



Rose & McCray, PC
2125 South Broadway
Grove, Oklahoma 74344

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TO: CITY OF BRANSON
PURCHASING OFFICE
110 W. MADDOX ST., SUITE 200
BRANSON, MO. 65616

RE: PROPOSAL NUMBER: 2493-25
DUE: 3:00 PM, TUESDAY
JUNE 25, 2019



ROSE & McCRARY, P.C.
ENGINEERING & LAND SURVEYING

CITY OF BRANSON

PROPOSAL

OF

PROFESSIONAL CONSULTING

ENGINEERING SERVICES

FOR

PROPOSAL NUMBER 2493-25



RoseMcCrary.com

Phone: (918) 786-6350 · Fax: (918) 786-7536 · Email: info@roseemccrary.com

2125 S. Broadway, Grove, OK 74344



City of Branson
Purchasing Office
110 W. Maddux St., Suite 200
Branson, MO 65616

PROPOSAL NUMBER 2493-25

Why Should You Hire Us?

You should hire us because we know water and wastewater utility design. The Rose & McCrary team have a combined 100 years of experience in municipal engineering work, including water and wastewater utility design! In addition, we can include needed specialized sub-consultants to supplement what we do not have on staff. The professionals listed for this project will be the people on the ground throughout the project design, bidding and construction administration.

During this proposal process we have researched and studied the unique design challenges for the City of Branson project and know that we have the design professionals on our team to address these challenges head-on and will solve them for a successful project for the City of Branson.

Lastly, we have history of developing a positive and collegial relationship with the other clients and their engineering staff. We look forward to developing that relationship with the City of Branson staff members.

What does that mean to you? It means decades of combined municipal design experience; it means we've seen most of what is out there (general contractors); it means we do this on a regular basis; it means we are focused on you; it means we are on-site when needed. We are a smaller firm with a solution-oriented team that stands by our work 100%.

If we can be of service, please contact us as listed below.



Timothy S. McCrary, P.E.,
President
tmccrary@rosemccrary.com

RoseMcCrary.com

Phone: (918) 786-6350 • Fax: (918) 786-7536

Email: info@rosemccrary.com • 2125 S. Broadway, Grove, OK 74344

"Work hard and cheerfully at whatever you do, as though you were working for the Lord rather than for people." Colossians 3:23

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1. INTRODUCTION AND STATEMENT OF INTEREST

The qualifications of our team, the quality of this Proposal and the attached Statement of Qualifications (SOQ), and the final products created, demonstrate that we offer the best and the leading people for the City of Branson to succeed at these projects.

As graduates of Missouri schools (Neosho High and the Missouri University of Science and Technology), and former Missouri residents, **it is our distinct privilege to submit this Statement of Qualifications** to the City of Branson to demonstrate our sincere interest in working with and for a community of Northeast Oklahoma. We take a personal interest in the success of this region and therefore in the success of the projects undertaken in it. Rose & McCrary's first and foremost interest is the success of our clients; we accomplish that by finding and meeting the needs and interests of our clients.

We propose to bring a leading civil engineering and surveying team to the City of Branson: Rose & McCrary, P.C., Engineering and Land Surveying. We strongly encourage you to review the separately bound Statement of Qualifications.

At Rose & McCrary we approach our projects through critical decision making by solving problems using a collaborative effort with our clients. We are committed to putting the needs of our clients first by being easily accessible to our clients, and by providing superior service through all project phases. Our firm's interest and expertise is based on practical, simple, and effective approaches to design.

2. THE NEEDS OF BRANSON

In this subsection we establish our understanding of the needs faced by the City of Branson with its water and wastewater lines.

During the recent past, several breaks in the LS 17 Force Main caused problems with inconsistent sewer flow and wastewater spills. The city plans to replace the force main with 12-inch DIP along a new route.

The City's water line records demonstrate the need for new water service mains in the Spring Creek neighborhood. The existing water line is inadequate to provide fire protection and proper water supply. The improvements will provide a redundant loop feed in the system.

