, survey, railroad coordination, utility coordination, right-of-way plans and acquisition, MOTAA and plans, drainage and construction plans. The new left bridge is a three span rolled steel beam 67' wide superstructure while the right bridge is a four span rolled steel beam 63' wide.

ms consultants

U.S. 23/ Pennsylvania Avenue Improvements

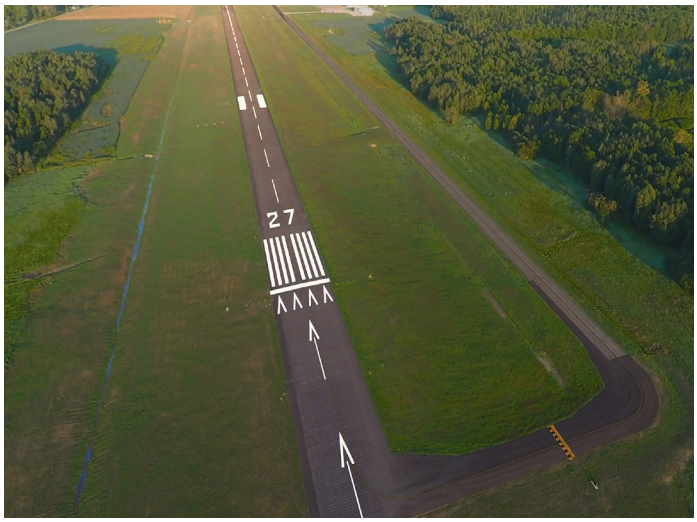
The U.S. 23/Pennsylvania Avenue Improvement Project (DEL-23-13.17) was a cost-effective, low-impact solution to provide safer, more direct access to and from U.S. 23 for north Delaware. By designing and building this less costly, innovative solution to this regional access problem, the City was able to take advantage of available funding more quickly than a traditional, expensive full interchange alternative. In addition to a higher cost, a more traditional alternative of constructing a full interchange would have also impacted the adjacent Historic Northwest District and the Olentangy River floodplain. This approach accelerated the implementation of safe and efficient access to Delaware's north side.



Honor Awards

Michael Baker International

Northeast Ohio Regional Airport



The Northeast Ohio Regional Airport is a renewed, refurbished and revitalized facility, providing great economic benefits to the region. Michael Baker designed an entirely new runway, fully reconstructed from the ground up, and a full parallel taxiway was also designed and installed. A new terminal building provides an aviation “front door” to the facility. Construction was completed in October 2017, and opened to the public shortly after. The new airport was completed using no local tax dollars—funding came from the FAA and a consortium of regional businesses that recognized the facility’s positive impact. An economic impact study conducted by ODOT concluded that the airport generates $5.5 million in revenue, 45 jobs, and has an overall asset value of $57 million.

Jones & Henry Engineers

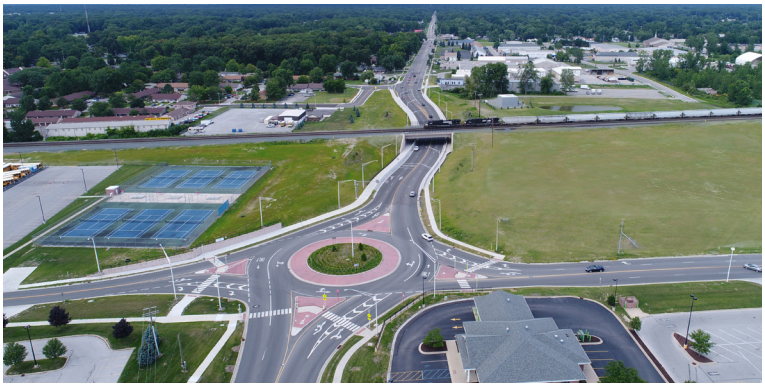
Maumee River Water Transmission Main

Jones & Henry Engineers was responsible for the Maumee River Transmission Main which consisted of the construction of 5200’ of 16” water main to connect the City of Waterville’s water system with the City of Bowling Green water distribution system. The project required 1800’ of horizontally directionally drilled (HDD) pipe crossing of the Maumee River through environmentally and historically sensitive areas. Jones & Henry provided preliminary and final design, project coordination, construction engineering and onsite inspection for the construction of the work. The initial stage of the project required a detailed evaluation of the feasibility of a switch in water supplier from Lucas County to Bowling Green and the required infrastructure needed to facilitate the switch.

