

ACEC-Illinois 2012 ENGINEERING EXCELLENCE AWARDS MERIT AWARD WINNERS

► Studies, Research and Consulting

AECOM Technical Services, Inc.
Structural Integrity of ICBM Launch Facilities
Owner: HQ AF Global Strike Command
Consultants: Schmitt Technical Services, Inc. / Crane Engineering

AECOM was engaged in 2010-2011 after a Qualification Based selection process by HQ US Air Force Global Strike Command to evaluate the structural condition of the launch facility concrete at the 300 launch sites at Minot and Malmstrom Air Force Bases especially for the presence and risk from alkali-silica reaction (ASR). Additionally, AECOM was asked to assess the effects of multiple launches over the years on the three remaining active launch facilities at Vandenberg AFB. The primary purpose of the study was to determine the expected remaining life of these launch facilities and recommend measures to sustain the facilities indefinitely.

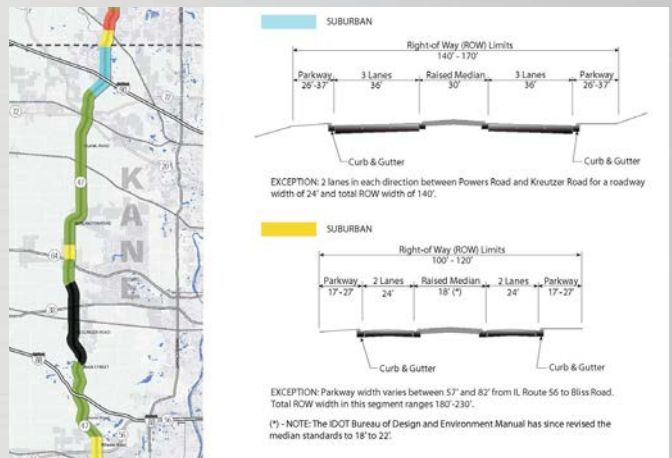


► Studies, Research and Consulting

T.Y. Lin International
IL 47 Corridor Planning Study
Owner: Kane County & McHenry County
Consultants: Houseal Lavigne & Associates / SEC Group

T.Y. Lin International along with Houseal Lavigne & Associates and SEC Group prepared a corridor study of Illinois Route 47 from the Wisconsin State line to the Kane/Kendall County line. This regional effort included 15 municipalities, Kane County, McHenry County, the Illinois Department of Transportation, the Illinois Tollway, and the regional transit agencies.

The intent of the project was to promote smart growth solutions for the future development of the corridor. These solutions involved regional coordination, transit, bicycling, roadway connectivity, and compact-mixed use development that encouraged walking and transit use. TYLI recommended coordination efforts to mitigate future growth impacts from traffic.



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► Building/Technology Systems

Shive-Hattery, Inc.

Roshek Building Rehabilitation

Owner: Dubuque Initiatives

Consultants: Jeffrey Morton Architect, OC / evolve EA

The Roshek Building was constructed between 1929 and 1931 to house Roshek Brothers Department Store and private professional offices. Shive-Hattery provided plumbing, mechanical, and electrical design services for the building restoration project that enabled the historic structure to be used for modern, commercial office and retail space. IBM is leasing floors five through nine as a Global Delivery Center. Mezzanine and floors two through four house additional professional office space. The first level is comprised of retail tenants. Renovations to the lower level MEP systems took place while the spaces were occupied. The building has been certified LEED Gold.



► Building/Technology Systems

Clark Dietz, Inc.

ISU Student Fitness Center and McCormick Hall

Owner: Illinois State University

Consultants: PSA Dewberry / RDG Planning and Design / Counsilman-Hunsaker

The Student Fitness Center and McCormick Hall at Illinois State University provides a new home for the School of Kinesiology and Recreation, ISU Recreation Services and other wellness partners. The facility provides a state-of-the-art fitness and recreation center integrated with a modern teaching facility.

The largest building project undertaken by the university to date, the facility extends the historic McCormick Hall, located on the university Quadrangle, to Main Street, creating a signature building. Combining open spaces of a modern fitness facility with classroom and research spaces has created a unique wellness and education environment.



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► Structural Systems

Thouvenot, Wade & Moerchen, Inc.
MetroBikeLink Signature Bridge
Owner: St. Clair County Transit District
Consultants: Environmental Operations, Inc.

