

November 15, 2013

Mary Ann Jacobs
105 W. Capitol, P.O. Box 270
Jefferson City, MO 65102

Re: LPA On-Call Professional Services—Roadway Design

Dear Selection Committee:

Bartlett & West is excited about the opportunity to provide on-call professional engineering services in the **Roadway Design** category. Bartlett & West has extensive experience in all areas of roadway design and features a roadway team conveniently located in Jefferson City. Bartlett & West also has support staff in 12 other offices throughout the Midwest including Lee's Summit, Des Moines and Topeka. We believe that Bartlett & West's experienced personnel and familiarity with all phases of roadway design, particularly with MoDOT and their Local Public Agencies (LPA's), make our team an ideal candidate for on-call projects.



Strother Road, an arterial route in Lee's Summit, was extended under I-470 with a new interchange

Roadway Design Expertise

Bartlett & West is very proud of its record of continuous on-call service to MoDOT that dates back to July 2000 when we were first selected for roadway design, conceptual studies and surveying by several districts. Our current on-call agreement was executed by MoDOT on August 19, 2011 and has been one of our most active periods of on-call service for both surveying and roadway design with activity this period in the Central, Southwest, Kansas City and Northeast Districts. We are looking forward to serving our LPA clients in the same manner.

Bartlett & West has competed and been selected for several standard projects—namely bridge replacements—for MoDOT which have given our design staff many opportunities to develop skill with MoDOT's MicroStation and GEOPAK programs. One project that represents a high standard of roadway design expertise is the Strother Road Interchange project. Strother Road was a cost share project between the City of Lee's Summit and MoDOT along I-470 in Jackson County. The Kansas City District was the review authority and the plans were designed to MoDOT's standards. The scope was for Bartlett & West to design an extension to Strother Road across I-470 to open land that had no access to the interstate. Reaching a preferred recommendation required Bartlett & West to look at several alternative designs and analyze whether to go over or under the interstate. The solution also had to answer the question of how to construct a new interchange under heavy traffic as I-470 was nearing capacity during rush hour. Bartlett & West provided alternative designs and costs and recommended Strother Road be designed under I-470. Future high traffic volumes called for multiple lanes, and therefore, the bridge design was dictated by the roadway design. To handle traffic, we designed a four-lane high-speed bypass and detoured all lanes of traffic away from the interchange area. Once the bridge stage was complete, the traffic was restored to I-470, the detour removed and the remaining ramps constructed. I-470 was also modified with auxiliary lanes running from Colbern Road to Woods Chapel which required widening the grade and extending culverts. The ramp design required right of way and the associated right of way plans. The Strother Road Interchange plans were done on time, on budget and also won an award for best urban design built in Missouri in 2010 by the Missouri-Kansas Pavement Association. The Strother Road Interchange stands today in testimony of the skill and ingenuity of Bartlett & West's roadway design team.



A roundabout and triple box culvert was used to replace two bridges and a signalized intersection in Fulton and saved over half a million dollars.

Another notable LPA roadway design project for Bartlett & West was in Callaway County on Business 54 in Fulton in 2011. The Central District was the review authority and the plans were designed to MoDOT's standards. This project was also a cost share between MoDOT and the City of Fulton. The scope called for Bartlett & West to replace two bridges, one for MoDOT on Business 54 and a city bridge on 2nd Street, both of which crossed the same stream and ended near the intersection. Bartlett & West evaluated multiple options for the replacement of the structures and different intersection types. Our hydraulics team studied the stream and determined that a 3-cell box culvert would suffice and could be located to replace both bridges and a signalized intersection using a roundabout over the box culvert. This innovative solution saved the city over half a million dollars (30%) in construction expense as compared to all other alternatives. Bartlett & West also participated in public hearings and provided videos to concerned citizens who became more informed and, therefore, more accepting of the first roundabout in their city. The project was well received by the public and also won an award for roadway design in 2011.