Honor Awards

The Mannik & Smith Group

McCord Road Grade Separation

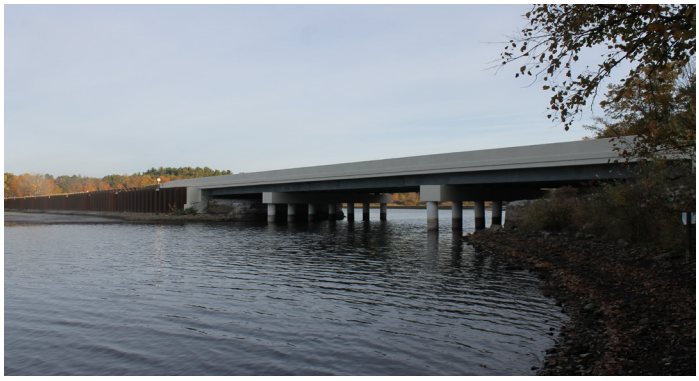


Located 100 yards from Springfield Local High School, the four-lane McCord Road at-grade railroad crossing was a serious safety concern and a source of significant travel delays. The Mannik & Smith Group (MSG) and the Lucas County Engineer evaluated many different alternatives before deciding to move forward with the McCord Road underpass of the rail line. MSG worked with numerous stakeholders to tackle major design elements: the roadway and underpass structure was relocated east to avoid relocation of an existing 66-inch trunk sanitary sewer main; the width of the railroad bridge was designed for future expansion; storm water facilities were designed to transport and treat storm water; and a nearby intersection was designed as a multi-lane roundabout.

PRIME AE Group

Emergency Replacement of SR 14 Bridge over Lake Rockwell

The aging, well-traveled bridge over Lake Rockwell, which handles more than 15,000 vehicles daily, was showing wear and tear. PRIME AE Group designed the replacement structure and Ruhlin Company constructed. Concerns regarding cold weather, deep water and storm drainage were skillfully handled. With a schedule of 45 days, plans were completed in just 39 and the new bridge was high functioning and open to the public on March, 23, 2017. The successful designs and challenging schedule exceeded expectations not only in saving money, reducing impact on the public, but regarding safety and functionality. The bridge is open and operational today, serving the needs of the community and prompting growth for the areas adjacent.



Honor Awards

KS Associates

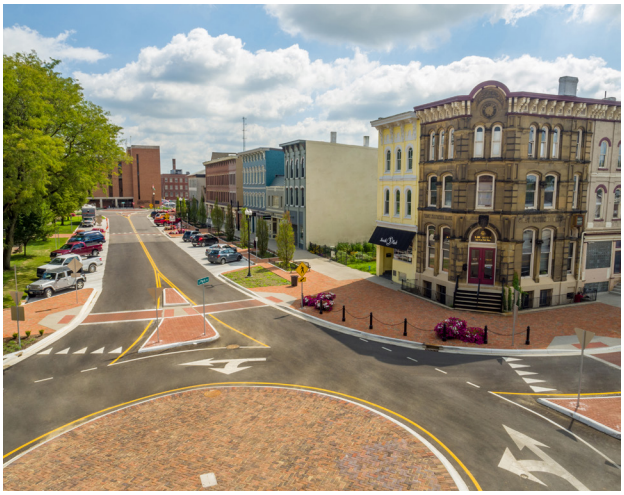
LOR-57-19.42 Corridor Improvement Project