Thouvenot, Wade & Moerchen, Inc. (TWM) designed a signature pedestrian bridge over Illinois Route 159 as part of the St. Clair County Transit District's extension of the MetroBikeLink Trail in Belleville and Swansea, Illinois. TWM's design created an uninterrupted path for pedestrians and bicyclists along the existing light-rail corridor and made the busy highway crossing safe for pedestrians. Through the use of pre-cast texturized concrete panels, decorative railing and accent lighting, TWM gave the highly visible typical steel structure bridge the look of a masonry arched bridge, helping to publicize and brand the MetroBikeLink Trail.



► Structural Systems

Engineering Enterprises, Inc.
Virgil L. Gilman Trail Pedestrian Bridge
Owner: Fox Valley Park District
Consultants: Cardinal Structural Design, Inc. / CBC Engineers and Associates, Ltd. / Contech Construction Products, Inc. / Terracon Consultants, Inc.

Engineering Enterprises, Inc. (EEI) provided engineering services for the Fox Valley Park District Virgil L. Gilman Trail Pedestrian Bridge. The project goal was to eliminate the dangerous at-grade crossing of the Virgil L. Gilman Trail at Galena Boulevard in the City of Aurora.

EEI worked closely with the District, permitting agencies and various sub-consultants to develop the final construction documents. The final product was a 162 foot long prefabricated weathering steel bridge erected on decorative abutments, a series of terraced retaining walls, extensive landscaping and other decorative site elements including two large decorative sign panels on either side of the bridge.



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► Structural Systems

Hampton, Lenzini and Renwick, Inc.
Anchor Road District Intersection Bridge
Owners: McLean County Highway Department
Consultants: Terracon, Inc.

This project involved the replacement of S.N. 057-3107 located in the middle of a township road intersection. Preliminary alternates were studied to determine the most economical and safest roadway and bridge combination. A three span continuous reinforced concrete slab bridge on closed pile encased abutments with drilled soldier pile wingwalls and concrete pile bent piers was selected. Span lengths were 15.5', 20.0', 15.5' with a 93' wide deck due to the intersection radii. Engineering services included route survey, land survey, right-of-way plats, preliminary studies, Preliminary Bridge Design and Hydraulic Report, permits, Incidental Take Authorization and preparation of final structure and roadway approach plans.



► Waste and Storm Water

Farnsworth Group, Inc.
City of Lexington Wastewater Collection & Treatment System
Owner: City of Lexington
Consultants: Hanson Professional Services / Testing Service Corporation

After evaluating numerous alternatives, Farnsworth Group designed a zero-depth gravity sewer collection system including five lift stations, a wastewater treatment plant with fine bubble air diffusion in three aerated lagoons as well as an innovative zero-discharge central-pivot spray irrigation system that distributes plant effluent onto 320 acres of biomass and standard agricultural crops. The collection system transports domestic waste from approximately 850 residential and commercial properties which previously discharged into Turkey Creek. Due to this zero discharge system, a NPDES permit was not necessary. The design is not only environmentally efficient but will be economically sustainable for years to come.



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► Waste and Storm Water

Terra Engineering, Ltd.

Adam Clayton Powell, Jr. Paideia Academy

Owner: Chicago Public Building Commission

Consultants: Interactive Design Eight Architects / Wolff Landscape / Jacobs Engineering / Thornton Tomasetti

Powell Academy is a new Chicago Public School located on the south side of Chicago along the Lake Michigan shoreline. The new school building and site work incorporate numerous sustainable design features including green roof, native landscaping, permeable paver parking lot, 100% stormwater infiltration without connection to City sewer, and numerous energy efficiencies employed in the building and site. In conjunction with the Public Building Commission of Chicago and the design team, TERRA Engineering developed a stormwater management plan that exceeds LEED objectives and sustainable design goals for the project. Powell Academy anticipates achieving a LEED Gold rating from the U.S. Green Building Council's Schools Rating System.



► Waste and Storm Water

Strand Associates, Inc.

