



**Missouri's  
Local  
Program**  
*for community  
development*

## COVER SHEET

(This must accompany your firm's letter of interest and does not count in the page limit)

Firm's Full Legal  
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Work Category:

- Roadway Design
- Trails & Sidewalks
- Construction Inspection
- Traffic Engineering & TEAP
- Structures
- Environmental
- Historic Preservation
- Multimodal Planning / Systems and Facilities Design
- Transportation Planning – **NEW CATEGORY**



## Letter of Interest: Structures

### Missouri's Local Program (LPA) For Community Development

Kaskaskia Engineering Group, LLC (KEG) has successfully supported numerous LPAs on structural projects requiring technical expertise and precision. Our team of structural engineers, project managers, designers, and support staff has the depth of experience and capacity necessary to meet the ongoing structural needs of Missouri LPAs throughout a multi-year partnership. We have earned **recognition and positive evaluations from DOTs that commended our proactive communication, self-management, and the high quality of personnel assigned to projects.**

KEG collaborates with our clients to offer full-service, interdisciplinary capabilities and advanced technology to the planning, design, and construction of all types of structures. The firm's design and construction experts connect core engineering services with specialty expertise to address extreme and unique conditions, achieve higher levels of performance and life safety, and reduce construction and operating costs. Our structural engineers are supported by hydraulic engineers, geotechnical engineers, environmental scientists, and right of way (ROW) professionals. **This in-house team offers the supportive disciplines necessary to provide our LPA clients with the bench strength needed to complete a wide range of structural projects.**

Furthermore, delivering expertise in both bridge design and bridge inspection services, KEG's structural engineering team is unparalleled. We offer clients **comprehensive services for the bridge lifecycle, and our collaborative process leverages the extensive field experience of our design team as well as the key insights of our bridge inspectors.** This interchange of experience provides tremendous client value as potential issues can be foreseen long before morphing into problems. Our skill set and knowledge plays a critical role in ensuring the safety of infrastructure, as well as developing new design solutions to stand the test of time.

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### > Accessibility

Our level of service, responsiveness, nimble approach, and work completed has earned us more than 2,500 projects from State DOTs, as well as ongoing relationships and a positive reputation among our many LPA clients. KEG's offices are located in Ste. Genevieve, Missouri; Belleville, Glen Carbon, Champaign, Peoria, and Geneva, Illinois; Evansville, Indiana; and Saint Paul, Minnesota. Our St. Louis area offices house the bulk of our staff, including structural, geotechnical, transportation, civil, and hydraulic engineers, as well as environmental scientists.

In addition to our proximity, our engineers have the availability to begin working on work orders associated with this contract immediately, providing quick response time to any and all project needs throughout the state. **Our size and ability to take on work without the usual red tape of larger firms is a great advantage to our LPA clients.**

### > Familiar & Capable

We are no stranger to working with the Federal Highway Administration, the Missouri Department of Transportation (MoDOT), the Missouri Department of Natural Resources, the Metropolitan St. Louis Sewer District, the St. Louis Board of Public Service, East-West Gateway Council of Governments, the U.S. Army Corps of Engineers, and the U.S. Forest Service. **KEG is fully prequalified with MoDOT, including the E-Verify, Financial, Federal Aid Basic Training, Bridge Forms, and Bridge QC/QA Plan prequalifications.**

## > Past Performance

KEG is proficient in putting together a quality set of plans, specifications, contract documents, and cost estimates, as well as performing hydraulic and geotechnical analysis for structural improvements in LPA projects. In addition, our in-house team of environmental scientists and ROW engineers provide our LPA clients with a multidisciplinary team for all their structural needs, as demonstrated in these projects.

### Bridge Replacements for MoDOT Southeast Bridge Bundle

Owner: MoDOT

KEG was an integral part of the design team for the replacement of 5 bridges as part of MoDOT's Southeast Bridge Bundle 7 bridge replacement project. As part of the design team, KEG completed final bridge design and detailing for Route A over Drainage Ditch Number 72 in Pemiscot County, Route H over Ash Slough Ditch in New Madrid County, and Route H over Drainage Ditch in New Madrid County. Each of these bridges are single-span bridges with three lines of prestressed spread box beams on integral abutments supported by CIP concrete piles.



