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October 12, 2015

LPA On-Call Professional Services | Structures

AECOM Technical Services, Inc. (AECOM) is pleased to submit our qualifications for LPA On-Call Professional Services for Structures. Below is a summary of our qualifications based on the criteria outlined in the solicitation letter.

Prequalification

AECOM is prequalified in all required categories, including specific MoDOT Federal Aid Basic Training (LPA) and Bridge Prequalifications as follows:

- Federal Aid Basic Training (LPA Consultants) | prequalified to December 30, 2017
- Bridge Forms | prequalified to June 27, 2017
- Bridge QC/QA Plan | prequalified to October 22, 2017

General Experience of Firm

URS Corporation joined the AECOM family of companies on October 17, 2014. AECOM is a premier, fully integrated professional and technical services firm positioned to design, build, finance and operate infrastructure assets around the world for public- and private-sector clients. The firm’s global staff — including architects, engineers, designers, planners, scientists and management and construction services professionals — serves clients in over 150 countries around the world, AECOM is ranked as the #1 engineering design firm by revenue in *Engineering News-Record* magazine’s annual industry rankings, and has been recognized by *Fortune* magazine as a World’s Most Admired Company. The firm is a leader in all of the key markets that it serves, including transportation, facilities, environmental, energy, oil and gas, water, high-rise buildings and government. AECOM provides a blend of global reach, local knowledge, innovation and technical excellence in delivering customized and creative solutions that meet the needs of clients’ projects. A *Fortune 500* firm, AECOM companies, including URS Corporation and Hunt Construction Group, had revenue of approximately \$19 billion during the 12 months ended June 30, 2015.

AECOM has been involved in structural engineering and the design and rehabilitation of bridges and transportation related structures worldwide. Our reputation for successful project management of bridge and transportation related structural projects, and our ability to provide superior project resources with a multitude of disciplines sets us apart from our competitors. In *Engineering News Record’s* Top 500 Design Firms specific market sector categories, AECOM ranked #1 in Transportation and General Building, and in its Sourcebook, AECOM ranked #1 in every Transportation sub-sector — Bridges, Highways, Airports, Mass Transit and Marine.

Missouri Services

AECOM has an experienced group of dedicated professionals with diverse technical expertise in our St. Louis and Kansas City, Missouri Offices, and our Overland Park, Kansas Office. AECOM also has the capability to provide additional specialized expertise, as needed, for the On-Call LPA Structures Services. Our experience demonstrates our abilities to deliver successful bridge and structural projects requiring extensive coordination and fast-track schedules. Recent AECOM (formerly URS) projects include the projects listed in the Past Performance section below, and additionally the current fast-track MoDOT Route 24 over the Big Blue River bridge rehabilitation project in Kansas City.

We consider it important that the URS Team provide flexibility and reliability to the local agency to deliver each on-call assigned LPA structures project within budget and on- schedule. Once a project is assigned, we will determine the project-specific organization structure and team members with the technical expertise and the appropriate staffing level necessary to successfully complete the project. We believe that all project components are inter-related and should be considered and coordinated to achieve project success. These components include:

- | | | |
|-------------------|------------------------------|-----------------------|
| Administration | Associated Discipline Design | Construction Services |
| Structural Design | Cost Estimating | Scheduling |
| | Detailing and Shop Drawings | |

Each component has important elements, and all must reflect quality and cost efficiency. Submittal/Review requirements are important administration elements, and we will coordinate with the local agency to expedite this process, which is a key factor in the project schedule. We review designs for constructability and ease of fabrication. As the project progresses, AECOM will adjust our in-house staffing, as needed, to meet schedule requirements.

Past Performance

Though URS has effectively supported numerous communities with LPA funded projects, we chose the following projects that demonstrate our structures experience, as summarized on the following page. *All projects were completed by URS which became a part of the AECOM family of companies in October 2014.*



FEE FEE ROAD RECONSTRUCTION | CITY OF MARYLAND HEIGHTS, MO As part of the City of Maryland Height's Capital Improvements Program Project, URS provided engineering design for replacement of the existing bridge over a tributary of Fee Fee Creek. The bridge was replaced with a 33-foot wide three-cell box culvert at the same location. Improvements also included increasing the roadway width on Bridge A2819 just north of Midland Avenue by removing the existing traffic barriers and replacing them with new safety barriers. The sidewalks on each side of the bridge were reduced from 12 feet to 6 feet. A traffic circulation plan was prepared that allowed maintenance of traffic through the corridor in at least one direction at all times.



