



**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**



Structures - MoDOT LPA 2026-2029

December 12, 2025
Ashley Buechter, PE
Local Program Administrator
MODOT – Local Program
105 West Capitol Avenue
P.O. Box 270
Jefferson City, Missouri 65102

Benesch is pleased to submit our letter of interest to support Missouri LPAs with structural engineering services for the 2026 to 2029 LPA On-Call program. Our structural team brings extensive experience in bridge design, load rating, hydraulics, geotechnical coordination and ancillary structure design for communities across Missouri. We understand the expectations of LPA-led, federally funded projects and have a long history helping local agencies replace aging structures, resolve site constraints, coordinate utilities and maintain community access throughout construction. Benesch is committed to serving as a reliable, responsive partner to LPAs for projects large and small throughout the state.

GENERAL EXPERIENCE OF FIRM

Bridge Design Practice Areas: Benesch provides structural engineering services for roadway, highway, pedestrian and water-crossing structures throughout Missouri and the Midwest. Our expertise includes steel plate girders, rolled beams, and precast, prestressed, post-tensioned and cast-in-place concrete systems, along with accelerated construction, structural rehabilitation and inspection. We regularly develop full structural plan sets for LPAs and understand common local challenges such as limited right of way, utilities, constrained budgets and maintaining community access. Our structure selection process evaluates cost, constructability, environmental factors and utility impacts to deliver practical, LPA-focused solutions.

Retaining Wall & Ancillary Structures: Our capabilities extend to retaining walls, sign structures and other ancillary elements that support roadway and bridge projects. We design cantilevered, MSE, gravity block, soil nail and gabion walls and provide inspection and repair services. We also incorporate lighting and aesthetic features when needed to support local community goals.

Bridge 3D Modeling: Our team develops detailed 3D models using Bentley OpenBridge, MIDAS, CSI Bridge, LARSA and RISA to support design development, interdisciplinary coordination and construction planning. These models assist in identifying conflicts early, refining girder geometry and improving communication with contractors and stakeholders. Benesch is also piloting digital design and visualization technologies that enhance accuracy and support long-term asset management for local agencies.

Load Rating Analyses: Benesch has completed more than 15,000 bridge load ratings across 43 states, including hundreds in Missouri for structures owned or maintained by local agencies. Our work covers concrete slabs, deck girders, prestressed and post-tensioned beams, steel plate girders and other complex systems using AASHTOware BrR supplemented with finite-element modeling when needed. This ensures LPAs receive accurate, defensible ratings that meet LRFR requirements and support safe posting decisions, funding eligibility and long-term asset management.

Bridge Hydraulics (1D & 2D): Benesch provides hydrologic and hydraulic evaluations to support bridge replacements and rehabilitations for local agencies. Our team performs both 1D and advanced 2D modeling to accurately represent flow conditions around embankments, levees, confluences and skewed substructures. These evaluations help LPAs understand floodplain impacts, minimize risk and achieve economical solutions that satisfy federal, state and local standards.

FAMILIARITY/CAPABILITY

Benesch has supported cities, counties and regional partners across Missouri for more than 60 years. We understand LPA needs and the importance of delivering projects that serve residents and meet federal requirements. Our team is well versed in LPA processes, documentation and funding expectations, and we bring the expertise and staffing capacity needed to deliver structural projects of any size.

ACCESSIBILITY

Our team is ready to begin work immediately. Benesch focuses on practical solutions that support schedule, budget and constructability. We prioritize clear communication and responsiveness so LPAs receive timely support throughout each project.