The sewer system in the Spring Creek neighborhood provides service using a 4-inch private sewer. That pipe size is under recommended engineering and state standards and subjects the residents to maintenance issues. The city plans to upgrade the sewer network to current standards.

To meet these needs, our team of engineers and technicians, will apply its extensive knowledge and expertise, including

- over 100 years of cumulative knowledge in the planning, analysis, and design of water transmission and distribution lines and large diameter water transmission mains; sewer lines from small collection lines to large diameter trunk mains; utility crossings, utility relocation and coordination;

- planning, analysis, and design of wastewater force mains and lift stations; water treatment and wastewater treatment plants, high service pump stations and raw water pump stations; and
- extensive planning and coordination with other organizations (railroads, USACOE, etc.), including state officials (including Missouri Department of Natural Resources and the various state departments of transportation).

Our team can also provide the services of an electrical engineer, and can include the services of a geotechnical engineer, as required, both to assist in meeting the projects' requirements.

3. ROSE & MCCRARY PROJECT EXPERIENCE

3.1. Introduction

Rose & McCrary, P.C., (R&M) was founded in 2005, and is a locally owned and operated, full service professional civil engineering and surveying firm with an average professional staff experience level of over 25 years. However, this office was established in the early 1990's (under another name) by its current employees: Rick Rose, Steven McCrary, and Timothy McCrary. The mission of Rose & McCrary is to **provide high**

Grand Savings Bank Delaware Co. RWD #1 & #6
 Cherokee Nation Environmental Health & Engineering
 Bernice, OK Shangri-La LML Development, LLC
 Kansas, OK Langley, OK Jay, OK
 Grove, OK Delaware Co. Commissioners
 Grand River Abstract & Title Company Afton, OK

quality technical services with integrity, on-time, with a strong commitment to finding and meeting the needs of our clients. The pillars of Rose & McCrary are **experience, integrity, quality and value**, which we apply to every project we take on.

Rose & McCrary is a very well-respected civil engineering and land surveying company that provides the needs of its clientele in Oklahoma, Arkansas, and Missouri. At our core, we intend to provide a broad range of civil engineering and surveying services for small- to medium-scaled public and private projects.

Over the course of its 14 year history, Rose and McCrary has completed the engineering and surveying for more than 6100 projects, amounting to approximately \$100 Million in construction work.

3.2. Related Experience

Rose & McCrary's experience includes a broad range of civil and utility related projects in utility relocations, water transmission and distribution system planning and design; waste water collection system planning and design; pump and lift stations; ground and elevated tanks; water and waste water treatment plants for public, private commercial and industrial development, including, capital improvement planning, surveying, construction management, and drainage and site improvements. Rose & McCrary's expertise focuses on understanding the nuances **of infrastructure projects in northeast Oklahoma.** Clients here include the City of Grove, the City of Jay, the City of Langley, the City of Afton, the City of Fairland, ODOT, Delaware County, Ottawa

County, and many others. In addition, Rose and McCrary's expertise includes the development of large-scale infrastructure for private clients here in NE Oklahoma, including Monkey Island Development in Bernice, and Patricia Island Development in Grove.

At Rose & McCrary, we also know how to work as a team with other engineering firms, and to offer the types and scale of service needed by clients. We consider our clients to be one of our team members on any project, and take pride in our ability to work with our clients at incorporating local factors into our designs, recognizing the unique local requirements that are part of any project. This enables **our clients to have a voice in key design decisions.**

Although we are a smaller firm, our utility infrastructure experience includes **two (2) licensed professional engineers, and a senior transportation technician, with over 90 years of collective experience.** That experience provides technical knowledge and expertise, giving us tremendous familiarity with the national design standards, such as those of the Municipal Technology Branch of the USEPA, ASCE, ANSI/ISO, AWWA, and WPCF, as well as the various manufacturing institutes, such as the Ductile Iron Pipe Research Association, as well as local requirements of MoDOT and the City of Branson. Our knowledge extends to utility relocation standards of several state agencies, such as MoDOT, ODOT and TxDOT.