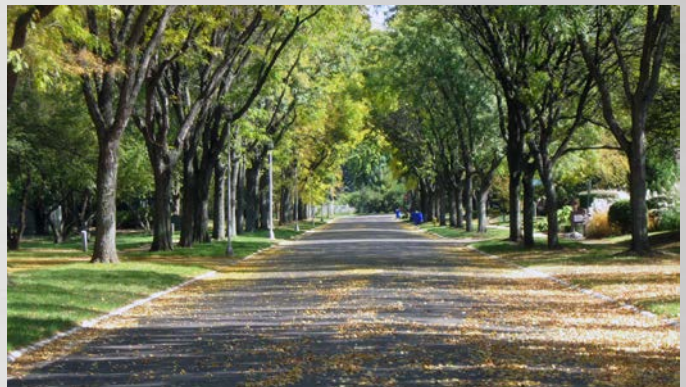
Southside Interceptor Sewer Project

Owner: Wheaton Sanitary District

Consultants: Testing Service Corporation / SEECO Consultants, Inc. / Steinbrecher Land Surveyors

The Wheaton Sanitary District recognized the need to replace the southern portion of their collection system dating as far back as 1926. The existing system of clay and corrugated metal pipe was deteriorating and exhibiting susceptibility to inflow, infiltration, and surcharging.

Strand Associates, Inc. assisted the District by studying numerous options to improve the Southside Interceptor Sewer. Study lead to design and construction of approximately 2.4 miles of new, 48-inch diameter interceptor sewer providing the District with a sustainable piping system reducing excess flows and surcharging, increasing capacity, and improving accessibility to District staff for maintenance, operation, and public safety.



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► Waste and Storm Water

Willett, Hofmann & Associates, Inc.
City of Rock Falls - Water Reclamation Facility

Owner: City of Rock Falls

Consultants: Metro Design Associates, Inc. / Testing Services Corporation

The City hired Willett, Hofmann & Associates, Inc. to design a new water reclamation facility, to replace their old dilapidated plant originally built in 1935 that would meet current effluent standards, with enough space and expandability to meet future expansion needs and additional effluent standards. The new facility is designed for a 3.0 MGD utilizing the following processes: fine screening, grit removal, 1st and 2nd stage screw pumps, activated sludge oxidation ditch, final clarification, tertiary filtration, ultraviolet disinfection, aerobic sludge digestion, belt filter sludge presses, a lab/office/administration building and maintenance building. The plant became operational in July 2011.



► Water Resources

Farnsworth Group, Inc.
Regional Water System

Owner: City of Virginia

Consultants: Bowen Engineering Corporation / Hanson Professional Services / Testing Service Corporation

The regionalization of several water systems, which service two municipalities (Virginia, Ashland) and two rural water providers (Cass Rural Water District and Arenzville Rural Water Cooperation), has resulted in improved water quality, cost effective combined operations, maintenance and administration of this regional water system which services over 4,000 residents across Cass County. This regional water system provides its customers with a reliable and stable water system through an economically and energy efficient lime softening treatment process which replaces the existing deteriorated facilities of the municipalities and eliminates the unreliable and potentially contaminated private individual wells for the rural service areas.



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► Water Resources

Willett, Hofmann & Associates, Inc.
City of Dixon - Radium Removal Wells 6 & 8
Owner: City of Dixon
Consultants: KJWW Engineering Consultants

Radium reduction treatment facilities were required for the City of Dixon Waterworks System Wells No. 6 and 8 to achieve compliance with the National Drinking Water Standards for Combined Radium 226 and 228 and Gross Alpha. The addition of Hydrous Manganese Oxide (HMO) followed by pressure filtration through a sand/anthracite filter bed was the chosen treatment alternative. The location of the wells demanded the design and layout to be functional yet aesthetically pleasing and enhancing the surrounding residential and commercial areas. Both structures and sites provide for the equipment space, chemical room safety, and building functionality required.



► Water Resources

ESI Consultants, Ltd.
Water System Improvements for Downtown Long Grove
Owner: Village of Long Grove
Consultants: Environmental Design International, Inc. / Testing Services Corporation /
Milhouse Engineering & Construction, Inc. / Design Perspectives, Inc.

The project was developed as part of a public – private partnership to bring economic development to the Village and to have the ability to better serve its current businesses and residents. This included creation of the Village’s first public water utility initially serving the commercial re-development, nearby IL 83 businesses and is planned to extend service to the historic downtown and adjacent residential areas as well. Residents and businesses in the area currently utilize multiple private shallow wells for water and have been experiencing inconsistent water quality and supply. The system was designed to allow the Village the ability to expand the capacity of the water system to serve them as the need arises. The project provides for a consistent a high quality potable water supply and for consistent water for fire protection.