PAST PERFORMANCE

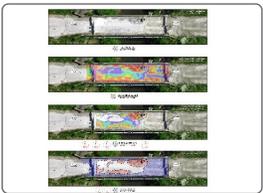
From previous Consultant Performance Evaluation Forms, the most frequent comment, regardless of project manager/liaison, compliments Benesch for meeting commitments, being responsive and for keeping our clients well informed throughout the project. Our goal is for you to consider our team an extension of your staff. **Below is a few recent projects that showcase our team's expertise.**



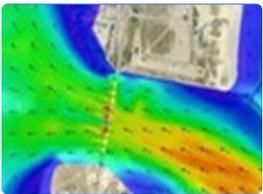
K-18 OVER I-70, KANSAS DOT: As a primary gateway from I-70 to the City of Manhattan and Fort Riley, the K-18 interchange sees thousands of daily commuters and tens of thousands of vehicles during sporting events. The existing interchange does not operate sufficiently and has seen above average accidents due to high-speed approaches and queuing onto I-70 mainline. Benesch has completed a Discovery Phase report and is currently in design to build an offset structure, reconfigure the ramps, including new continuous flow loop ramps, and additional capacity and safety enhancements along K-18. The new bridge will be a four-span NU design.



ROUTE 63 OVER BNSF RR, MISSOURI DOT: Replacement of this bridge included several critical issues, including a requirement for the roadway to remain open with only short temporary closures allowed. The structural configuration of the existing bridge precluded partial removal of the structure. An alternative alignment was the preferred option for the bridge replacement. Close coordination with BNSF allowed intermediate bents to be placed on their ROW, thus saving MoDOT approximately \$500,000 in project and ROW costs. A three-span prestressed NU girder bridge was used and provided sufficient vertical and horizontal clearances.



2016-2022 BRIDGE MANAGEMENT SERVICE, CITY OF KANSAS CITY, MO: As part of Benesch bridge inspection and asset management services, bridge decks rated at a condition state “6” or worse are scanned using thermal drone cameras. Several dozen bridges from the approximately 400 structures have been thermally surveyed. Cracks, delamination, spalls, joint deterioration, pop-outs, and overlay debonding are identified. GPS/GIS enabled software facilitates quantification and specific locating of deficiencies and are imported into Bentley for maintenance plans. Thermal deliverables have been validated using chaining and contractor quantities.



ROUTE 139 OVER GRAND RIVER, MISSOURI DOT / CHARITON COUNTY, MO: Benesch provides both 1D and 2D bridge H&H modeling using multiple software programs. One application included development of a 2D H&H model incorporating four separate bridges situated along both the Grand River main channel and overflow areas. The focus was the replacement of a 10-span bridge along Route 139 serving as the primary overflow structure for the principal channel. Railroad bridges paralleled the MoDOT structures and were integrated. USACE levees, as well as private levees built on farmland land were also modeled to evaluate alternative scenario H&H performance.



KANSAS CITY DISTRICT BRIDGE REHABS, MISSOURI DOT: An example of Benesch’s bridge repair experience is demonstrated by our involvement with the rehabilitation and redecking of 44 bridges along I-29 and I-35. Thousands of daily commuters along these routes required all repair and rehabs to accommodate traffic and maintain safety thru construction. Repair and rehab plans were prepared for steel girders, reinforced concrete, and prestressed concrete structures. All 44 bridge repair plans were developed in approximately 6 months. This involved field visits and measurements, scoping, plan development, review, and bidding. Repair details were developed for barriers, decks, approach slabs, bent caps, columns, wingwalls and joints.



BRIDGE MANAGEMENT SERVICES, CITIES OF INDEPENDENCE & GRANDVIEW, MO: Benesch provides bridge deck surveys as part of our bridge management services for dozens of LPAs in both Missouri and Kansas, including the cities of Independence and Grandview. Thermal imaging and crack detection software allows Benesch pilots and inspectors to detect and quantify deterioration not visible to the naked eye. Previous investments have validated the accuracy of the thermal imaging and crack detection procedures, which were also confirmed when bridge preventative care and rehab contracts were let and completed by contractors. Final construction quantities were within 1.5% of the original drone estimates and well within the contingency values planned by engineers.

QUALIFICATIONS OF PERSONNEL

Benesch offers a strong team of structural engineers who regularly support cities, counties and regional partners across Missouri. With 28 licensed structural engineers and staff experienced in bridge design, hydraulics, load ratings, inspection and ancillary structures, we have the depth and capacity to deliver LPA projects efficiently and on schedule. Our team understands the needs of local agencies, the requirements of federally funded projects and the importance of clear communication throughout design.