We are also professional land surveyors, so we are intimately familiar with surveying principles and procedures, both for topographic and construction field surveying services as well as legal land surveying concepts. In essence, our education and in-depth experience provides flexibility in the use of tools necessary to assist our clients with full analysis and development of accurate capital improvement plans, and attaining successful project completion that meet the client's scope, time, budget, and quality expectations.

We commit to continuously listening to the City of Branson, to integrate their feedback into our processes, to provide both a high quality product, and to develop a clear sense of teamwork among us, our consulting partners, and the City of Branson.

Rose & McCrary understands water and wastewater design criteria and have applied this knowledge on hundreds of projects in this region.

3.3. Examples of Rose & McCrary's Capability and Experience

On the following pages, we provide samples of the types of successfully completed projects for our clients. Included with each project is a brief description of the project scope and successes, planned or provided by Rose & McCrary. For those projects, we have provided the names of the client representative to contact about that project. **We encourage you to contact those individuals, as well as the individuals given in the Reference section at the end of this document, to gain an independent assessment of our integrity and competence, and to verify the scope of our services and the satisfaction of our clients.**

City of Langley – Raw Water Intake and Standby Generators, OK

Rose & McCrary assisted the City of Langley in the demolition, upgrade, and improvements of their Raw Water Intake pumps and in the upgrade of the site accessibility. This pump station is the

primary source of water for the City. Rose & McCrary worked closely with local and state agencies to get the project completed in a timely manner. The total cost of construction was \$353,000.

| Facilities completed include: | |
|---|--|
| Demolition of an existing raw water intake structure, removal of existing ramps and walkways, clearing and grubbing and site preparation. | Relocating and reinstalling two existing 20 hp submersible turbine pumps. Installing one new 20 hp submersible turbine pump with one new variable frequency drive. |
| Providing and installing a diesel powered standby power generator for the Langley Water Treatment Plant. | Design, construction, and installation of a new 16' x 20' floating intake dock with pivoting walkway. |



Reference: Mr. Steve Brown, Public Works Director, City of Langley, 918.782.0500
Key Personnel: Tim McCrary, P.E.

Honey Creek Booster Station Upgrade, Grove, OK

Rose & McCrary was selected by the City of Grove to develop, design, bid, and perform the construction administration for an existing pump station and addition of a fourth pump.

| Facilities completed include: | |
|--|---|
| Modification, removal and installation of above and below grade booster station piping and appurtenances. | Reorientation of existing 40 hp booster pumps and design, and installation of one new 40 hp booster pump and two new variable frequency drives. |
| Design and installation of temporary piping and electrical systems as needed to prevent interruption of service. | Design and construction of a remote pressure monitoring station in the distribution system to communicate and control booster station operations. |



Reference: Mr. Bill Keefer, City Manager, 918.786.6107 Key Personnel: Tim McCrary, P.E.

Belt Line Road Water Line and Elevated Storage Tank, Irving, TX

As part of his responsibilities prior to joining Rose & McCrary, Steven McCrary worked on several water, sewer, force main, pump station, and treatment plant projects in and around the Dallas

area. The project highlighted here was for the City of Irving, involved the development, design, bid, and construction administration of an elevated storage tank and water line.

| Facilities completed include: | |
|---|--|
| Developed the plans and specifications for an 18-inch water line. | Considered and implemented cement additives for colored concrete to replace the paint standards in place at that time. |
| Resolved a contract dispute over a low strength concrete pour in the tank's column. | Provided the construction administrative services. |
| The above ground storage tank is 2.5 MG, one of the largest in the nation with a concrete pedestal. | |



Reference: City of Irving, TX
Key Personnel: Steven McCrary, P.E.

Pickles Lift Station Upgrade, Langley Public Works Authority, OK

The Langley Public Works Authority selected Rose & McCrary to provide all engineering services, including new piping and appurtenances for the new pumps, upgrading existing pumps, design wet wells to meet current regulations, and prepare design to include an emergency generator with automatic transfer switch.

| Facilities completed include: | |
|---|---|
| This project added a new wetwell and increased the flowrate from 120 GPM to 250 GPM | Additional services included; competitive bidding services, contract administration, and construction inspection. |
| Total value of the project was around \$300,000. | |



Reference: Mr. Steve Brown, Public Works Director, City of Langley, 918.782.0500
Key Personnel: Tim McCrary, P.E.