KINGSHIGHWAY BRIDGES OVER UNION PACIFIC RAILROAD (UPRR) AND DAGGETT AVENUE | CITY OF ST. LOUIS, MO This project is design of two single span bridges carrying Kingshighway over an active UPRR track and Daggett Avenue, with lightweight embankment between the two bridges. The bridges replace an existing multi-span viaduct type structure. The geometric layout of the structures is based on simplifying bridge geometry, minimizing span lengths, and avoiding existing foundations. Preliminary design has been completed and the project is currently under final design.



BAGGAGE CLAIM DRIVE EMERGENCY STRUCTURAL ENGINEERING | CITY OF ST. LOUIS, MO URS provided emergency structural engineering services to investigate, analyze and design reinforcing structures for the Baggage Claim Drive structure for Lambert-St. Louis International Airport. The Drive is a cast-in-place post-tensioned concrete pan-joint structure that serves as a roadway, with finished office space and a parking garage below. Inactive post-tensioning was discovered during the replacement of an expansion joint. URS directed the random testing of the tendons, and performed structural analysis for the inactive post-tensioning. Structural analysis identified a punching shear issue at the columns. URS provided a temporary shoring plan and performance criteria, and designed reinforcing structures at the columns to increase the punching shear capacity. The reinforcing structures consisted of a combination of steel frames and reinforced concrete collars.



RIVER DES PERES GREENWAY PHASE III, ST. LOUIS, MO | GREAT RIVERS GREENWAY The River des Peres Greenway Phase III in South St. Louis is the extension of a Greenway/multi-use path along the River des Peres from I-55 to Alabama Avenue. URS responsibilities included design of a new flood wall, adjacent to the path, along the River des Peres. The wall is a reinforced concrete I-wall with Z-shaped steel sheet piling, complying with U.S. Army Corps of Engineers design guidelines. Structural design was coordinated with geotechnical analysis; as well as architectural features designed by the Project Architect.



CLARK LANE RECONSTRUCTION | CITY OF COLUMBIA, MO This City of Columbia, MO project included replacement of the existing two-lane roadway with a three-lane section, roundabout, sidewalks, bike paths and associated retaining walls. The retaining walls are cast-in-place reinforced cantilever walls with exposed heights ranging from three to twelve feet.



CAMP BUTLER NATIONAL CEMETERY MAINTENANCE BUILDING ADDITION, SPRINGFIELD, IL | U.S. DEPARTMENT OF VETERANS AFFAIRS URS provided all engineering and architectural services including structural design and construction services for a maintenance building addition at Camp Butler National Cemetery. The 2000 square foot building addition included a new vehicle wash bay, an equipment storage area, and chemical storage areas.

DEBALIVIERE BRIDGE OVER METROLINK, ST. LOUIS, MO | EAST-WEST GATEWAY COUNCIL OF GOVERNMENTS This project includes superstructure replacement and substructure modifications to the DeBaliviere Bridge over MetroLink in St. Louis. The bridge is located in a highly constrained area that includes Metro bus stops, a light rail station, adjacent Metro bridges that provide access to the station, and electrified light rail tracks under the bridge with associated catenary systems. The intersection of DeBaliviere Avenue with Forest Park Parkway is located directly south of the bridge. The bridge also supports multiple utility conduits and pipes; including Metro, Laclede Gas, and St. Louis City Water. The new superstructure consists of adjacent prestressed concrete deck beams with a composite reinforced concrete deck that includes a trolley guideway and sidewalks. The construction will be phased to allow access to the MetroLink light rail station. Extensive coordination with Metro was required in order to maintain Metro bus and light rail operations with limited disruption.

MODOT PROJECTS Successfully completed MoDOT projects including the I-270 Interchange at Route 364 (Page Avenue) and The New I-64. Both projects involved multiple vehicular bridges with fast-track schedules, and the I-64 project included three pedestrian structures. URS demonstrated the ability to provide the expertise and staffing levels required to complete the projects on schedule. URS coordination efforts and use of effective communications with MoDOT; related governmental entities, including city and county officials; and other project team members were also proven during the successful execution of these projects.