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► Transportation

Hutchison Engineering, Inc.
Jacksonville Downtown Turnaround Project

Owner: City of Jacksonville
Consultants: Massie Massie & Associates

The Jacksonville Downtown Turnaround Project consisted of returning the downtown square plaza to its historic pre - 1970's condition when the area was a thriving business district. Two streets were reopened to traffic; parking was replaced on the outside of the traffic lanes next to the businesses, the plaza was rebuilt with decorative lighting, benches, trash cans, landscaping and a pergola. Jacksonville has considered the project a success because 25 new businesses have relocated to the downtown area since the project was initiated. The growth is expected to continue, as several buildings are currently being renovated.



► Transportation

OMEGA & Associates
IL 59 Reconstruction - IL 126 to Caton Farm Rd.

Owner: Illinois Department of Transportation
Consultants: Clark Dietz, Inc. / V3 Companies of Illinois / S.T.A.T.E. Testing, LLC

OMEGA served as the prime consultant for the Reconstruction of Illinois Route 59 from Illinois Route 126 to Caton Farm Road for IDOT. OMEGA managed two contracts totaling over three miles in length. The project's scope was reconstruction of the roadway from a two-lane rural cross section to a four-lane urban cross section and included new water main, new storm sewer, multiple box culverts, extensive earth excavation and embankment, PCC pavement, curb and gutter, sidewalk, new traffic signals at five intersections, traffic signal interconnection, lighting, and landscaping. The \$30 million project was completed under budget and ahead of schedule.



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► Transportation

Sheppard, Morgan & Schwaab, Inc.
Alton Pedestrian Overpass

Owner: City of Alton

Consultants: Oates Associates / Planning Design Studio / SCI Engineering, Inc. / Horner & Shifrin, Inc.

The Alton Pedestrian Overpass completed a vital connection for pedestrians and cyclists between Downtown Alton and the Riverfront. The Overpass is a 3 span truss structure with naturally looking stone abutments and piers overlooking the Riverfront and Mississippi River. It crosses 4 lanes of US Route 67, 2 tracks of the Union Pacific Railroad, 1 set of tracks of the Norfolk Southern Railroad, and the Mississippi River Levee. It connects to the Great River Road Bike Trail, and provides a sidewalk down to the Riverfront. The Riverfront has 2 parks, a 12,800 seat amphitheatre, and a marina.



► Transportation

HDR Engineering, Inc.
Enhancement of Wheaton's Wesley/Manchester Gateway

Owner: City of Wheaton

Consultants: American Surveying & Engineering, PC / Homer L. Chastain & Associates, LLP / Terracon Consultants, Inc. / Testing Service Corporation

Enhancing the Gateway to Wheaton was a significant undertaking. HDR Engineering performed all phases of the project, from feasibility through construction. This corridor between the DuPage County Center and the City's central business district required the reconfiguration and reconstruction of two bridges, six adjacent roadways, significant retaining walls, and aesthetically well-designed streetscape elements. Extensive public involvement and coordination of numerous stakeholders were key to successfully completing this noteworthy project. A Community Advisory Panel, made up of a wide cross section of interested parties, assisted in defining the community's needs and ultimately contributed to the project's success.



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► Transportation

Rezek, Henry, Meisenheimer and Gende, Inc.

Atkinson Road Reconstruction and Flood Control Basin

Owner: Village of Green Oaks

Consultants: Henry, Meisenheimer and Gende, Inc. / Hey & Associates, Inc.

Atkinson Road functions as a regional route and also carries substantial traffic associated with Abbott Laboratories' World Headquarters, plus emergency vehicles from Libertyville Fire Station No. 3. Its length within the Village limit is 1.3 miles. Because of its extremely deteriorated and unsafe condition, complete reconstruction was necessary. A new stormwater drainage system, consisting of storm sewers, roadside ditches, and a 50 acre-foot flood control basin, was constructed. The roadway profile was raised to eliminate flooding and improve geometrics. The new roadway cross-section consists of two 12 foot asphalt paved lanes with asphalt/aggregate shoulders.



► Transportation

Oates Associates, Inc.

Koepfli Lane Extension

Owner: City of Highland

Consultants: Environmental Operations, Inc.

Highland identified the need to study a roadway corridor around the City that connects major routes, provides access to newly developing areas, and prevents future traffic congestion. As a result, the City is constructing a new peripheral route as identified in the Highland Peripheral Route Study. The Koepfli Lane Extension project was the sixth phase of this new route. The route includes two vehicular travel lanes and a continuous center left-turn lane. Alternative modes of travel are accommodated with 4-foot wide on road bike lanes and a 10-foot wide off road multi-use path as recommended in the Trail Master Plan.



