

November 15, 2013

Mr. Kenny Voss, P.E.
Local Programs Administrator
Missouri Department of Transportation
PO Box 270
Jefferson City, MO 65102

RE: Missouri's Local Program – On-Call Services (Structures)

Mr. Voss:

HDR would like to thank you for opportunity to submit this letter of interest to provide on-call structural design services to Local Public Agencies (LPAs). HDR has a proven history of providing a high level of client service and developing practical solutions to a wide range of design challenges. HDR employee-owners work hard to build trust and rapport; this dedication has led to HDR being regarded as a trusted advisor by many of our clients.

HDR has a “Client First” focus which is highlighted by an overall strategic project approach and is founded on three key elements:

1. **Maintaining continuous communication** between the LPA staff and the project team. This is the primary objective of the Project Manager. This is beneficial to the team and provides the LPA with a constant check on progress. Any issues, critical decision points, and practical design solutions will be brought to their attention immediately. This approach keeps the LPA involved in the design development and eliminates inefficient use of time.
2. **Applying creative applications** to the design process to facilitate innovation and efficiently meet project goals. HDR will institute “lessons learned” and “successful strategies” from other similar projects.
3. **Providing an experienced local Staff that is accessible to our clients.** HDR has over eight offices throughout Missouri, which allows our engineers to be in close proximity to projects across the state. This facilitates communication and allows our engineers to attend regular project meetings and to be on site quickly to address any construction-related issues. HDR also has a fully functional video teleconferencing system that has been utilized on several recent projects to provide face to face conversations between with design staff and clients without complications. This technology allows HDR to mobilize staff from around the state/ country when necessary to deliver projects and participate in meetings with our clients without excessive expense to them and their projects.



HDR's Contract Manager for the “Structures” work category is Kevin Kriete. He is a qualified LPA consultant with over 14 years of experience in the design of federally funded LPA projects, including numerous bridge and roadway projects throughout Missouri. Kevin ensures that HDR's Project Managers are engaged and responsive to LPA project needs, and meet regularly throughout the design process to ensure that proper procedures and schedules are being followed, and that the project goals are being met.

General Experience – Structural Design

As an initial step in the LPA design process, HDR typically performs a preliminary structural analysis to determine the most cost-effective structural solution, whether it be replacement or rehabilitation. HDR design engineers have worked on the full range of structural design projects from small retaining walls, box culverts, single- and multiple-span steel/ prestressed concrete bridges to major river crossings involving complex superstructure and substructure elements. Our structural designers regularly work closely with other disciplines to provide holistic design solutions to challenging projects. Following completion of design, HDR takes great pride in developing accurate cost estimates to assist LPA's in making educated decisions as to what is the best solution to their project.

LPA projects involving the design of a new stream crossing or replacement of an existing bridge typically requires a Hydrologic & Hydraulic Analysis. HDR bridge engineers routinely work in coordination with water resources staff to complete this investigation. The analysis is conducted to clearly understand the hydraulics-related issues that will affect the location and ultimately set the required length of the new or replacement structure.

HDR regularly works with FEMA as well as the St. Louis and Kansas City Districts of the U.S. Army Corps of Engineers in addressing hydraulic issues. The typical approach to this analysis is to utilize available hydrologic data provided in the local agency's Flood Insurance Study along with site-specific information surveyed in the field to accurately model the current and proposed bridge crossings in order to determine the impacts of the new structure. The proposed bridge is designed to meet all applicable guidelines, including backwater limitations, freeboard, and overtopping criteria.

Familiarity/Capability

HDR has a sound understanding of the LPA process. The following tasks are required to implement the typical bridge project:

- **Field Surveys and Data Collection.** HDR regularly teams with well respected surveying and geotechnical firms to provide these services. These firms have typically worked with HDR on previous bridge replacement as well as other projects throughout Missouri.

HDR does have internal surveying capability if it is felt that local firms need additional support or the work is more challenging than your typical project.

