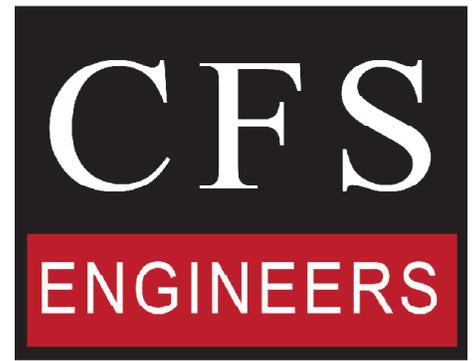


STATEMENT OF
QUALIFICATIONS



***BRIDGE
DESIGN***



CFS is a full-service civil engineering consulting firm that provides professional engineering, transportation and environmental services throughout the Midwest. Our staff of over 100 professionals offers client-focused solutions for public infrastructure, private development, structural, geotechnical and survey projects. As a medium sized firm, we maintain stability, constantly pushing for state-of-the-art solutions, while remaining focused on our core values of service and project quality. We consider it a privilege to have partnered with hundreds of communities and clients for the past half-century.

We are more than just an engineering firm. Our team includes dynamic professionals passionate about tackling challenges and generating real-world, common sense solutions. CFS integrates a broad range of services within one organization offering comprehensive approaches to clients.

DIVERSITY

Our leadership and staff proactively promotes recruitment and collaboration of diverse talent that will add to our firm's resiliency and dependability. Our hardworking attitude seeks new points of view to better serve our community, add to our range of professional capabilities, and provide comprehensive insightful planning and design services. We believe in the natural innovation that occurs by collaboration between unique educational, managerial, political, cultural, and socioeconomic backgrounds. By discovering how our differences, our experiences, and our work passions can interconnect, we bring out a stronger appreciation for all walks of life into our daily workflow. Our team is committed to equal opportunities, hiring highly qualified candidates, supporting employee efforts to contribute to our work environment, supporting employee advancement and enthusiasm to grow into management, strengthening our public engagement by supporting multiple languages, and advancing our internship and mentorship programs. .



BRIDGE DESIGN

In 1961, we started out designing bridges in Topeka, Kansas - today, CFS performs inspection, design and construction phase services for thousands of bridges throughout the Midwest. Whether it's a complex design for a separated highway or a simple pedestrian bridge or stream crossing, CFS will determine and execute the most suitable design and construction approach. We utilize the latest in structural analysis and design tools in order to achieve the safest, most efficient bridge design. In addition, CFS has provided load rating and biennial inspection services for thousands of existing bridges. We perform structural inspections on over 800 bridges each year.



HYDROLOGY & HYDRAULICS

CFS performs watershed delineation, hydrologic modeling, hydraulic modeling, floodplain mapping, and storm drain modeling. We utilize various methodologies, including HEC-1, HEC-RAS, HMS, TR-20, TR-55 and Rational. CFS analyzes open-channel drainage systems and existing natural streams for FEMA flood studies and regularly prepares and files documents of map revision.

SURVEY & LIDAR

CFS Engineers utilizes the most current technology and qualified staff to collect and manage topographic and boundary data. We offer the use of LiDAR scanning as well as traditional survey methods. Licensed land surveyors prepare all legal descriptions, including easements, rights-of-way, and exhibits. CFS survey crews provide staking services for hundreds of different projects including grading, bridges, roads, utilities, sites, and buildings. We work with the contractor to provide clear, accurate direction for construction.



ADDITIONAL PROJECT HIGHLIGHTS

SLOAN CREEK BRIDGE REPLACEMENT *Cape Girardeau, Missouri*

CFS, completed the design, plans, cost estimates and job special provisions for the superstructure replacement of Big Bend Road over Sloan Creek for the City of Cape Girardeau, Missouri. We designed a steel superstructure to replace the existing prestressed concrete double-tee superstructure. By using steel, we were able to match the existing grade while minimizing the load put on the existing substructure. Included in this project was the design of repairs to a slope failure. Construction of this project is complete.



ROUTE U & O BRIDGE REPLACEMENTS *Scott County, Missouri / MoDOT*

The project included the construction of two new bridges over waterways. The first, Route U, was designed as a 68' single span prestressed spread box beam structure to replace a deficient 95'-2" three span I-Beam structure. By shortening this structure and eliminating the intermediate bents, construction time and cost were decreased. For the second structure on Route O we designed a triple 15'x8' reinforced concrete box culvert to replace the existing 73'-8" three span concrete channel beam structure. This design maintains the existing hydraulic properties of the channel while decreasing the long term maintenance cost of the structure.

CFS was responsible for the design, plans, cost estimates and job special provisions for two structures in Southwest Missouri over local drainage ditches. CFS prepared preliminary bridge plans, hydraulic design, and final bridge PS&E.



ROUTE U



ROUTE O

One Vision. One Team. One Call.

CRENSHAW ROAD BRIDGE *Greene County, Missouri*

CFS designed a replacement structure for the aging Crenshaw Road Bridge over the Farmers Branch Creek, on the southeastern side of Springfield, Missouri, for the Greene County Public Works Department. The old bridge had originally been built in 1937 as part of the WPA project. The existing 50' structure with a central support column was replaced with a 60' free-span bridge that also included safety railing and upgrades to the approach roadway. Design included a hydrologic and hydraulic analysis using HEC-HMS and HEC-RAS modeling, stream bank stabilization evaluation and protection, and evaluation of scouring and overflow effects during roadway overtopping events (due to site restrictions, bridge could only pass a 10-year storm).



This project consisted of the design of approximately 270 feet of Crenshaw Road in Greene County, Missouri. Construction includes clearing, removal of improvements, grading, paving, erosion control, traffic control, permanent signing, and pavement marking. The project also includes design of a 63'-6" Composite Prestressed Concrete I-Girder Span Bridge. CFS Engineers provided environmental permitting services and coordinated design with Greene County and MoDOT. CFS is responsible for providing construction plans and bid documents.

STOKES ROAD BRIDGE & ROAD IMPROVEMENTS *Vernon County, Missouri*

The new Stokes Road Bridge replaces an existing low water crossing at Little Dry Wood Creek located southwest of Nevada. The previous crossing was located in the center of an erratic stream alignment, as well as the Stokes Road roadway alignment which was constructed in a tight "S" curve configuration. The previous roadway alignment at the creek precludes the use of a conventional span-type bridge structure that has the ability to handle the projected flood discharge.



CFS selected a new, straighter alignment that does in fact handle the discharge - yet lends itself to a 100' simple one-span structure. The entire roadway including the bridge is only 834' long, thus providing Vernon County with an economical roadway/bridge solution.

This project consisted of the design of approximately 830 feet of Stokes Road in Vernon County, Missouri. The previous low water crossing on Stokes Road was removed, and the roadway was realigned with a single span 99'-6" Pre-stressed Concrete I-Girder Bridge designed to cross traffic over Little Dry Wood Creek. Construction included clearing, removal of improvements, grading, paving, erosion control, traffic control, permanent signing, and pavement marking.

MAIN CITY ROAD BRIDGE *Cass County, Missouri*

CFS provided design survey, hydrology, right-of-way and easement descriptions, road and bridge design, and construction inspection for replacement of a bridge over Coldwater Creek. The bridge was located 2.0 miles south and 1.2 miles east of the intersection of Route O & Route W.