Afton Public Works Authority, Afton, OK

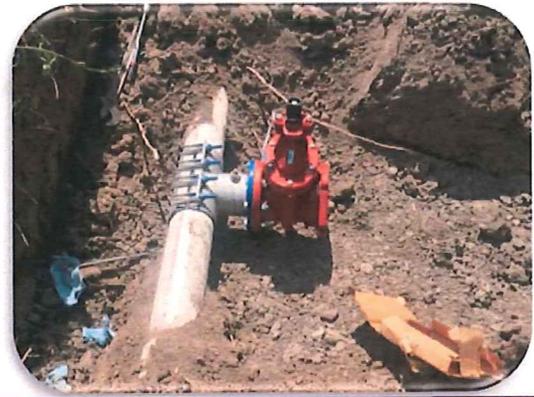
The Town of Afton selected Rose & McCrary to relocate water and sanitary sewer utilities for the replacement of Horse Creek Bridge. The services provided included: design, bidding, construction administration, and resident inspection. The utilities were relocated to avoid conflict with the new bridge location and associated construction.

Facilities completed include:

New 8" HDPE water line & appurtenances, directional bore of Horse Creek, ODEQ water sampling station.

New 15" gravity sewer and 6" force main, with road crossing, manholes, and other appurtenances.

Both the water line and the sewer line were the only service for most of Afton, therefore careful coordination and planning were needed to limit service outages.



Reference: Kaleb Mackey, Utility Operator, 918.535.2302 Key Personnel: Tim McCrary, P.E.

3.4. The Key Team Members

3.4.1. Workload

As a recent addition, our proposed Project Manager, Steven McCrary is available up to 50% of the time for City of Branson projects. The Rose & McCrary team is strongly committed to developing and maintaining schedules that meet the goals and requirements of the City of Branson. We monitor project schedule, progress, and employee use in weekly staff meetings to make sure our project managers have the resources needed to meet our client's deadlines.

In our experience, it can be difficult to quantify that a professional firm has the capacity to perform additional future work; however we feel that the best measure of that metric is to judge a firm's history. **In the complete history of our two firms R&M we invariably provide delivery of design for a project in a timely manner!** We encourage you to contact our references and ask them about our ability to complete work in a prompt and convenient manner.

3.4.2. Project Staffing

Rose & McCrary will coordinate all communications among the stakeholders, and will drive the project management. During the planning process, R&M will provide field surveying, write and draw boundary descriptions (as needed), and provide utility planning. Rose & McCrary is well known in the industry for providing high-quality design drawings. One major advantage to preparing high-quality design drawings is that it helps to alleviate problems during construction and aides in getting a more complete bid. In addition, the diverse project experience, from very large to very small, R&M will be able to tackle any portion of this project. R&M will be very proactive in providing timely communication and full-service project management. Lastly, R&M will be actively involved in the construction phase of the projects to insure that the City of Branson's interests are well represented. .

R&M experience includes the ability to conduct the on-site construction inspection services, if needed.

3.4.3. Steven McCrary, Ph.D., P.E., P.L.S.

*Chief Operations Officer, Rose & McCrary, P.C.
Project Manager*

Steven McCrary has over thirty-five (35) years of experience in the field of Civil and Infrastructure Engineering, Management, and Construction, as well as Surveying. He has over six (6) years of experience working on projects in northeast Oklahoma. He will be the project manager and principal contact for the project.

Steven possesses extensive professional project management experience in the design of both private development projects and public works projects for state and local governments; from street and roadway planning and design; utility planning, relocation, and design; drainage planning, analysis, and design; pavement management, rehabilitation and design; to large commercial and industrial site design and development; to infrastructure engineering and management; and to construction administration and management.