Full Design Services

Another Bartlett & West advantage is that we offer the full range of design services that an on-call roadway project needs. We can handle a project from initial development of mapping, through design, and into construction observation and administration. We generally begin a project by collecting field survey, utilizing our licensed surveyor **Dustin Kaiser, PLS**. Dustin employs the latest surveying technology to efficiently gather our mapping data including a robotic total station and a GPS unit tied to MoDOT's RTK

network. This technology allows him to efficiently and accurately gather data that will become the basis of our design. Bartlett & West also owns static and mobile terrestrial LiDAR units that can be utilized to quickly gather data on a complex project in an urban environment.

Once mapping is complete our design team begins laying out the project. Our design staff is accustomed to working on both MoDOT and LPA projects. Through this experience we are familiar with working through the preliminary and right-of-way plan processes before developing final construction drawings. During this design process, Bartlett & West works closely with the client through meetings and phone calls to ensure that we understand the client's needs and goals for the project. In addition to general sidewalk and trail design, Bartlett & West also offers structural design staff specializing in bridge design, and we have designed several roadway bridges on past projects. For instance, we are currently working with the City of Lee's Summit on a box culvert replacement on Murray Road.

Project Team

Our location manager, **Bob Gilbert, PE**, has spent the majority of his career working with complex urban roadway projects and challenging drainage projects such as Callaway County Business 54 and projects such as the Greene County I-44 interchanges where he demonstrated keen awareness of solving a sight distance issue at the ramps when the profile was raised for vertical clearance. **Todd Kempker, PE** manages the roadway and bridge designers in our Jefferson City office and shares his significant experience on complex drainage models and structures. Bob and Todd lead the QA/QC team with their eye for detail and provide their knowledge of roadway design to help analyze options and coordinate with the client. **Austin Johnson, EI** and **Kevin Wittman, EI** are newer members to our design team. Austin works primarily on drainage design and has worked on many different LPA projects over the last two years with Bartlett & West including Murray Road in Lee's Summit and Frog Hollow in Jefferson City. **Justin Collier, PE** is trained in MoDOT's MicroStation and GEOPAK and is the lead designer on many MoDOT and LPA projects. **Tim Leaf, PE** rounds out our roadway design team. Tim is a former MoDOT bridge and roadway designer and is working on the Audrain County on-call projects which are in conceptual study stage. For each deliverable to MoDOT and the LPA, Bob and Todd will review the items to provide final approval and help ensure that our client is receiving a top quality product.

LPA Process

Our staff frequently works on both MoDOT and LPA projects administered by MoDOT. This experience of working for MoDOT directly and on their LPA projects, such as Safe Routes to School and Transportation Enhancement projects, allows Bartlett & West to be able to stay on schedule in this complex environment by knowing what submittals MoDOT requires and what their staff expects on each deliverable. We also have a familiarity with the administrative paperwork that is required to help the LPA meet MoDOT requirements and complete the project. Three of our engineers, **Bob Gilbert**, **Todd Kempker** and **Herb Bailey**, have attended the MoDOT/FHWA Basic Training for LPA Projects and are certified. Bob Gilbert also served on the statewide LPA Strategic Vision Team.

Meeting Schedules and Being Accessible

Bartlett & West is aware that on-call projects often have short schedules and require a quick turnaround on the deliverables, and we believe that fits us well as we have been consistent in getting projects under way and the capability to stay on schedule and meet project deadlines. We are also aware that the scheduled deadlines set by MoDOT for LPA projects are critical to keep the project moving along and not jeopardize funding. We make these deadlines a key priority on all of our projects.

Part of meeting schedules and keeping the project moving is being accessible and responsive to client needs. This is truly a focus for the employee-owners at Bartlett & West. We work closely with our clients to keep their projects moving toward construction and respond quickly when issues arise. For instance, we worked closely with the City of Russellville on an easement for the Safe Routes to School project that put the project schedule and entire construction in jeopardy. One property owner would not sign a very minor easement due to past issues with the City. Bartlett & West responded by working through several requests from the property owner and multiple on-site meetings, and we finally were able to obtain an easement that allowed the project to move forward and have the work in front of the school constructed prior to the start of classes. Similarly, on a Transportation Enhancement project in California, we assisted the City, who was having trouble meeting the project schedule, by taking on all the easement acquisition work and meeting with individual property owners.