The State Route 57 (SR 57) Corridor is a heavily traveled 1.3-mile stretch of roadway that carries traffic from the I-90 interchange to the Ohio Turnpike (I-80) interchange, flanked by hotels, restaurants, businesses and a mall that have had years of difficult customer access. In addition, the Corridor, which carries more than 47,000 vehicles per day, contained one of the highest crash sites in Ohio. ODOT District 3 selected KS Associates, Inc. (KS) to lead the design of the $22 million LOR-57-19.42 project. The design included widening the SR-57 Corridor from two to three lanes in each direction, adding signalized intersections at Midway Boulevard and Griswold Road, removing the 49th Street Bridge and replacing loop ramps at I-90 with a full-diamond interchange. The project was one of the first projects in Ohio to feature an adaptive signal timing system with the use of a radar detection system.

OHM Advisors/ARCADIS

Newark Downtown Revitalization Project

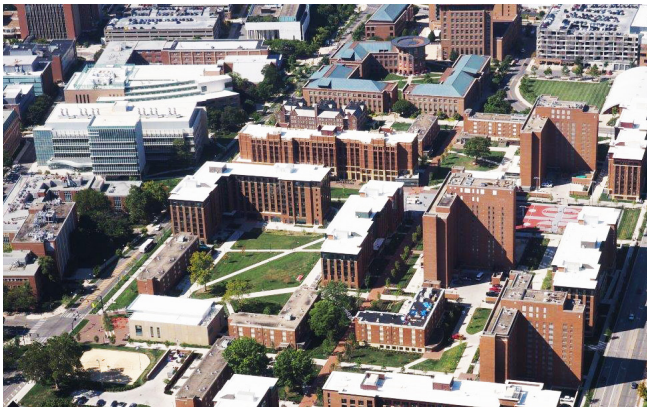
The Newark Downtown Revitalization Project commenced with a multi-million-dollar public investment to improve aging infrastructure. An imaginative approach transformed a traditional engineering/infrastructure project into a community redevelopment strategy that engaged multiple disciplines to separate the combined sewer, consolidate and replace water lines, reconfigure traffic patterns as well as add green infrastructure and pedestrian-friendly features. The project addressed an EPA mandate to reduce or eliminate sewer overflows by separating what was once combined storm and sanitary sewer. Trailblazing engineering also alleviated vehicular traffic congestion and improved pedestrian safety with the implementation of four roundabouts at the corners of the courthouse square.



Honor Awards

Korda/Nemeth Engineering

OSU - North Residential District Transformation



The North Residential District Transformation on the main campus of The Ohio State University increased the number of beds in the District by 3,800, and helped meet the University's goal to house all freshmen and sophomores on campus. Korda/Nemeth Engineering was instrumental in upgrading the utility infrastructure to support the project, as well as the creation of the District's pedestrian plazas, walk network, storm water management system, and green spaces for active and passive recreation.The $320 million design-build project has provided a transformational living and learning environment for students. The team delivered the design-build project including a detailed analysis of all traffic in the District to ensure pedestrian safety.

Osborn Engineering

Cleveland Museum of Natural History -

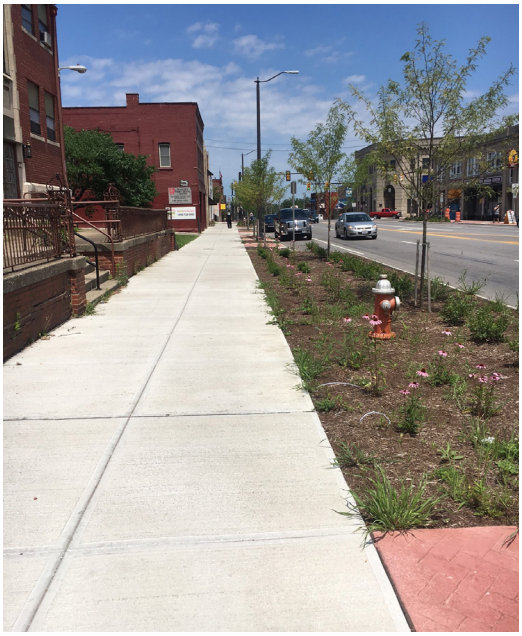
Ralph Perkins II Wildlife Center & Woods Garden