To accommodate the grading design, these bridges use straight wingwalls. KEG's scope of work for the projects included structural design and detailing, as well as preparation of plans, specifications, cost estimates, and working days studies. In addition, KEG assisted with QA/QC plans for the bridges carrying Route 162 over Drainage Ditch Number 1 and Drainage Ditch Number 251 in New Madrid County. Each is a three-span bridge prestressed spread box beam bridge on integral bents supported on 16" and 36" CIP piles. Despite the aggressive schedule, KEG met all deliverable deadlines for the projects.

### MoDOT Bootheel Design-Build

Owner: MoDOT

KEG provided structural, hydraulic, roadway design, and geotechnical engineering services as part of the team for the replacement of 15 existing bridge structures in Southeast Missouri for the Missouri Department of Transportation (MoDOT) for this Design-Build project bundle.



KEG's engineers worked closely with MoDOT to ensure open communication and quality reporting for the project. To support their analysis, KEG's team performed field reconnaissance of the existing structures with the Project Team and reviewed existing and new data provided by MoDOT.

KEG's hydraulic engineers performed HEC-RAS hydraulic analysis for three of the structures in the bundle, including Route D over the St. Francis River (A2382), Route W over the Black River (F0559), and Route A over the Whitewater River (L0567). For two of the structures, StreamStats analysis and a FEMA flood insurance study were used to determine peak flow rates.

KEG's structural team performed analysis on five bridge structures in the project package (MoDOT bridges L0567, F0559, A0236, A2382, and A0654), including design recommendations for 2 replacements and 3 rehabilitations. This consisted of the development of both preliminary and final bridge and roadway improvement plans leading up to the structures, including shoulder improvements and guardrail design.

### MoDOT Bridge A8988, Pemiscot County

Owner: MoDOT

KEG provided structural design services for a bridge as part of a bundle of seven bridges in the MoDOT Southeast District. The bridge is Route A over Drainage Ditch Number 72 in Pemiscot County, Missouri. The structure was constructed in one stage with the roadways closed to traffic during construction.

As part of the design task, KEG coordinated closely between the roadway design and the geotechnical engineers on the project.

### MoDOT Route K and Route N Bridges

Owner: MoDOT

KEG provided structural engineering services for two bridges in Stoddard County, Missouri. Existing Bridge N0381 (Route N) required a deck replacement and Existing Bridge P0389 (Route K) was severely deteriorated, needing to be replaced on the same general alignment. To minimize the construction duration, both bridges were closed completely for construction.

KEG's role was to provide Quality Control for both structures. This included providing independent design reviews of the structural elements and generating the quantities needed for construction.

The structural design and check were based on current MoDOT standards and AASHTO LRFD Bridge Design Specifications. In addition to the design Quality Control, KEG was tasked with providing Quality Control measures for the plan development. This included ensuring the plans represented the design data in the calculations, while also following current MoDOT practices for detailing and specific state preferences.

# Qualifications of Personnel

## Moshe Cohen, PhD, SE, PE | Lead Structural Engineer



### EDUCATION

PhD, Northwestern University, Civil Engineering  
BS, University of Missouri - St. Louis, Civil Engineering  
BS, University of Missouri - St. Louis, Computer Science

### REGISTRATIONS & CERTIFICATIONS

Professional Engineer: Missouri (2017018957)  
Structural Engineer: Illinois (081.008104)

Mr. Cohen has 17 years of combined professional and research experience in civil engineering, specializing in structural. His experience involves working on bridge, civil, and structural projects of varied magnitude and complexity. He has been responsible for the preparation of preliminary and final design plans, estimates, quantities, and special provisions for both the replacement and rehabilitation of structures, as well as providing QA/QC for a wide range of structural work. He is adept at integrating his computer programming and spreadsheet capabilities to streamline structural and bridge design tasks.