CHRIS TEPEN, PE, SE, PROJECT MANAGER: Chris brings extensive structural design and project management experience across design-bid-build, design-build, owner's engineer and construction management delivery methods. He applies practical and accelerated bridge design and construction procedures that streamline schedules and reduce costs.

☆ **Benefit:** Chris has a strong understanding of structural standards, plan development and best practices used by local agencies and DOTs, helping LPAs receive complete, accurate and efficient bridge designs.



JARROD RUSSELL, PE, ENV SP, CAMP, PROJECT MANAGER: Jarrod specializes in bridge design, inspection and asset management. His work includes prestressed and reinforced concrete and steel bridge design, hydraulic analysis and construction coordination. He has led bridge replacements, authored asset management guidance and developed tools that connect inspection data with long-term maintenance strategies.

☆ **Benefit:** Jarrod combines design and field expertise to deliver constructible, cost-efficient solutions. He is proficient in AASHTOWare BrR, LEAP Concrete and HEC-RAS and experienced with AASHTO and AREMA standards that guide LPA projects.



AARON BUETTNER, PE, CVS, PROJECT MANAGER: Aaron is a structural team leader providing project management and design for highway, railroad and pedestrian bridges, as well as civil and municipal structures. His background includes public and private projects across the country involving a wide range of materials and structure types.

☆ **Benefit:** Aaron brings strong proficiency in structural design software and load-path understanding. His value-based training supports creative, detail-oriented solutions that improve performance for LPA bridge and structure projects.



CALEB ASPINWALL, PE, BRIDGE DESIGNER: Caleb supports bridge and roadway projects through structural design, drafting and inspection. His experience includes prestressed, reinforced concrete and steel bridge design, along with hydrologic and hydraulic modeling. He has contributed to bridge replacements, retaining walls and interchange structures.

☆ **Benefit:** Caleb's technical foundation and proficiency in AutoCAD, MicroStation, HEC-RAS and LEAP Bridge support efficient plan development and accurate, constructible designs that meet AASHTO requirements for LPA projects.



CHRIS HARKER, PE, ENV SP, CAMP, QA/QC: Chris specializes in bridge design, inspection and structural analysis, with experience in prestressed and reinforced concrete and steel bridges, load ratings and hydraulic assessments. He has managed and reviewed numerous bridge projects and supports asset management by linking inspection data with maintenance needs.

☆ **Benefit:** Chris provides thorough QA and QC for structural submittals, ensuring accurate and well-coordinated plans and calculations that support LPA project delivery.



MAHMOUD ABDULWAHED, EI, BRIDGE DESIGNER: Mahmoud supports bridge and structural projects through drafting, analysis and inspection services. His work includes bridge maintenance design, construction observation and assisting with inspection and asset management programs for Topeka, Wyandotte County and Kansas City. He is proficient in AutoCAD, MicroStation, ArcGIS, Revit and RISA 3D.

☆ **Benefit:** Mahmoud provides efficient design and drafting support, delivering accurate, well-coordinated plans and maintenance recommendations that align with LPA expectations and federal standards.

Thank you! Thank you for your consideration. We appreciate the opportunity to support Missouri Local Public Agencies through this on-call program. Our team is ready to assist and committed to delivering high quality structural services. Please contact us with any questions.

Robert R. Krewson, PE
Sr. Vice President

Chris Tepen, PE, SE
Project Manager



WORKFORCE DIVERSITY

Benesch continues our commitment to identify ways to increase inclusivity and opportunity through hiring and retention programs. At Benesch we believe that promoting inclusion within our staff isn't just the smart thing to do from a business perspective—it's the right thing to do. Every person should enjoy the opportunity to come to work, add value and feel valued for their contributions.

Benesch has taken intentional steps to attract diverse candidates and create inclusive environments so employees can become embedded in the organization.