- **Environmental Cultural & Historical Clearances.** The LPA process provides sound guidelines and a structured process for obtaining the required permits and necessary environmental clearances. This ensures projects have a positive effect not only on the LPA, but also on the surrounding environment and affected property owners. HDR has internal environmental and resource management staff to assist in completing the required documentation and in communicating with the appropriate regulating agencies. This guidance helps to ensure that the environmental/ cultural submittals are clear and contain all of the pertinent information, thus speeding the approval process and eliminating the possibility of costly and time-consuming resubmittals.
- **Design Phase.** HDR regularly manages the preparation and submittal of preliminary design, right-of-way, and final design contract plans and specifications.

HDR begins by reviewing existing studies and reports pertinent to the project area to look for practical solutions to limit impacts and reduce costs. Revisions to the conceptual horizontal alignment and vertical profile will be made where appropriate. A General Plan and Elevation of the proposed crossing is submitted to the LPA and MoDOT for review and acceptance prior to starting the final design.

HDR works with LPAs, utilities and adjacent property owners on a regular basis to develop right-of-way plans and descriptions that minimize the extent of permanent right-of-way takings and/ or Temporary Construction Easement (TCE) required for the project.

- **Bid and Construction Phase Services.** HDR works with the LPA in getting the contract documents to prospective bidders, addressing questions related to the contract plans, and in selecting a qualified contractor. HDR can also provide a wide range of additional technical services including shop drawing review, administrative services (project diaries, invoices, change orders), construction inspection, and material testing to help the LPA proceed smoothly throughout the construction process.

HDR has successfully followed these guidelines on numerous LPA projects.

Qualifications of Personnel

The capacity to accomplish the work in the required time requires strong leadership. HDR's project team personnel have been selected based on past success, demonstrated leadership capabilities, experience with the anticipated contract, and the ability to manage resources for a successful project. HDR has demonstrated time and again the capability to successfully complete assignments.

HDR has the local staff with the knowledge and capabilities to meet any of your structural design needs anywhere in the state. The following is list of our key structural staff:

Kevin Kriete, P.E., Contract Manager – Kevin has nearly 20 years of engineering and project management experience including an appreciable amount of locally and federally funded LPA projects. He has successfully delivered a wide range of transportation projects for local public agencies throughout Missouri. This experience ranges from roadway inspection and rehabilitation programs, to box culvert designs and large multi-million dollar bridge replacement projects. Mr. Kriete is very familiar with all aspects of the LPA process including funding, permitting design, right-of-way acquisition, as well as bidding and construction services. Kevin works closely with roadway designers, local officials, and property owners to address concerns early in a project, thus helping to ensure that the outcome is a win-win solution for all involved.

Cory Imhoff, P.E., Business Group Leader – Cory heads HDR's transportation program throughout Missouri. He provides both technical guidance and managerial oversight to ensure that all projects are completed successfully. You can rely on our Mr. Imhoff to provide you with quick and courteous responses to telephone calls and e-mails, absolute preparedness at project meetings and a can-do attitude at all times.

Greg Kuntz, P.E., Project Manager – Greg has more than 15 years of specialized expertise in the design of highway bridges. He has worked on multiple LPA projects and has full understanding of all the current LPA requirements for bridge projects. Mr. Kuntz served as lead bridge engineer for the Grand Avenue Viaduct Reconstruction project for the City of St. Louis and served as either lead bridge engineer or staff bridge engineer for several Franklin County projects including Bucklick School Road, Whiskey Creek, Sapsucker Road and Shawnee Ford bridges.

Brian Zeiger, P.E., Project Manager – Brian is a Senior Project Manager in the Bridge Section with nearly 30 years experience in inspection, design and construction for municipal and DOT clients. Currently the Project Manager for the replacement of the main Street Bridge over I-670 in Kansas City. This fast-paced project involved working with the City and State on the design and public involvement per LPA guidelines. Other project experience included project management and design tasks on projects for the City of Kansas City, MO, the Unified Government of Wyandotte County/Kansas City, KS, the City of Lee's Summit, The City of St. Joseph, MoDOT and KDOT.

Darin Splittgerber, P.E., Project Manager – Darin has more than 18 years of experience in bridge inspection and design for numerous state and local agencies. Mr. Splittgerber has worked on a variety of LPA projects, from multi-use trails to local transportation projects. Work tasks have included bridge design and detail checking, plan review, cost estimating, and specification review.