## Matt Clevenger, PE | Structural Engineering & Design



### EDUCATION

MS, Southern Illinois University Edwardsville, Civil Engineering – Structural Emphasis  
BS, Southern Illinois University Edwardsville, Civil Engineering

### REGISTRATIONS & CERTIFICATIONS

Professional Engineer: Missouri (PE-2022012933)

Mr. Clevenger specializes in structural and transportation-related projects. He has designed and prepared plans and specifications for a variety of structural, civil, and infrastructure improvements, including bridges, culverts and small structures, retaining walls, signage, and facility and building inspections. Mr. Clevenger has experience working with both state and federal agencies, including the Illinois Department of Transportation (IDOT), the Missouri Department of Transportation (MoDOT), the Minnesota Department of Transportation (MnDOT), the Iowa Department of Transportation (IaDOT), and a many local municipalities and agencies.

## Keith Chernick, PE | Structural Engineering & Design



### EDUCATION

BS, University of Illinois Urbana-Champaign, Civil and Environmental Engineering

### REGISTRATIONS & CERTIFICATIONS

Professional Engineer: Illinois (062.066845)

Mr. Chernick has over 18 years of experience in civil engineering, specializing in bridge inspection and structural engineering. His experience includes field inspection of highway structures, asset management for bridges and overhead sign structures, capital program development, reinforced concrete design, and construction engineering. He has focused his career on the inspection, maintenance and repair of structures, including routine, fracture critical, element level, Load rating and special inspections. Mr. Chernick has experience in the design, plan preparation and specifications development for a variety of structural, civil, and transportation studies and plans.

## Christoph Opperman, PE | Geotechnical Engineering Lead



### EDUCATION

MS, Southern Illinois University - Edwardsville, Civil Engineering (Geotechnical)  
BS, University of Illinois at Urbana - Champaign, Civil Engineering (Geotechnical)

### REGISTRATIONS & CERTIFICATIONS

Professional Engineer: Illinois (062.074390)

Mr. Opperman plays a key role in managing and delivering geotechnical projects for transportation and structural infrastructure. He possesses a comprehensive background in geotechnical engineering, with expertise in subsurface exploration, soil mechanics, foundation design, geotechnical analysis, and project management. His technical experience encompasses field exploration, site surveying, and geotechnical calculations and analysis including: settlement, materials testing, bearing capacity, seismic analyses, and slope stability. Mr. Opperman has extensive experience conducting subsurface exploration and leads the preparation of structure and roadway geotechnical reports.

## Debra Roe, PE | Hydraulic Engineering Lead



### EDUCATION

BS, University of Wisconsin-Platteville, Civil Engineering

### REGISTRATIONS & CERTIFICATIONS

Professional Engineer: Missouri (PE-202432587)

Ms. Roe has 36 years of experience in civil engineering with a specialization in hydraulic and hydrologic studies and analysis. Throughout her career, she has successfully managed project teams, clients, and staff while delivering high-quality infrastructure solutions for a variety of projects. Her experience includes hydraulic analyses for structural replacements and rehabilitations, drainage studies, floodplain mapping, public water supply systems, wastewater collection systems, facility assessments, and erosion control. She has led the development of scopes, budgets, designs, and implementation of projects for state, federal, and private clients. Ms. Roe is also highly skilled in the use of advanced industry software, including AutoCAD Civil 3D, MicroStation, HEC-HMS, and HEC-RAS.



Ste. Genevieve, MO • Belleville, IL • Glen Carbon, IL  
 Peoria, IL • Champaign, IL • Geneva, IL  
 Evansville, IN • St. Paul, MN



## > About Our Company

Kaskaskia Engineering Group, LLC (KEG), founded in 2006, is a majority woman-owned firm delivering exceptional engineering and contracting services through technical expertise, collaboration, and proactive communication. Our diverse capabilities allow us to approach projects holistically, considering every phase and stakeholder need.