In addition, Steven possesses excellent communication skills needed for writing reports, public speaking, and project management. Steven has extensive experience in conducting public meetings and in training sessions. His project management skills include a thorough grasp of the principles of the Project Management Institute, Primavera Training Solutions, and the FranklinCovey Leadership Training Institute.

3.4.4. Timothy S. McCrary, P.E.

President, Rose & McCrary, P.C.

Tim McCrary has twenty-six (26) years of experience in the Civil Engineering consulting field. The past twenty (20) years Tim has lived and practiced in Grove. In addition to his experience in Grove, he has assisted many municipalities, counties, and private developers with planning and designing many projects. His design experience also includes wastewater treatment and collection, water treatment and distribution, and various municipal projects.

Through his work on both public and private sector projects, Tim has gained experience providing designs that are both practical and aesthetically pleasing. With 20 years of project management experience, Tim makes certain that the best staff assignments are available to the most applicable project. He is also responsible for providing deliverables that are accurate, complete and on-time, within budget, and the services are reasonable.

3.4.5. Levi Hix, E.I.

*Rose & McCrary, P.C.
Engineer-in-Training*

Levi Hix has over four (4) years of experience in the Civil Engineering consulting field. During his time here, he worked on numerous projects from the preliminary planning stages, through design, bidding, and construction. He worked in coordination with various state and local agencies, as well as several funding programs. Additionally, he helped with construction administration, and on-site inspection, assuring proper workmanship of services provided by contractors.

Levi's training, experience, and background provide him a unique skill set beneficial to utility projects: Along with his education as a civil engineer, Levi is licensed as an Oklahoma Class A

Waterworks Operator, and an Oklahoma Class A Waterworks Lab Operator. He has experience in the design and construction of various sizes of utility projects in northeast Oklahoma. In addition, Levi grew up in rural northeast Oklahoma involved in farming and ranching.

3.5. Organizational Chart of the Team

In addition to the key personnel listed on this organization chart, Rose & McCrary has access to additional team members that bring a broad capability of civil engineering to the City of Branson. Additionally, we have used many sub-consultants to help us with other engineering specialties associated with community planning, design, and construction.