Qualifications of Personnel

The following are key AECOM personnel with demonstrated success in structural design for federally funded projects:

Jean M. LaKemper, PE | Senior Structural Engineer | LPA-Certified has over 28 years of experience in the design, analysis, and rehabilitation of bridges and other transportation related structures. Her experience includes multiple fast-track projects, including new design, replacement, and rehabilitation projects for bridges and culverts of varied sizes and configurations. Her design experience also includes retaining walls, noise walls, riser structures, and signing, lighting and traffic signal structures. Jean currently is completing the fast-track rehabilitation of the MoDOT Route 24 Bridge over the Big Blue River in Kansas City.

Doug Cauble, PE, PhD | Senior Geotechnical Engineer has more than 29 years of experience in geotechnical engineering. Doug is proficient in shallow and deep foundation systems, landslide stability and mitigation, seismic hazard analyses, earthwork operations, geotechnical laboratory testing, geotechnical field instrumentation, and construction monitoring.

Keith Benting, PE, SE | Senior Structural Engineer has 35 years of experience. He has managed and designed numerous bridge structures through On-Call contracts, including both roadway and railroad structures. He is completing work for five On-Call contract structures that include box culverts, deck replacement, superstructure replacement, and total structure replacement.

Michelle Spillers, PE | Project Engineer has over 13 years of experience in civil engineering. Michelle's primary experience includes hydrology and hydraulics, transportation drainage and site design. She has provided drainage design and agency coordination for numerous transportation projects and has worked with our structural engineers on past structural projects.

Craig Parent, PE | Senior Structural Engineer is experienced in many facets of bridge and structural engineering including finite element analysis and seismic analysis, design, and detailing. His areas of expertise have been extensively applied in his work on many fast-track projects. Craig will be available if one of his areas of proficiency is needed.

Frank Lan, PE, PhD | Principal Water Resources Engineer is an expert in the water resources discipline, and will serve as a technical consultant for hydraulics studies, as needed.

URS has additional LPA-certified professional engineers with experience managing prior and current LPA projects, including **Jo Emerick, PE, Mike Brown, PE** and **J.C. Murray, PE**. These professionals will be readily available, should utilization of their particular area of expertise be advantageous to the specific project.

Familiarity | Capability

AECOM has successfully delivered prior LPA projects that utilize federal funding. Our experience provides us with the knowledge, familiarity, and capability to serve the local agency; and interact with the governing and reviewing agencies, as required; to expeditiously complete an On-Call LPA Structures contract.

We have also successfully designed and delivered federally-funded projects that require the evaluation and approval of one or more design exceptions. Project conditions and/or budgetary constraints may warrant the consideration of a design exception. Our project manager will coordinate with the local agency to determine the applicability of a design exception and to obtain design exception approval from FHWA, as we have successfully attained for prior projects.

Accessibility

The professionals of our AECOM St. Louis, Kansas City, and Overland Park offices are ready and accessible to provide Structures Services to the local agency. Our St. Louis office will take the lead for these projects, with our Kansas City and Overland Park offices providing local professionals, technical expertise, and support; as needed. Technical Advisors from other AECOM offices may also be consulted if the project includes a specialized area of expertise.

AECOM will work closely with the local agency to coordinate the design with other associated design that may be prepared by others. Depending on the project, regularly scheduled internal team meetings with task leads and critical staff will take place in the local office. Our staff will be available for team and core meetings as dictated by schedule and project issues. The frequency and location of team meetings and core team meetings will be defined in AECOM's Project Execution Plan and distributed to all team members to define project and client expectations. AECOM has three offices that can serve our clients across the state of Missouri with roadway design services.

Thank you for reviewing our letter of interest. We look forward to discussing our capabilities in further detail with you.