For over a decade, KEG has provided The Missouri Department of Transportation (MoDOT) with quality services in transportation engineering, environmental studies, structural engineering, geotechnical engineering, and value engineering. Building on this experience - and our work with other DOTs and Local Public Agencies (LPAs) - we are more than capable to expand our services in Missouri through MoDOT's LPA program. Known for responsiveness and local expertise, we deliver timely, practical solutions tailored to Missouri communities and MoDOT requirements. Additionally, KEG has local staff in Missouri who are able to mobilize quickly and provide both field work and design solutions for this on-call contract. We will be a responsive, flexible, multidisciplinary partner for MoDOT's LPA projects. **For this pursuit, we are seeking to be listed in the categories of Roadway Design; Traffic Engineering and TEAP; Structures; Environmental; and the new category of Transportation Planning.**

## > How We Serve LPAs

KEG began as a firm that served the needs of our local community. Although we have grown substantially in our almost 20 years in business, our passion for assisting LPAs with their infrastructure needs remains the same. We have decades of experience not only in consulting for local agencies in transportation planning and design, but also working hand-in-hand with local leaders and administrations for cost-effective and timely solutions to their local roads and bridges. **Additionally, KEG is fully prequalified with MoDOT, including the E-Verify, Financial, Federal Aid Basic Training, Bridge Forms, and Bridge QC/QA Plan prequalifications.**

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## > Certifications

### CERTIFIED DBE

*Missouri Regional Certification Committee*

### LICENSED WBE

*Missouri Office of Administration Office of Equal Opportunity*

### WOMEN-OWNED SMALL BUSINESS (WOSB)

*Small Business Administration*

### WOMEN BUSINESS ENTERPRISE NATIONAL COUNCIL (WBENC)



## > Key Services



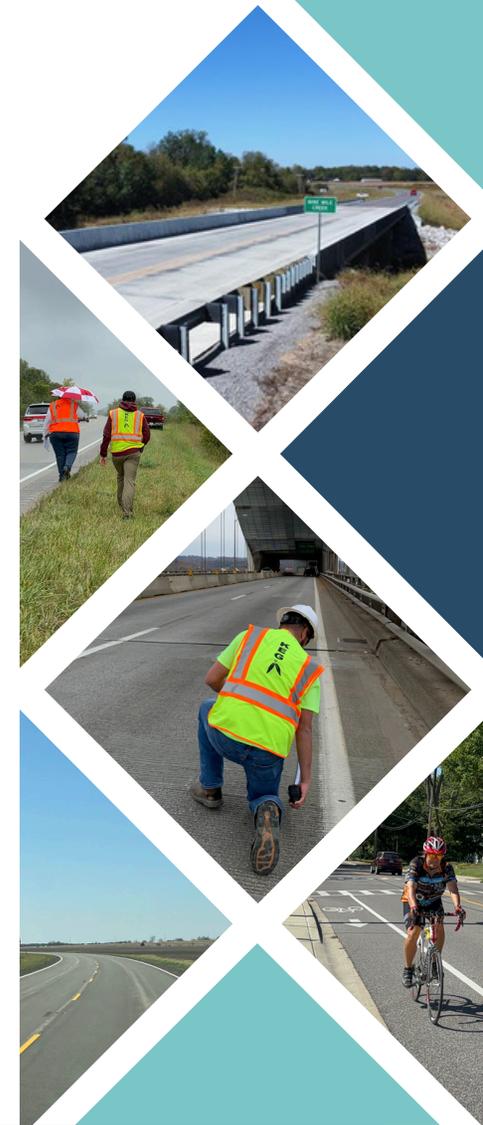
### Transportation Planning & Design

**Applicable Work Categories: Roadway Design, Traffic Engineering & TEAP, Environmental, and Transportation Planning**

Our Transportation Planners and Engineers are able to take a concept and move the idea forward towards reality, balancing the impacts and benefits to the local community. We have performed transportation planning for projects that range in size from small projects with localized impacts to large projects that have regional and statewide significance. We have the education, training, and experience to design multi-modal transportation projects that enhance our communities by increasing safety, providing mobility, reducing pollution, and spurring economic development. Our design services improve our communities and the lives of those in them, while creating job opportunities and respecting the environment in which we live.