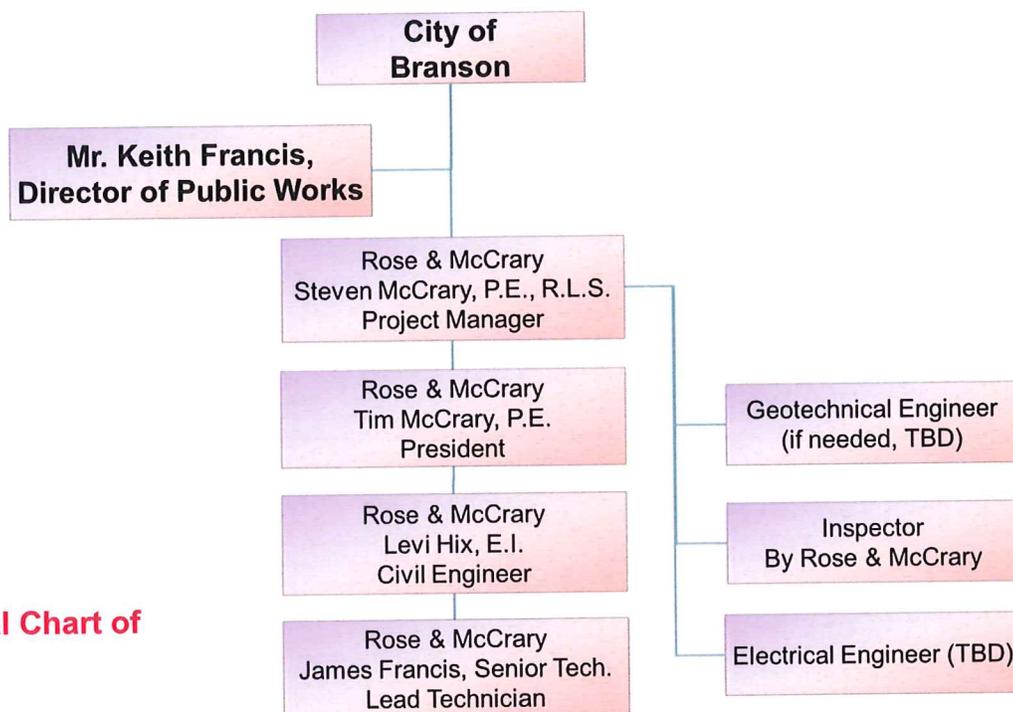


Figure 1. Organizational Chart of the R&M Team

4. PROJECT APPROACH

4.1. Project Completion

4.1.1. The Study (Planning and Preliminary Design) Phase

Good planning is the key to any successful project, and we will approach the study, planning, and preliminary process with our primary focus on the needs (schedule, time, quality, and cost) of the City of Branson and the users of its infrastructure, all the while remaining open to consider the variety of possible solutions.

A field topographic survey could be conducted early (in the study phase) or later (in the design phase). Our surveying experience includes close to 100 years conducting all types of surveying, from simple mortgage inspections, to complex aliquot surveys, to (literally) hundreds of topographic and construction surveys.

A special strength of the Rose & McCrary team is a very high level of expertise in the considerations needed for planning sewer lines, force mains, water lines, and other major utility

infrastructure projects. There will be at least three major areas where a solution is needed during the planning phase of this project. We will assist the City of Branson at reaching a solution in each of these areas by considering the relevant and viable options.

1. The route of the lines. R&M team has decades of experience routing literally hundreds of millions of dollars of small- and medium-sized water lines. R&M developed a unique computer algorithm that allows for a very economical and fast consideration of an infinite number of possible routes based upon a number of factors including project cost.
2. Considerations on the Most Economical Option. Not only is the route of a line important, but the options also need to be value engineered: for example, the type of material to be used for the pipe and its appurtenances, or the location and the types of crossings to be used. Arguably the most important component of decision making occur during the Study Phase, including the costs of these various options. Once again, the team we propose has an abundance of experience estimating small- to medium- size public works projects; this team of engineers is uniquely qualified to provide accurate opinions of cost.
3. Right-of-Way and Land Rights. R&M's abundant in-house surveying expertise allows us to meet the surveying needs of the City of Branson for these projects. R&M offers a full-range of professional land surveying services, including developing the legal documents needed to obtain easements. We are registered land surveyors in Missouri.



Figure 2. Proposed Location of LS 17 Force Main

4.1.2. The Design Phase

Successful projects are completed by creating an excellent design out of a well-conceived plan in these four ways:

4.1.2.1. Implement Preliminary Findings

The decisions made during the Study Phase of these projects will be fully evaluated in detail by coordination with a variety of individuals and organizations, including a value engineering process, discussed in-depth below. Some of those decisions may have significant detailed impacts on the project, especially the various crossings of the railroads, of a state highway, and of a major stream.

There is no other team of engineers better qualified to make constructible, value engineered project decisions necessary for the City of Branson than this team. Our team of engineers has collectively over 200 years of design for construction experience. These experiences have a very broad range of application, from urban to rural, large and small; this is the team that can deliver.

4.1.2.2. Solve Technical Issues

Many design decisions made during the study phase will be based upon national standards, for example from the Municipal Technology Branch of the USEPA, ASCE, ANSI/ISO, ASTM, AWWA, and WPCF, as well as the various manufacturing institutes, such as the Ductile Iron Pipe Research Association, as well as local requirements of MoDOT and the City of Branson. Our knowledge extends to utility relocation standards of several state agencies, such as MoDOT, ODOT and TxDOT. Other decisions will be made based upon City of Branson Standard Specifications. There are at least key technical issues to solve during the design phase:

1. Water Line Design: includes making decisions about pipe material, pipe joints, pipe thickness, coatings, and embedment details;
2. Crossings Designs: includes the design of crossing streets, highways, railroads, and major drainage paths; all requiring unique and varied details; and
3. Other details: includes details about appurtenances, air release, connections, phasing, all issues handled competently by the R&M team.