Chad Hall, P.E., Project Manager – Mr. Hall is a Project Manager and Bridge Engineer with over 15 years' experience in HDR's Bridge Section. His responsibilities include scope and contract negotiations and management of multiple projects including coordination of design and plan development. Project responsibilities for projects include project management, design and plan preparation of steel and concrete structures, including new structures, rehabilitations and widenings. He has been the deputy project manager on 2 KDOT LPA projects and served as lead bridge design engineer on multiple MoDOT LPA projects.

David Barrett, P.E., Project Manager – David has 11 years of experience in all facets of bridge design and project management. He has been involved with numerous local agency projects for clients such as Kansas City, MO; Columbia, MO; and the City of St. Louis.

Additional Local Bridge Design Staff

- Jack Evans, P.E. – 50 Years of Experience
- Kerry Moore, P.E. – 28 Years of Experience
- Matthew Wombacher, E.I. – 1 Year of Experience
- Ryan Shaw, E.I. – 1 Year of Experience
- Kevin Gribble, E.I. – 1 Year Experience

Total Structural Staff in Missouri: 12 P.E.s and 3 E.I.s

HDR understands the importance of utilizing local engineering resources where appropriate on LPA projects. This allows HDR to gain local knowledge, support the local community and develop a project team with the highest probability of producing a practical and cost-effective design. HDR has worked as both a prime and subconsultant to local firms on bridge replacement projects. HDR's role is often dependent upon the complexity of the project. Often these team members include DBE qualified firms.

Past Performance

HDR has successfully completed, or is currently working on, numerous LPA-sponsored bridge projects. The following list highlights a range of recent projects:

Project Name	Client
3-Trails Pedestrian Bridge and Trail	3-Trails Village CID
MKT Bridge Rehabilitation	Boonville, MO
Central Park (Bridge/ Retaining Walls/ Amphitheatre)	Chesterfield, MO
Whiskey Creek Road / Sapsucker Road Bridge Replacement	Franklin County, MO
Bucklick School Road Bridge Replacement	Franklin County, MO
Shawnee Ford Road Bridge Replacement	Franklin County, MO
Water Service Department Railroad Bridge Inspection, BNSF Spur Track	Kansas City, MO
2008 Biennial Bridge Inspection	Kansas City, MO
23 rd Street Viaduct Rehabilitation	Kansas City, MO
Rehabilitation of James St. Bridge	Kansas City, MO
Chipman Road Bridge Replacement	Lee's Summit, MO
Vandeventer Bridge Replacement (Design-Build)	Metro/Millstone-Bangert.
Garfield Avenue Bridge Replacement	St. Joseph, MO
Grand Avenue Viaduct Replacement	St. Louis BPS
Tucker Blvd Reconstruction	St. Louis BPS
Wellington Avenue Bridge Replacement	St. Louis BPS
Pedestrian Bridge over BNSF	Warrenton, MO
Rock Hollow Trail Bridges	Wildwood, MO

These projects are located throughout the state and encompass a broad range of structural design experience.

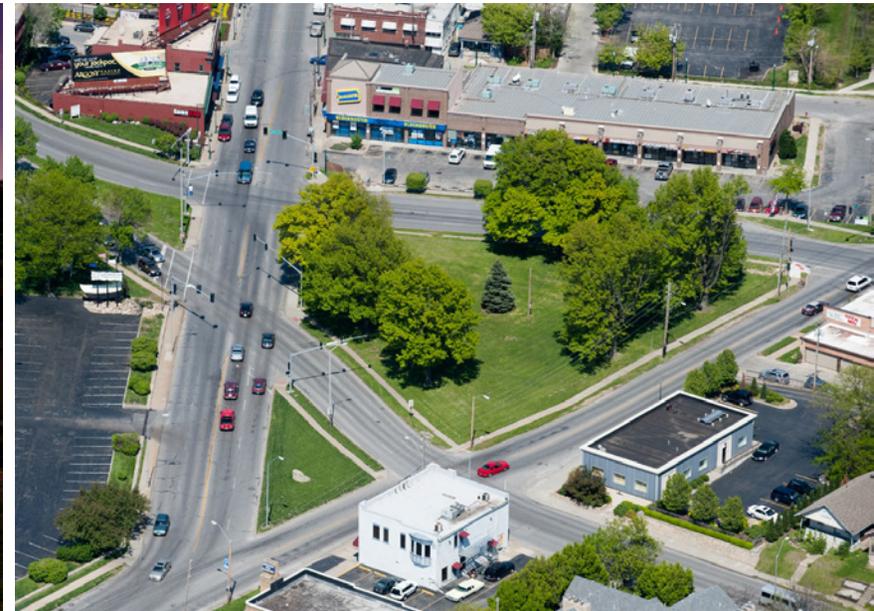
The list depicts numerous projects, large and small, many for the same agency. This is a testament to HDR's past performance. In fact, 80% of HDR's business is for repeat clients. The reference letters included with this submittal highlight some reasons why HDR has such a high percentage of repeat clients.