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► Transportation

HR Green, Inc.

Centralized Traffic Management System

Owner: City of Aurora

The City of Aurora has undertaken a program to interconnect and modernize its traffic signals in recent years. HR Green, Inc. has been the City's traffic engineering consultant for this program. The central command center for this new system was completed in April 2010. A Centralized Traffic Management System (CTMS) now allows the City's engineering staff to monitor and control traffic signals along seven major corridors throughout the City. More than 60 intersections are interconnected and tied to the new CTMS facility, and can be managed from a single room inside City Hall. The project also replaced antiquated signals at numerous intersections with modern signal equipment.



► Transportation

HMG Engineers, Inc.

Historic Downtown Vandalia Streetscape

Owner: City of Vandalia

A shared vision of two mayors resulted in the recent dedication of the renewed Downtown Business District in the City of Vandalia. Improvements to the Gallatin Street corridor included the Historic Downtown Vandalia Streetscape, roadway reconstruction, new sidewalks, curbs and gutters, period street lights and the relocation of overhead utility lines to underground on Gallatin Street from Kennedy Boulevard to Seventh Street. Additional features include improvements to water, sewer and storm sewers in the Downtown area. Historic Downtown Vandalia is the center of community activities, including the Grand Levee event and annual Halloween Parade.



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► Special Projects

Oates Associates, Inc.

Roy E. Lee Field at Simmons Baseball Complex

Owner: Southern Illinois University Edwardsville

Consultants: BRiC Partnership, LLC

Roy E. Lee Field at Simmons Baseball Complex is the home stadium for the men's NCAA Division I baseball team at Southern Illinois University Edwardsville. A master plan for the 40-acre complex was completed in 2006. Since then, Roy E. Lee Field has undergone renovations to provide up-to-date facilities to support the competitive nature of intercollegiate athletics. Recent updates include a new synthetic turf infield, clubhouse and parking lot, which affords the Cougars baseball team and fans with superior amenities to experience great baseball.



► Small Projects

Primera Engineers, Ltd.

Dan Ryan Pump Station Parking Structure

Owner: Illinois Department of Transportation

Consultants: GeoServices, Inc. / Sanchez & Associates

The Dan Ryan Pump Station #26 is an integral part of the drainage system for the Dan Ryan Expressway. In order to maintain the pumps located 40 feet underground that prevent flooding on the expressway, a crane needs to be able to access them. Primera was selected by the Illinois Department of Transportation (IDOT) to design a structure that will support a sixty ton crane load. Primera developed the design plans and specifications for the reinforced concrete structural slab supported on drilled shafts founded with belled caissons. Several design challenges were encountered and overcome with creative solutions saving IDOT money.



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► Small Projects

Horner & Shifrin, Inc.
Porter-Simmons Roundabout
Owner: City of O'Fallon
Consultants: Woolpert, Inc.

On the heels of constructing its first roundabout project, the City of O'Fallon once again selected Horner & Shifrin to assist in obtaining a Congestion, Mitigation, and Air Quality (CMAQ) grant, planning, and designing their second roundabout at the intersection of Porter Road and Simmons Road. Located just north of the new 200 acre Family Sports Park, Horner & Shifrin integrated the shared-use path into the roundabout design to facilitate the connection of the park to the roadway system. The project was constructed using a road closure of approximately 30 days and open to traffic before the start of the school year.



► Small Projects

Hermann & Associates, LLC
Creve Coeur - IL Route 29 Streetscape
Owner: Village of Creve Coeur
Consultants: PSA Dewberry, Inc. / Central Illinois Consulting, Inc. / Deca Realty

The Village of Creve Coeur retained Hermann & Associates to design the Illinois Route 29 Streetscape improvement through a portion of their downtown business district. The vision of the Village board was to develop a more attractive and safe environment for the residents of Creve Coeur to live, work, and do business. The improvements involved: replacement of curb & gutter, new sidewalk, roadway resurfacing, pavement marking, and ornamental lighting. The focal point of the project is a nine (9) foot wide sidewalk consisting of a 5 foot wide ADA accessible path bordered with a two (2) foot wide ribbon of red stamped concrete on both sides. This improvement has transformed the downtown business district into a pedestrian safe and friendly environment both during the day and night.