Summary

At Bartlett & West, we are proud of our on-time performance when clients call. We also pride ourselves for understanding clients needs, being accessible and responsive, displaying integrity and providing proactive communication. We will provide MoDOT and their partner agencies with a quality product, on-time and on-budget.

Sincerely,



Bob Gilbert, PE
Location Manager/Vice President



Herb Bailey, PE
Project Manager

Relevant Projects



J5S0927-Business 54 & 2nd Street Bridges in Fulton

This project included replacing two deficient structures on Business 54 and 2nd Street with one multi-cell box culvert and roundabout intersection, as well as trail, park impacts, sewer upgrades. This award-winning project resulted in significant savings over conventional solutions (\$500k or 30% less) and resulted in less ongoing maintenance because of a removed signal and only one structure.

Contact

Jason Vanderfeltz, PE
District Project Manager
(now Central Office Design)
573.522.9731

Role Performed by Key Personnel

Bob Gilbert, PE Project Manager	Todd Kempker, PE Hydraulics & Bridge	Dustin Kaiser, PLS Survey Manager	Mike Nelson, PE Bridge QA/QC	Matt Backstrom Engineering Technician
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Cole County Public Works - Big Horn Drive

A redesign of the badly skewed intersection on the two-lane asphalt, ditched roadway was necessary to alleviate congestion in the area. Bartlett & West provided the complete engineering services for this project, which included State Plane Control utilizing MoDOT RTK Network, topographic and boundary surveying, traffic analysis, conceptual and final design, utility coordination, public involvement services, easement descriptions, construction staking, and bidding services.

Contact

Eric Landwehr, PE
County Engineer
573.636.3614

Role Performed by Key Personnel

Herb Bailey, PE Project Manager	Bob Gilbert, PE QA/QC	Dustin Kaiser, PLS Survey Manager	Justin Collier, PE Roadway	Todd Kempker, PE Roadway and Bridge
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J4I1650 I-470 over Strother Road in Jackson County

A cost share project with the City of Lee's Summit, MoDOT and a TDD to create plans to extend Strother Road across I-470 and create a new interchange. The project included urban street design with curb & gutter, ADA sidewalks, signing, signals and lighting. The project featured a four-lane bypass with median crossovers. The project also included auxiliary lanes north to Woods Chapel Road and south to Colbern Road Interchanges, which required widening the fills, extending the culverts and providing guardrail at the ends of the new bridges.

Contact

Allan Ludiker, PE
District Project Manager
816.607.2267

Role Performed by Key Personnel

Herb Bailey, PE Project Manager	Todd Kempker, PE Bridge QA/QC	Matt Backstrom Engineering Technician
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Cole County, Pioneer Trail Sidewalk Project

This federally funded Safe Routes To School project consists of sidewalk stretching from Business 50 to Hunters Run Road along the southeast sides of Pioneer Trail Drive and Rainbow Drive. Bartlett & West was tasked to design this stretch of sidewalk following ADA specifications, provide driveway profiles for those subject to change, and provide profile construction plans for a stretch of Rainbow Drive near Pioneer Trail Drive. The design includes new curb and gutter, and storm sewer plans as well. Bartlett & West will be submitting Section 106 and other LPA forms on behalf of the County. Bartlett & West will be assisting with Right-of-Way services by submitting right-of-way plans to MoDOT and setting up negotiators reports, deeds, right-of-way documents and payment waiver letters to comply with LPA procedures.