Sincerely,

AECOM



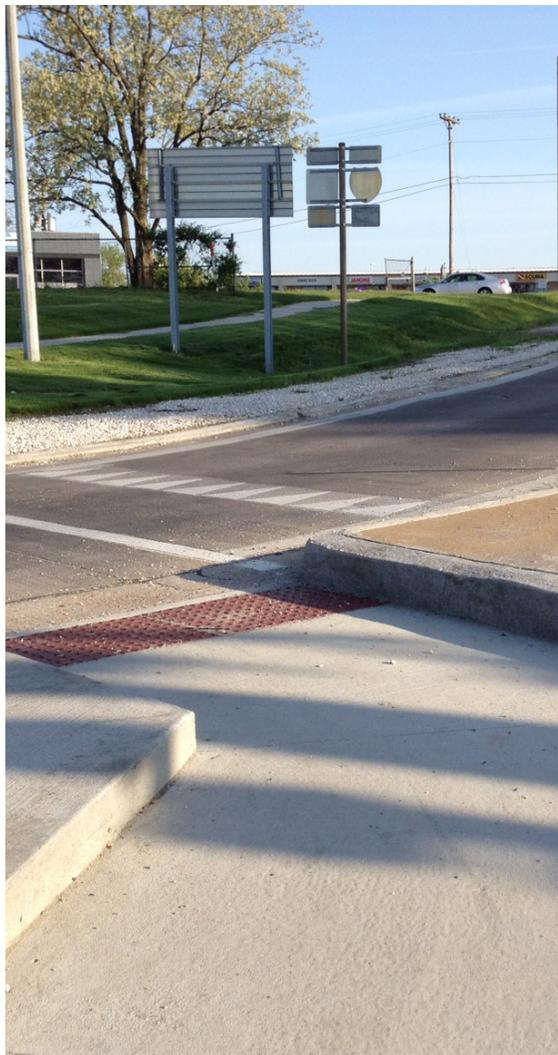
J.C. Murray, PE

Transportation Department Manager

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Transportation and Construction Services *for LPA projects*



Roadway Design

AECOM has prepared environmental assessments, design reports, locations studies, right-of-way plans, signing and pavement marking and construction plans for several hundred miles of arterial and urban highway improvements. In many instances, particularly in urban areas, the method of sequencing and extent of improvement is significantly influenced by the need to maintain traffic on existing facilities. Our staff has significant experience in the design and construction of projects in highly populated communities.



Capabilities

- Geometric Design
- Maintenance of Traffic
- Resurfacing
- Environmental Clearance
- Lighting
- Sidewalks
- Parking Lot Design
- Widening
- Hydraulics
- Cost Estimating
- Geotechnical
- Construction Services
- Environmental
- Utilities and Stormwater

Traffic/TEAP Operations

As traffic engineers, AECOM has prepared traffic studies and TEAP projects varying in size from detailed studies for City of Mexico, City of Maryland Heights, City of Columbia, and City of St. Charles. In addition to conventional street and highway traffic analysis and design, our staff has extensive experience in traffic safety studies, parking needs analysis and design of parking structures.



Capabilities

- TEAP Studies
- Traffic Analysis
- Traffic Signal Design
- Intersection Design
- Safety Studies
- Parking Needs Analysis
- Signage
- Lighting
- Cost Estimating
- Construction Traffic Handling

Transportation Planning

Planning of transportation systems is a critical infrastructure component for urban and rural areas. Transportation solutions for growing areas have to address complex needs, while maintaining the quality of life and natural resources of the community. In performing transportation planning for public and private clients, AECOM applies state-of-the-art methods within a planning process that responds to the specific needs of each client. AECOM has extensive experience in all aspects of transportation planning.

Capabilities

- Regional and Comprehensive Transportation Plans
- Noise and Air Quality Conformity Plans
- Travel Demand Mgt
- Corridor Studies
- Multimodal Studies
- Circulation Studies
- Pedestrian Studies
- Parking Studies
- Traffic Studies
- Transit Studies
- Toll Studies

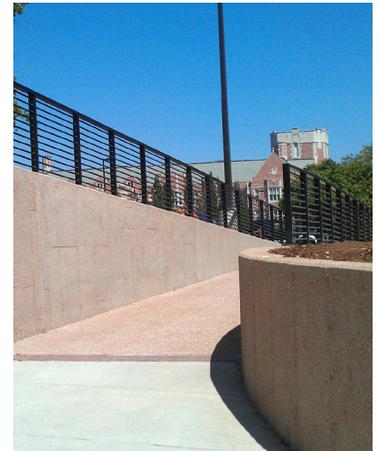


Structures

The staff of AECOM have designed numerous interstate, urban, local and rural bridges using steel plate girders, steel wide flange beams, reinforced concrete, and precast prestressed concrete deck beams and I-beams.