#### Services Include:

- Long Range Planning Studies
- Feasibility Studies
- Community Comprehensive Plans
- High Speed Rail Studies
- Public Involvement
- Purpose & Need Statements
- Demographic Studies
- Social & Economic Studies
- Cohesive Analysis of Land Use
- Neighborhood & Community Cohesive Impacts Studies
- Traffic Analysis Studies
- Interchange Access Justification Reports
- Interchange Design Studies
- Intersection Design Studies
- Development Impact Studies
- Intermodal Analysis & Studies
- Roadway Conditions Analysis
- Analysis of Roadway Networks
- Multi-Use Path Studies & Needs Analysis
- Multi-Modal Transportation Studies
- Master Planning
- Traffic Modeling
- Traffic Counts
- Traffic Signal Coordination & Timing
- New Alignments, Realignments, & Resurfacing
- Highway Plans, Cost Estimates, & Specifications
- Local Agency Road Plans, Cost Estimates, Specifications, & Bid Analysis
- Design of Multi-Modal Components
- Drainage Analysis & Improvement Plans
- Traffic Control Plans
- Utility Coordination & Engineering
- Land Title/ROW Negotiation
- Pavement Design & Life-Cycle Cost Analysis
- Maintenance of Traffic Plans
- Signing & Pavement Marking Plans
- Traffic Signal Design
- Design/Build Partnerships
- Streetscape Design
- Water & Sewer Line Relocation/Replacement Plans
- QC/QA Plan Review
- Value Engineering
- Public-Private Partnerships



## > KEG's LPA Project Highlights

### Centreville Avenue Resurfacing Belleville, Illinois

- Phase I/II engineering design
- Utility relocation
- Planning and preliminary engineering
- Contract quantity calculation and special provisions
- Bid analysis
- Grant writing

### DeKalb ADA Improvements DeKalb, Illinois

- Design-Build for 65 ADA Improvements for intersections in a local subdivision
- GIS Database
- Quantities, schedules, and budgeting
- PROWAG compliance

### Edwardsville North Main Streetscape Edwardsville, Illinois

- Beautification and pedestrian safety improvements
- ADA upgrades
- Planning and preliminary engineering
- Environmental compliance
- Streetscape design, ROW determination, preliminary and final plans, specifications, and estimates
- Water main relocation and sewer lining

# Key Services



## Structural Engineering

**Applicable Work Category: Structures**

KEG's Structural Engineering Team brings extensive experience, exceptional education, and professional licensure to every project. Our engineers inspect, plan, and design a wide range of structures - including buildings, bridges, retaining walls, culverts, and other structure types. While our structures portfolio includes major projects like the **MoDOT Bootheel Design-Build project bundle**, our Team also routinely delivers high-quality services for rural bridge rehabilitations and replacements. No matter the size, we approach each structural assignment with a focus on safety, performance, constructability, and long-term durability, while also respecting the client's aesthetic desires and cost considerations.

### Services Include:

- Steel Bridge Design
- Concrete Bridge Design
- Foundation and Pile Design
- Type, Size, and Location (TS&L) Details
- Bridge Planning
- Bridge Condition Reports
- Erection Plans
- Load Ratings & Capabilities
- Pre-Cast Culvert Design
- Cast-in-Place Culvert Design
- Temporary Shoring Plans and Design
- Retaining Wall Design
- Sign Structure Design
- Sign Truss Inspection
- Lighting and Signal Poles
- Bridge Painting Plans
- NBIS Bridge Inspections
- Element Level Bridge Inspections
- Bridge Management
- ITS Structures
- Hydraulic and Hydrologic Studies, Analysis, and Reporting



## Geotechnical Engineering

**Applicable Work Categories: Roadway Design, Structures**

Our geotechnical engineers and geologist are proficient in the application of soil and engineering mechanics, subsurface exploration methods, and laboratory investigation techniques. KEG has the expertise to investigate and evaluate complex subsurface conditions. We have performed geotechnical investigations for major river crossings, levees, municipal buildings, commercial and industrial developments, landslides, bridges, retaining walls, roads, utilities, tunnels, and dams.