Some of those include:

- Intentional recruitment and organizational support.
- Meaningful leadership and employee training.
- Employee Resource Groups
 - Benesch Pride, for LGBTQ+ identified employees and allies
 - Benesch Cultural Alliance, for minority/culturally diverse employees
 - Benesch Strong Divers-ability, for employees impacted by disabilities
 - Women of Benesch, which connects women across the company

ROADWAY

Hundreds of highway and minor roadway miles have been designed by Benesch engineers. We routinely work with state DOTs and their FHWA counterparts to rehabilitate, modify or create new roadways and bridges that effectively connect people and places. Our transportation projects traverse farm lands, urban cities and everything in between.

We provide much more than geometric solutions, however. You can consider Benesch a one-stop shop for all civil infrastructure needs. Within our team, we have staff experts in areas such as MOT, drainage, traffic engineering, electrical engineering, surveying and geotechnical.

Quality is our top priority. We deliver plans that are quality-checked for constructability, enabling clients to use a low-bid system to their advantage. In addition, we go the extra mile to ensure minimal change orders and field issues during construction. **Our areas of expertise include:**

- Highway and Toll Roads
- Interchanges
- Utility Coordination
- Horizontal and Vertical Alignment
- Drainage
- Maintenance of Traffic
- Agency Coordination/Permitting
- Surveying
- Roundabout Design
- Traffic Signals
- Sidewalk/Trails
- Lighting Design

GRANT ASSISTANCE

For decades, our team of experts has successfully completed grant applications for a wide variety of projects with values totaling in the millions. Our expertise has helped clients stretch their budgets with creative funding strategies that combine and maximize potential available dollars. We bring you an experienced team well-versed in all facets of grant applications and ready to assist with your next project.

VALUE ENGINEERING

Value Engineering (VE) is one of Benesch's core services, and we have a rich history of project success in this area. Benesch began practicing VE in 1979. In 1989, we were the first consulting engineering firm to receive the SAVE International Excellence in Value Engineering Award, which recognized ten years of outstanding contributions to the practice of VE.

Over the last 30 years, Benesch has been able to positively impact our clients' projects by saving millions of dollars, sharpening project schedules and developing innovative ways to manage life-cycle costs, all through the application of VE principles.



TRAFFIC ENGINEERING

The Benesch team combines traffic engineering expertise with real world experience to develop innovative, practical, sustainable and cost-effective solutions. Our team is committed to staying at the forefront of the latest traffic engineering technologies. We use advanced tools like Miovision traffic cameras and sophisticated in-house simulation software such as Synchro, SimTraffic, Vissim and HCS. These tools enable us to better understand design implications and meet project needs. Benesch engineers strive to develop practical, sustainable solutions. Tackling traffic issues from the “demand side” to encourage multi-modal and environmentally friendly solutions is just as important as looking at traditional “supply side” solutions that involve physical improvements. **Our areas of expertise include:**

- ITS Management and Design
- Electrical Engineering
- Noise Studies
- Traffic Impact Studies
- Origin and Destination Studies
- New and Modernized Signal Design
- Highway Operational Analysis
- Travel Demand Modeling
- Safety Studies
- Structures
- Access Management Studies
- Gap Analysis
- Traffic Signal Coordination and Timing (SCAT)
- Signal Timings
- Intersection Analyses
- Corridor Progression Analysis
- Level of Service Analysis
- Traffic Data Collection
- Maintenance of Traffic Plans

GENERAL CIVIL & STRUCTURAL ENGINEERING SERVICES

Benesch prides itself on providing a wide array of civil engineering services, quality based engineered solutions and client satisfaction. Our expertise lies in most all areas of civil and structural engineering including geotechnical engineering, environmental assessments, sustainable design and value engineering. Our responsiveness to short term, long term and emergency needs is well known among our clients. In addition, our clients will tell you that the attention to detail in our engineering documents sets the standard for quality.