As the first phase of the Cleveland Museum of Natural History's expansion and renovation project, the new Ralph Perkins II Wildlife Center & Woods Garden is an intimate outdoor experience propagated with native plants, animals and birds that features an elevated tree-canopy walkway trail. Osborn Engineering, in conjunction with museum exhibit designers, engineered a complex, elevated, sloping, curved structural steel trail to immerse the public in up-close viewing of wildlife in its natural habitat. New enclosures and animal care facilities were designed to meet standards of the Association of Zoos and Aquariums to provide large, enriching environments encompassing five distinct ecosystems.

Honor Awards

Mott MacDonald

Pearl Road Rehabilitation

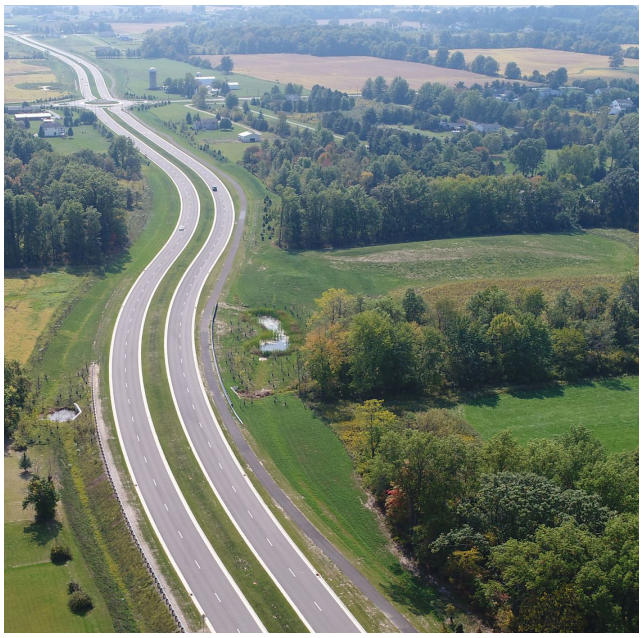


Mott MacDonald provided project management and served as the primary designer for the rehabilitation of this important transportation asset, situated in a dense urban environment with extenisve utilities. A practical solution was devised to avoid pavement widening, while still maintaining traffic capacity and on-street parking, adding bicycle facilities and upgrading the streetscaping in this corridor. This project is a collaborative effort that met the goals of the city and community as well as improving and sustaining this community asset for future generations, as evidenced by the private sector investing millions into Old Brooklyn.

Burgess & Niple

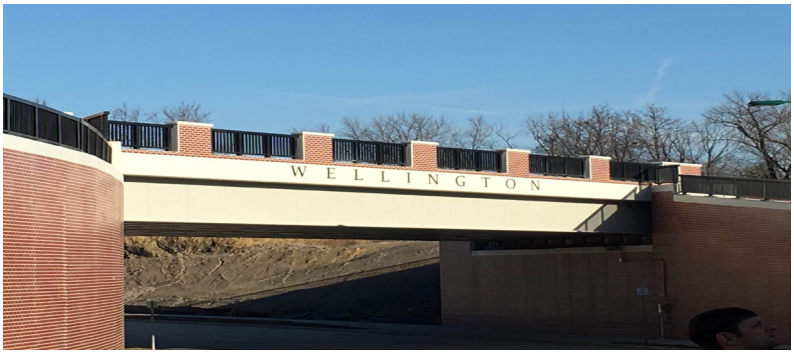
Sawmill Parkway Extension

Burgess & Niple provided planning, design, preliminary engineering, environmental services and public involvement assistance for the Sawmill Parkway Extension Project. The project provides a direct connection to the Columbus metro area for Delaware County residents. The 4.5 mile extension reduces commute times for travelers and provides access to 1,600 acres of land for development. The $30 million construction cost was the largest transportation project ever constructed by the Delaware County Engineer's Office. The project was completed more than $8 million below the budgeted construction costs. The four-lane divided roadway includes five roundabouts and a bike path along the entire length providing improved travel times, reduced congestion, better community connections and a roadway that drives economic development within the county.