Contact

Eric Landwehr, PE
County Engineer
573.636.3614

Role Performed by Key Personnel

Bob Gilbert, PE Project Manager	Todd Kempker, PE Project Engineer	Kevin Wittman, EI Engineer	Austin Johnson, EI Engineer
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City of Lee's Summit - Murray Road

This project involved survey and design on a culvert replacement on Murray Road. A double 11'x10' box culvert was selected to meet all no-rise and APWA requirements. To comply with new requirements by the Corps of Engineers to have a natural bottom, the bottom of the culvert had to be constructed 12" below the channel flowline. The new roadway grade also brought the vertical alignment up to current design standards and moved the low point off of the box culvert to allow for the construction of standard inlets.

Contact

Scott Ward, PE
Staff Engineer
816.969.1849

Role Performed by Key Personnel

Herb Bailey, PE Project Manager	Bob Gilbert, PE QA/QC	Todd Kempker, PE Project Engineer	Austin Johnson Hydraulics Engineer
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Bartlett & West

PURSUING INNOVATION, DEVELOPING ENGINEERING AND TECHNOLOGY SOLUTIONS, AND STRENGTHENING OUR COMMUNITIES TOGETHER.



Our employee-owners deliver

engineering and technology solutions to a wide range of public and private clients and have since we opened our doors in 1951. How can Bartlett & West and you solve your challenges together?

With a portfolio of professional solutions—from engineering to landscape architecture, from GIS to information management, from field services to sustainable development—our people bring a total perspective to our clients' challenges.

Everyone at Bartlett & West is committed to giving our clients world-class service and work to deliver our clients' service *and* solutions. We know what our clients want. We asked them. They're looking for clear understanding of their needs. They value accessibility and responsiveness, integrity, quality and proactive communication from their professional services partners. These are values our employee-owners practice every day.

Our firm has grown steadily from a small two-person partnership in 1951 into the current multi-disciplined firm of over 350. A rich mix of professional, technical, administrative and support staff provides professional services to governmental agencies, municipalities, private industry and individual clients. Year after year, Bartlett & West is ranked among the top design firms by industry trade publication ENR (Engineering News-Record).

Our Purpose

To lead our communities to a better tomorrow.

Our Values

Earning Trust—through doing what is right even when doing so is difficult.

Delivering Quality—through pride in our work and an attitude of continuous improvement.

Serving Others—through caring for our clients, our community, and each other.

Crafting
engineering
and
technology
solutions
together

Our clients access the full range of Bartlett & West services through our fully-integrated network of offices. Through this network of resources, each office is empowered to deliver engineering and technology solutions to meet our clients' needs.

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Energy Industry

Bartlett & West professionals serve the energy industry with a deep toolbox of solutions.

- Pipeline routing and design
- Facility & site design and planning
- Topographic, property, and legal surveys
- As-built surveying and recordation
- Easement and land acquisition services
- Water intake, distribution, and storage design
- Water treatment plants and pump station design
- Waste water disposal
- Construction observation & inspection/testing
- GIS based data management
- Regulatory and permitting services
- Environmental compliance

GIS & Information Management

Our information specialists deliver a full range of spatial technology services to exacting standards.

- Geographic Information Systems (GIS) needs assessment, development & implementation
- Web hosting
- Application development
- Map, data and document integration
- Map plotting & production
- Document imaging
- Data loading and reconciliation

Landscape Architecture

Bartlett & West landscape architects enhance the built environment.

- Land use master planning
- Parks, trails & greenways
- Environmentally sensitive design
- Streetscapes and plazas
- Healing gardens & rain gardens
- Planting selection and irrigation design
- 3-D color renderings and animation
- LEED Accredited Professionals
- Public information programs
- Design charrettes & group consensus building

Mechanical, Electrical & Plumbing Design

The MEP professionals at Bartlett & West deliver a broad spectrum of building services. .

- Plumbing design: waste, vent, water compressed air piping
- HVAC design
- Lighting design: building, roadway, parking lot, landscape lighting

- Power distribution design
- Emergency power generation
- Uninterrupted power systems
- Utility power design
- LEED Accredited Professionals

Rail Services

Bartlett & West rail experts provide a wide range of services to their clients.