The Benesch team resume includes a variety of civil/structural studies and designs for many clients across the United States. Our experience in municipal engineering provides a solid knowledge base that will be a valuable resource. Additionally, our work with numerous small and large scale commercial developments is particularly important. Many of our projects have involved public involvement and environmental permitting efforts that required specialists within Benesch. Further, managing and improving infrastructure facilities requires knowledge not only of pertinent design standards but also sustainability. Our engineers are well versed in designs that accommodate all types of users including complying with the Americans with Disabilities Act and the pursuit of LEED certified projects.

STRUCTURAL

From road stream crossings to high-profile arch bridges, the structural team at Benesch has designed thousands of bridge structures ranging from 35 to 2,000 feet. Our engineers are proficient in the study and design of continuous complex structures, including plate girder, tied arch, segmental box girder, continuous/cantilever truss and cable stay bridges. In addition, we specialize in high order finite element analysis associated with various forms of nonlinear and buckling behavior. We are relentless in the pursuit of industry advancements, and pride ourselves on implementing innovative solutions. **Our areas of expertise include:**

- Simple, Typical and Complex Bridges
- Major River Crossings
- Railroad Bridges
- Pedestrian Bridges
- Inspections and Ratings
- Bridge Retrofit and Rehabilitation
- Retaining Walls
- Culverts
- Seismic Analysis
- Bridge Modeling
- Structural Survey
- Value Engineering

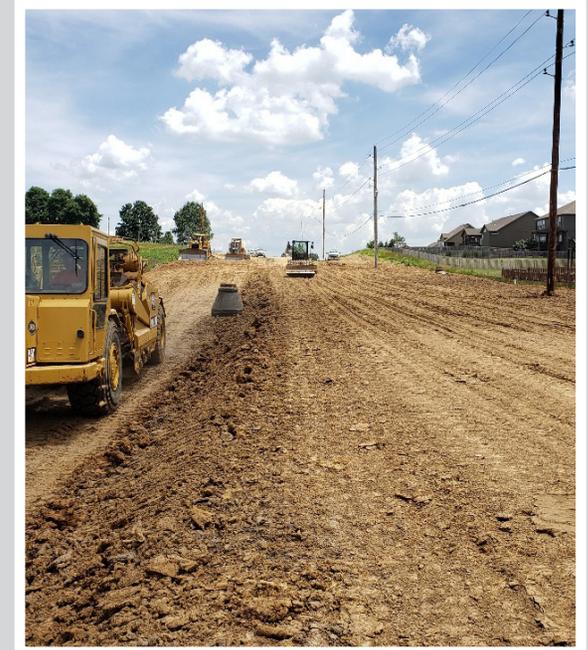
CONSTRUCTION MANAGEMENT

Benesch provides construction services for roadway, bridge, aviation, railroad and building projects. Our construction staff has years of experience overseeing contractors, coordinating subconsultants, testing materials and executing complex staging plans. We continuously monitor all phases of a project's development, from data collection and field surveys through contract documents and construction observation.

Through hundreds of DOT and LPA federal aid projects, we have the experience and background to work successfully with the FHWA, MoDOT Construction staff and Local Public Agencies. We are a full-service provider that brings a proven approach, based on efficient operations and utilizing versatile, knowledgeable, experienced staff who understand the work being performed and the construction engineering services required to satisfy project oversight requirements.

We have experts on staff who are able to provide assistance should major changes or unanticipated situations arise. Besides construction, our staff includes designers and scientists ready to provide support. Their proximity and accessibility allows for rapid response and accurate advice. This ultimately leads to successful projects, prevents surprises, and helps avoid lengthy delays. **Our areas of expertise include:**

- Construction Observation
- Design-Build
- Shoring Tower Design
- Schedule Management
- Earthwork Quantities
- Temporary Earth Retention Systems
- Cost Management
- Pavement Quantities
- Demolition Plans
- Structural Engineering
- Value Engineering



MECHANICAL / ELECTRICAL / PLUMBING

Benesch offers a full spectrum of MEP services to our clients. Professionals in our Kansas City office provide design, consulting and sustainable solutions for mechanical, electrical and plumbing systems. Our services include design drawing preparation, specifications, and cost estimates. We bring a strong foundation of industrial and commercial engineering experience, including both new construction and the renovation of existing facilities. Over the past twenty years we have completed projects in wastewater treatment plants, hospitals, schools, military facilities, vehicle maintenance buildings, telecommunication facilities, correctional institutions and various commercial buildings.