TranSystems Corporation

Wellington Grade Separation

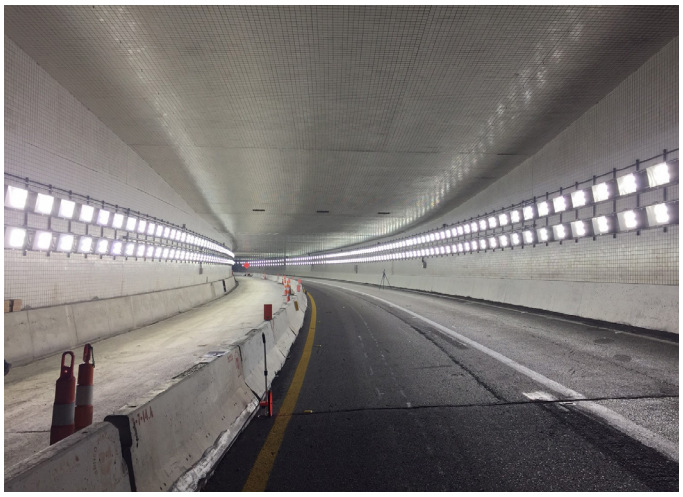


The Village of Wellington, Ohio, faced a large problem for a small town. The CSX line railroad tracks divided the town, limiting ease of access for emergency services and causing traffic congestion. Through a collaborative effort by TranSystems, ODOT and input from the public, a preferred alignment was developed calling for the relocation of SR 58, passing under the railroad. TranSystems took into consideration the impacts on a nearby historic business district and the effect of the project on the setting of the downtown area.The project included design of a new roadway alignment, a railroad bridge, a rail runaround, retaining walls that resembled the brick buildings in downtown with several insets depicting the town's rich history and a storm water pump station.

Mott MacDonald

Lytle Tunnel Rehabilitation & Modernization

Lytle Tunnel, the only mechanically ventilated tunnel in Ohio is also the only tunnel along Interstate 71. Constructed in 1970, ODOT felt it was important to update and modernize the structure. The design team included Mott MacDonald, Burgess and Niple, Inc., CTL Engineering Inc., and A&A Safety. With advanced renovations to promote safety, time saving, and expense, Lytle Tunnel is one of the first to have LED lighting, cutting edge sound proofing to reduce noise, carbon monoxide detectors to monitor air quality, and linear heat detectors with a preprogrammed ventilation response. The renovation of Lytle Tunnel economically paved the way for improvements to Lytle Park.



DLZ

ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

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ENGINEERING
ASSOCIATES
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2013 **THP Limited, Inc.** – Central Riverfront Garage – Phase 2

2012 **ms consultants, inc.** – I-70/I-71 Columbus South Innerbelt Study

2011 **DLZ Ohio, Inc./HNTB/Spiro Pollalis** – Main Street Bridge Replacement

2010 **Wilbur Smith Associates** – Euclid Corridor Transportation Project

2009 **THP Limited Inc.** – The Ascent at Roebling's Bridge

2008 **FIGG** – Veterans' Glass City Skyway

2007 **HNTB Corporation** – Perry Street Bridge Replacement

Karpinski Engineering – Cleveland State University Recreation & Wellness Center

2006 **DLZ Ohio, Inc.** – River Chamber Stabilization & Demolition – Charleroi Locks & Dam

2005 **Lantz Jones Nebraska Inc.** – Knowlton Hall School of Architecture

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