HDR values our client relationships and appreciates the opportunity to submit our Statement of Qualifications on this Missouri Local Program – On-Call Services (Structures) request. HDR has the expertise and availability to complete your projects within the prescribed budget and schedule. We look forward to discussing your projects in more detail.

Sincerely,
HDR ENGINEERING, Inc.



Kevin C. Kriete, P.E.
Contract Manager



KANSAS CITY | ST. LOUIS | LEE'S SUMMIT | COLUMBIA | ST. CHARLES | OSAGE BEACH | FORSYTH | SPRINGFIELD

BRIEF OVERVIEW OF LPA SERVICE CAPABILITIES

WORK CATEGORIES

- A.** Roadway Design
- B.** Trails & Sidewalks
- C.** Construction Inspection
- D.** Traffic Engineering & TEAP
- E.** Structures



HDR first opened for business in 1917 under the name of Henningson, Durham, and Richardson. Since those early beginnings, we have grown in to one of the largest and most respected architectural-engineering companies with nearly 8,000 employees worldwide.

HDR has been providing engineering, planning, architectural, and environmental services in Missouri since 1993 when our first office opened in Kansas City. Subsequently, offices opened in Overland Park, Kansas, in 1994 and St. Louis, Missouri, in 1999. In 2008, HDR acquired Archers Engineers, resulting in a base of over 200 employees statewide and additional offices in Springfield, Osage Beach, Lee's Summit, St. Charles, and Forsyth. In March of 2013 we added another office in Columbia. The employee-owners of HDR are proud to be partners with all of the transportation professionals throughout the state of Missouri and we look forward to providing solutions to future transportation challenges.



KCMO 72ND & WAUKOMIS, KANSAS CITY, MO

The Line Creek Valley area of Kansas City, Missouri, has a rich and storied history with untouched natural resources. Real estate speculators discovered the area in the early 1900s and created the town of Miltonwood in 1922.

The NW 72nd Street extension followed the “Barry to Parkville Road,” which as its name mentions, connected the Barry settlement at the County Line to the river settlement in Parkville.

The City of Kansas City desired to improve the safety of the road and reduce traffic congestion resulting from continued development. The design team led by HDR provided the design which included nearly two miles of arterial street improvement, a sustainable roundabout, a mile of 36-inch water transmission main serving KCI Airport, and a detailed construction phasing plan to minimize construction cost overruns and traveler heartburn. This project won the Kansas City, Missouri 2013 American Public Works Association Project of the Year Award. **[01] A, D**

TUCKER BOULEVARD, ST. LOUIS, MO

Tucker Boulevard was planned as one of the “Image Streets” for downtown St. Louis, Missouri, defining the western edge of the central business district. HDR was hired to transform this important, yet dilapidated, roadway into a pedestrian-oriented streetscape. Plans call for installing curb bumpouts, decorative paving, sidewalks, rain gardens, tree planting, gateway monuments, medians, street and pedestrian lighting, and traffic signalization. The resulting streetscape is a pleasant and safe environment for pedestrians. Aesthetic and effective stormwater management was a key part of this project. Roadway bumpouts include micro rain gardens filled with native plants that clean and infiltrate the “first flush” of stormwater events. Larger rain gardens at the northern end of the project provide more capacity for larger rain events. The project involved the elimination of an existing subway tunnel and rehabilitation of a 72-inch-diameter brick, horseshoe-shaped sanitary sewer. The rehabilitation involved grouting the corners of the horseshoe conduit and installing a round 72-inch-diameter CIPP liner. **[02] A, B, C, D, E**