### Services Include:

- Subsurface Exploration
- Geotechnical Reports
- Slope Stability Analysis
- Site Suitability Evaluation
- Foundation Engineering & Analysis
- Pavement and Subgrade Design
- Standard and Reinforced Earthen Slope and Embankment Design
- Review of Excavation Bracing
- Earth Dam and Levee Assessment
- Excavation Assessment and Design
- Retaining Wall Assessment and Design
- Subsidence and Landslide Remediation
- Foundation Installation Monitoring
- Tunnel Installation Monitoring
- Slope Failure Investigations
- Sinkhole Investigations
- Foundation Underpinning Consulting
- Seismic Surveys
- Ground Penetrating Radar (GPR) Surveys
- Frequency Domain Electromagnetic (FDEM) Imaging
- Electrical Resistivity
- Specification Preparation or Review
- Earthwork Monitoring
- Groundwater Monitoring

### Route C Bridges Over Turkey Creek

KEG completed **subsurface exploration and analysis** for two single-span **bridge replacements along Route C in Carroll County, Missouri**, after the structures were damaged or washed out due to Spring flooding in 2019.



# > Key Services



## Civil Design & Engineering

**Applicable Work Categories: Roadway Design, Traffic Engineering & TEAP, and Structures**

KEG's civil engineers, planners, and GIS technicians bring the technical expertise and practical experience required to support the development of residential subdivisions, public building projects and expansions, commercial sites, shopping centers, and industrial parks. Our team has delivered successful civil design solutions for projects ranging from small, single-site developments to large, high-traffic, multi-use facilities.

### Services Include:

- Development Feasibility Studies
- Subdivision Platting and Zoning
- Master Development and Land Planning
- Stormwater Management, Detention and Retention Basins, and Outfall Systems
- Water Supply and Distribution Systems
- Wastewater Collection
- Site Layout, Grading, and Earthwork Design
- Cost Estimates/Value Engineering
- Local, State, and Federal Permitting
- Intersection Design Studies
- Roadway Widening and Traffic Signal Plans
- EPA Stormwater Pollution Prevention Plans
- Traffic Engineering
- NPDES Permit Applications and Programs
- Conceptual Site Plan Rendering
- Demolition Plans
- Land Title Negotiation



## Environmental & Planning

**Applicable Work Categories: Environmental, Transportation Planning**

Our environmental scientists and engineers understand the diverse federal and state policies and procedures associated with both large and small-scale assignments. Our team can shepherd any project through these cumbersome regulations to bring value to the community, improve the project's efficiency, and respect and preserve the environment.

### Services Include:

- Environmental Impact Statements (EIS)
- Environmental Assessments (EA)
- Preliminary Environmental Site Assessments (PESA)
- Categorical Exclusions (CE)
- Wetland Delineations
- Plant Ecology
- Resource Agency Permitting
- Threatened and Endangered Species Identification
- Noise Studies
- Wetland Mitigation
- Section 404/401 Permitting
- Biological Surveys and Analysis
- Floodplain Management Studies
- Air Quality Analysis
- Archeological Resource Identification
- Agriculture Impact Studies
- Historic Resource Identification and Section 106 Report
- Cultural Resource Coordination
- Open Space, Recreational, and 4(f) Studies

## > Our Philosophy & Purpose

KEG's purpose is to make the world a better place through the practice of engineering, and our partnerships with Missouri's LPAs would allow us to put that purpose into action. Together, we hope to plan and design projects that strengthen communities, support economic growth, and honor the natural environment. Our commitment to excellence and dedication to public service set us apart from other engineering firms, and we look forward to the opportunity to bring that philosophy into our work in Missouri.