Mechanical Practice Areas:

- Heating, Ventilating and Air Conditioning Systems
- Exhaust Systems
- Chilled and Heating Water Systems
- Facility Assessment & Energy Audits
- Life Cycle Cost Analysis
- Industrial Ventilations
- Energy Recovery
- Temperature Controls
- Solar Thermal Systems
- Direct Digital Control (DDC) Systems

Electrical Practice Areas:

- Power Distribution
- System Analysis, Assessment and Planning
- Interior and Exterior Lighting Design and Controls
- Energy Code and LEED Compliance
- Fire Alarm Systems and Emergency Power Systems
- Paging, Public Address, and Sound Systems
- Uninterruptible Power Supply
- Programmable Logic Controls
- Facility System Controls and SCADA Systems

Plumbing Practice Areas:

- Facility Plumbing Systems Design
- Process Systems Piping
- Site Utilities and Yard Piping Systems
- Distribution Systems
- Storm Water Systems



STORMWATER MANAGEMENT

We develop stormwater solutions that provide value while respecting the environment. Our engineers and professional staff provide clients with a host of services including stormwater design and modeling; comprehensive planning and management services; and Low Impact Development (LID) expertise. Whether on a watershed-wide or site-specific project, Benesch has the unique ability to balance function, cost and aesthetics while ensuring compliance to all local and regulatory requirements.

Using advanced software and analytical tools, our staff combines technology with expert engineering knowledge to ensure our designs offer value-based solutions to meet our client's project needs. Whether that be for building sites or roadways and infrastructure, Benesch's team of planners, hydrologists and civil and hydraulic engineers are prepared to assist with your flooding, water quality, regulatory issues or any other stormwater need. **Our areas of expertise include:**

- AAL / BRE Analysis
- Alternatives Analysis
- CIP Development
- Closed System Modeling
- Dams
- Environmental Permitting
- FEMA Mapping
- H&H Modeling
- Levees
- Master Planning
- MS4 Water Quality
- Stormwater Management
- Stormwater Design

GEOTECHNICAL

Our geotechnical engineers, geologists, and scientists specialize in identifying solutions that mitigate construction challenges and make good business sense. Our goal is to balance initial construction capital costs and the ongoing operating costs over the life of the proposed structure or transportation system. Benesch's proactive approach to construction material design can reduce or eliminate unforeseen construction delays and overall construction costs. We promote optimum service life for the structure or transportation system once it is in operation. Benesch has the capability to service any project location.

Our materials testing laboratory is certified by the American Association of State Highway and Transportation Officials (AASHTO). Our technicians are experienced in the laboratory test procedures necessary to evaluate the pertinent engineering properties of foundation materials for design and certified in concrete, asphalt, aggregate and soils testing by NICET, ACI and several state DOTs for materials testing during construction.

ENVIRONMENTAL

At Benesch, we bring substantial local, regional and national environmental consulting experience and strategic insights to our clients. Our environmental specialists provide due diligence services; Brownfields and property development assessment; hazardous building materials consulting to include asbestos, lead based paint, IAQ; regulatory compliance; and permitting.

As complex environmental issues can have major impacts on project budgets and schedules, Benesch develops innovative and cost-effective solutions to environmental risk management challenges. We assist our clients by finding solutions that offer a balance between environmental stewardship and results-based business practices.

Our areas of expertise include:

- Compliance and Due Diligence
- Investigations and Remediations
- NEPA Services
- Natural Resources
- Facilities
- Brownfields / Hazardous Materials
- Noise Analysis
- Public Involvement
- Threatened and Endangered Species
- Wetlands