GRAND AVENUE VIADUCT REPLACEMENT, ST. LOUIS, MO

HDR served as the lead designer for the detailed analysis of an existing 1,200-foot-long Grand Avenue Viaduct over Mill Creek Valley to determine the most cost-effective solution to rehabilitate or replace and seismically upgrade existing bridge components to meet current design criteria. Full replacement was warranted to meet current design standards and the post-seismic event level of service desired by the City. The current viaduct was split into two single-span pre-stressed concrete I-girder bridges (63') and a three-span (175'-220'-175') variable depth steel plate girder bridge supported on cast-in-place concrete substructure units founded on both steel H-piling and large diameter drilled shafts. The proposed structure accommodates separate bus turnout lanes, bike lanes, increased sidewalk widths, decorative fencing, lighting, landscaped barriers and medians, and decorative towers and pedestrian overlooks. The bridge approaches are constructed of standard MSE walls utilizing geopier foundation improvement techniques and lightweight EPS geofoam protected by precast fascia panels to limit excessive settlements. **[03] A, B, C, D, E**

CHESTERFIELD CENTRAL PARK, CHESTERFIELD, MO

Central Park is a 38-acre passive park site surrounded by an existing YMCA, County Library and a mixture of proposed office/residential developments. HDR was hired to create a \$16 million park that physically connects various land uses, provides recreational opportunities to diverse user groups and demonstrates how stormwater management can be developed as a functional amenity. A proposed roadway with streetscape elements was designed to interface with the adjacent office/retail development, providing a formal edge to the park. A lawn area adjacent to the streetscape creates space for informal play and relaxation.

HDR worked with the adjacent property owner to encourage the development of retail and residential space that will interact with the park. Additional amenities include a sculpture garden, gazebo bridge, picnic pavilions, and a 2,000-seat amphitheater that overlooks a flood-control lake. Shared-use of adjacent parking decks will serve the amphitheater, preserving valuable open space. The park includes a variety of trails, including a stream walk which meanders between two re-circulating water channels through an old-growth forest with native understory planting. **[04] A, B, C, E**





NORTH PROVIDENCE PEDWAY, COLUMBIA, MO

HDR provided engineering services for the preliminary plans, and final design for the Providence Pedway project in Columbia, Missouri, from Business Loop 70 to Vandiver Drive along Providence Road. This project consisted of new pedway/sidewalk improvements, traffic signal modifications, retaining walls, intersection geometry improvements, traffic control plans, and pavement widening. HDR modified an existing sidewalk from 4 feet to 8 feet within existing right-of-way along Providence Road. Pedestrian crossings were improved for mobility and sight distance by providing a better angle of crossing and enhancing the pavement marking and signing. **[01] B, D, E**

BIKE KC PLAN, KANSAS CITY, MO

HDR provided technical support to KCMO staff in the creation of the Bike KC plan. HDR conducted engineering analyses, developed an automated facility type selection process, developed facility recommendation maps, and created typical section drawings. HDR's products included a memo summarizing the current state of the practice regarding bicycle facility types – features, pros/cons, experimental status, selection/implementation criteria, etc. – and recommending the facility types to be considered moving forward. HDR identified gaps in the City's existing databases – items such as paved width, median presence, parking presence, curb presence, and traffic counts – and developed a data-collection plan to fill those gaps. HDR worked with the City to determine level of service (LOS) standards by facility type, and developed a unique selection flowchart underlying an Excel/GIS-based facility selection process. The final product is a decision-support tool that allows the City to identify and prioritize facilities going forward, including scenario testing. **[02] B, D**

WESTPORT TRAFFIC STUDY, KANSAS CITY, MO

HDR analyzed potential improvements to the intersection complex at Westport Road, Southwest Trafficway, and 43rd Street. This intersection complex serves multiple functions: a major north-south commute route to downtown, a western gateway to the historic Westport area and its merchants, and access to St. Luke's Hospital, among other things. The study took a larger-picture view of traffic circulation and needs in the surrounding historical Westport area that is an important part of the City. The intersection has been