Capabilities

- Feasibility and Planning Studies
- Site Explorations
- Structural Design and Evaluation
- Geotechnical Engineering
- Environmental Clearance
- Hydraulics
- Construction Documents
- Cost Estimates and Schedules
- Construction Phase Services



2015 ENR RANKING

- #1 DESIGN FIRM
- #1 TRANSPORTATION
- #1 HIGHWAYS
- #1 GENERAL BUILDING
- #1 ARCHITECTURE
- #1 DESIGNER INTERNATIONAL MARKETS

AECOM was ranked #1 on the *Engineering-News Record* (ENR) Top 500 Design Firms. AECOM is consistently ranked among the top design and engineering firms worldwide.

Pedestrian and Bike Trails

For over many years, AECOM has been deeply rooted in meeting the nation's infrastructure, providing planning and design services for all types of urban and suburban cores, trails and greenways, and natural areas. We have expanded our services to meet the changing infrastructure needs of the nation and the world, while developing a solid reputation for designing within budget and on schedule, complementary to cultural and economic demands, and in harmony with natural features.

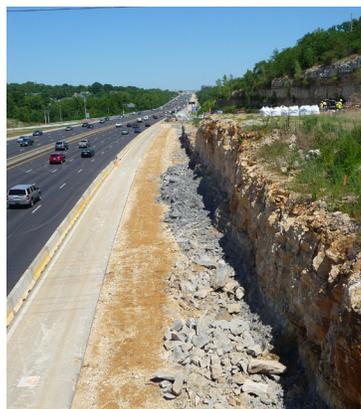


Capabilities

- Environmental Clearance
- Bikeway/Trail Design
- Sidewalks
- Landscape Design
- Rest Area Design
- Streetscapes and Complete Streets
- Surveying
- Agency Coordination

Geotechnical

The AECOM team brings over 50 years of geotechnical engineering experience. AECOM St. Louis is home to our Corporate Center of Excellence for Geological Services. Consequently, AECOM has extensive local knowledge and experience working throughout Missouri and understands the geology and challenges associated with transportation projects.



Capabilities

- Slope Stabilization
- Erosion/Sediment Control
- Foundation Engineering
- Groundwater Mgt
- Geotechnical Instrumentation
- Laboratory Testing
- Field Investigations
- Construction Monitoring
- Seismic Evaluations and Retrofits

Construction Inspection

AECOM provides flexibility and reliability to our LPA clients to deliver each construction inspection assigned project within what may be aggressive schedules. Our construction inspection staff provides the project controls, administration, and field oversight to manage work from the bid phase through closeout. AECOM verifies that contractor schedules have logical work sequences and appropriate resources and activities before we incorporate their data into our master schedule.



Capabilities

- Geotechnical Work
- Sampling and Testing
- Shop Drawings
- Construction Observation
- Contract Administration
- Scheduling
- Constructability Reviews

Community Involvement

A project's success often depends on the public's perception of it. AECOM helps build on existing community ties to enhance the public cooperation and dialogue that keep a project moving forward. We provide various levels of assistance, from rapid consultation to complete management and execution of the community relations effort, tailoring each program for the individual project.

Capabilities

- Open Houses
- Public Meetings
- Small Group
- Individual Meetings
- Advisory Committees
- Newsletters
- Fact Sheets
- Stakeholder Committees
- Surveys and Interviews
- Media Briefings
- Web Sites
- Toll-Free Numbers



Missouri/Kansas Locations

St. Louis, Missouri Office
1001 Highlands Plaza Drive West
Suite 300
St. Louis, MO 63110

Kansas City, Missouri Office
2380 McGee Street
Suite 200
Kansas City, MO 64108

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For more information, please contact J.C. Murray, PE, Transportation Department Manager, 314.429.0100



About AECOM

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More information on AECOM and its services can be found at www.aecom.com.

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