- Full-service engineering
- Design/Build
- Positive Train Control data/change management
- Track chart automation
- Enterprise GIS/application development
- Real estate GIS implementation
- Property acquisition
- LiDAR for design, as-builts, and clearances
- Mobile application development
- Construction management

Right-of-Way

Bartlett & West provides support to all our client sectors with sophisticated, proprietary technology and systems to manage survey permissions, easements, land acquisitions, permitting, and records management.

- GIS database of projects
- Existing right-of-way, plat and title research
- Environmental impact studies
- Easement negotiation
- Lease/option agreements negotiation
- Land purchase negotiation
- Land owner research and meetings
- Acquisition documents
- Strip maps
- Construction staking
- Project/exhibit map preparation
- Site locations
- Taxation records
- Vesting deeds
- Survey permissions

Roads & Highways

Our transportation engineers provide safety and efficiency for the motoring public.

- Corridor studies
- Road and highway design
- Interchanges and roundabouts
- Traffic signal improvements
- Stormwater management
- Bridge structural analysis and design
- Hydraulic and hydrologic modeling
- Traffic control analysis
- Right-of-way and legal descriptions
- Landscape architectural design and erosion control
- Pedestrian and bicycle path design

- Lighting
- Construction sequencing
- Public information programs

Site Planning

Our site specialists support developers, architects, businesses, and institutions in navigating planning, zoning, permitting, drainage, paving, and building considerations of a particular location.

- Land use planning
- Platting
- Zoning and permitting
- Feasibility studies
- Drainage studies
- Site plans
- Grading design
- Utilities design and coordination
- Traffic impact analysis
- Construction administration
- LEED Accredited Professionals

Stormwater Management

We work with the natural environment to reduce erosion and maintain water quality.

- Watershed studies
- Drainage design
- Hydraulic and hydrologic modeling
- Flood control
- Channel stabilization
- Environmentally sensitive solutions
- LEED Accredited Professionals

Strategic Planning

Bartlett & West planning professionals use a unique strategic planning process to help clients identify and achieve their future vision.

- Proprietary electronic planning tool
- Detailed SWOT analysis
- Success driver orientation
- Focused gap analysis
- Proven visioning process
- Fully engaged planning team
- Practical, actionable plan

Structural Engineering

Providing the necessary analysis and design to support their client's vision is the goal of our structural experts.

- Structural investigations and reports
- Commercial/industrial/educational/institutional design
- Specialty structures and historical renovations
- Concrete, steel, wood, and aluminum structures

Survey & Construction Observation

Field professionals supply their clients with critical survey data and construction observation services.

- Surveys
- Geographic Information Systems (GIS) and Global Positioning System (GPS) services
- Platting and Construction staking
- Field construction observation and coordination
- Materials testing
- Construction administration
- Utilities coordination
- Construction quality control services

Sustainable Design

Bartlett & West LEED Accredited Professionals are meeting today's needs while conserving for tomorrow.

- LEED Accredited Professionals
- Livable communities planning
- Lifecycle analysis
- Energy-efficient design
- Green infrastructure design
- Sustainability reporting
- Public information programs

Wastewater Collection & Treatment

Bartlett & West wastewater experts help communities as well as industries protect the environment and manage their water quality.

- Wastewater studies
- System planning and facilities design
- Sewers and pump stations
- Treatment plants
- Residuals management
- Regulatory compliance strategies and Permitting
- Public information programs

Water Supply, Treatment & Distribution

Bartlett & West water specialists help communities provide the basic building block of life.

- Municipal, regional, rural and wholesale systems
- Preliminary, feasibility, and design reports
- Rate analysis, studies, reports and funding application aid
- Short- and long-range system planning
- Regulatory compliance strategies and planning
- Water source—well, intake, purchase contracts
- Water treatment design and operational analysis
- System analysis, design, and modeling including piping, pump stations, controls, and storage
- Construction phase engineering services
- Federal, state and local permitting