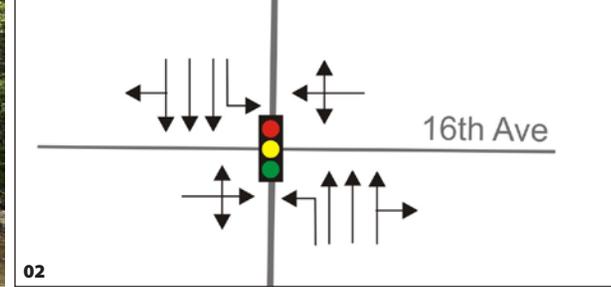
studied before, and HDR developed and implemented a thorough stakeholder involvement program to build on the work that has been done. This program included numerous personal meetings with local business owners, neighborhood representatives, hospital staff, school staff, emergency services personnel, and other community leaders. These meetings allowed a very refined view of the multitude of issues in the immediate area, including walkability/bikeability, parking, safety, congestion, the need for a gateway, the desire to preserve green space but also private right-of-way, historical considerations, and many others. HDR built a complex multi-modal simulation model of the intersections to analyze operations and also to present alternatives visually to stakeholders. Alternatives developed included roundabouts, traffic circles, grade-separations, and several unconventional layouts (including an at-grade layout based on DDI principles). **[03] D**

ROCK HOLLOW TRAIL, WILDWOOD, MO

HDR designed two parallel trails for the City of Wildwood. One of the alignments is a multi-use asphalt paved trail and the other is designed for equestrian and mountain biking use.

Since the basic alignment of the trails had previously been established, HDR identified key issues within the project limits that would be crucial to the overall construction plan development, including ensuring provisions for opportunities of river viewing and/or access, providing opportunities to enhance or encourage wetland, historical, interpretive, or viewing areas, locating logical trailheads that combine existing and/or future uses, recognizing opportunities for aesthetic features of proposed pedestrian bridge crossings to complement the surroundings, working within the context of the overall Meramec Greenway Trail System.

The design process included an initial data collection phase, gathering of stakeholder input, development of construction plan documents including plans, specifications and engineer's opinion of probable construction cost, and an overall project manual. HDR coordinated with a number of stakeholders, including The Great Rivers Greenway District, MoDNR, St. Louis County's Municipal Park Grant Commission and the U.S. Army Corps of Engineers. HDR also assisted the City of Wildwood during the letting and construction phases. These services included facilitating pre-bid, pre-construction and contractor progress meetings, reviewing and responding to shop drawings, monitoring the contractor's schedule, coordinating material testing services, reviewing contractor's applications for payment, conducting field observation during construction and maintaining associated field reports. **[04] B, C, E**



WHISKEY CREEK AND SAPSUCKER BRIDGES, FRANKLIN COUNTY, MO

This project involved the demolition and replacement of the existing deficient Whiskey Creek Road Bridge over Whiskey Creek as well as the replacement of the Sapsucker Road Bridge over a branch of Boone Creek. The existing multi-cell box culvert and single span bridge were each replaced with single 20-foot span, three-sided precast concrete structures. The precast units are founded on cast-in-place concrete spread footings and flanked on each corner by concrete cantilevered retaining walls. LiDAR was utilized to complete the topographic survey which provided very detailed ground profile information at an expedited schedule. The project also included minimal roadway work to tie the new structure into the existing roadway alignment and involved construction oversight. Project included the full complement of construction inspection and administration services. The projects were federally funded and designed per MoDOT LPA guidelines. **[01] A, C, E**

BURLINGTON CORRIDOR STUDY, KANSAS CITY, MO

HDR provided transportation analysis for the Burlington Corridor (MO Route 9) from the Heart of America Bridge to North Oak Trafficway, including assistance with concept development, multimodal and parking analysis, and consideration of land-use alternatives. The project included a long-term look at the potential for redevelopment to transform the corridor, which serves a dual function as a major commute route and a gateway to North Kansas City. The melding of transportation and land-use considerations was at the heart of the project. **[02] D**



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