4.1.2.3. Value Engineering

Rose & McCrary's Value Engineering procedure is as follows:

1. The process of Value Engineering starts during the preparation of the Scope of Services. Rose & McCrary will work closely with the City of Branson to ensure that we have addressed all of the important issues of the project and develop a Scope of Services that addresses our client's needs. During this phase we will identify key components that need addressed.
2. During Preliminary Design Rose & McCrary will identify key components of the project and discuss them with the City of Branson staff to develop a strategy for keeping the project in budget. Upon completion of the Preliminary Design, typically around 50% design plan, Rose & McCrary may involve a contractor to provide general feedback about the design, and may seek input about representative construction costs of the current market to improve its Preliminary Opinion of Probable Construction costs.
3. During the Final Design Phase Rose & McCrary will complete the design using the concepts developed with the City of Branson during Preliminary Design. In addition, Rose & McCrary shall provide the City of Branson with timely updates, on at least a weekly basis, about the design process and any issues that may arise that materially impacts the project budget. After the completion of the Final Design Phase Rose & McCrary shall develop an opinion of probable construction cost.

Rose & McCrary has a reputation among the contracting community of producing high quality construction drawings that require minimal construction changes.

4. During the bidding process Rose & McCrary will assist the City of Branson in obtaining bids from qualified contractors. We are able to work with any type of project delivery system chosen by the City of Branson. Upon receiving bids, Rose & McCrary shall evaluate the bids to ensure that the bidders understood the scope of the work and assist the City of Branson in identifying the lowest and/or best bid.

5. During the construction process Rose & McCrary shall support the City of Branson with construction issues, answer questions of the contractor and the inspector, and provide valuable feedback on any issues that arise.

4.1.2.4. Prepare Construction Drawing and Specifications

Generally, preparation of the design drawings and specifications will follow the City of Branson's "Standard Specifications," and national standards of American Society of Civil Engineers and the American Public Works Association, among other. Still, there are careful balances needed in the management, use, and creation of technical construction documents. One such balance is between reusing specifications, thus taking advantage of economies of repetition, versus creating new specifications, thus continuing to advance and improve the products of the construction process. The R&M team has years of experience dealing with this balance, incorporating standard specifications while modifying the specifications to allow for innovative advancements. Our team is especially prepared to create documents that assist contractors to create efficient, economical, and modern products.

A second balance is between allowing the contractor freedom to economically construct a technically safe and sound product, versus ensuring that the contractor follows needed and expected quality standards. Again, our team includes several experienced engineers and technical people who can be onsite with a contractor, who understand the need to let the contractor control the means and methods of the work, but who know how to keep the contractor accountable to the quality and safety issues.

4.1.2.5. Schedule the Engineering Work

The R&M team has thousands of hours of project management experience. Steven McCrary has advanced education and experience in the management of engineering project. The size of the proposed project will demand the inclusion of different consultants and dozens of individuals, and could run on the order of 4000+ professional and technical labor-hours.

To finish the project in a timely manner, the staff of Rose & McCrary can easily deliver a project of this magnitude in a matter of months, if needed. In addition, there are other potential consultants available who work with R&M on a regular basis, who could help ensure the timely delivery of the final specifications and drawings.

4.1.3. The Construction Phase

Finally, the ultimate measure of a successful project is its final product. The R&M team is ready to assist the City of Branson during the construction of the project. Several individuals on this team, such as the professional staff at both R&M have on-site construction inspection experience.

Over the last several years, Resident Inspection for municipal projects has become increasingly critical to the overall success of a project. Our project team works with the Resident Inspector to ensure that the drawings and specifications are followed by the Contractor. However, it is important that the Contractor is an integral part of problem solving during construction. The R&M team will work with the Contractor to help minimize the impact of construction problems.

5. FIVE (5) PAST PROJECTS ON BUDGET AND ON SCHEDULE

As stated above, the ultimate measure of a successful project is its final product. In this section we present five (5) past projects as examples of how R&M meets project scheduling and cost expectations:

Jay Utility Authority (JUA), Highway 59 Gasline Utility Relocation – In conjunction with the widening of US Highway 59, the Oklahoma Department of Transportation (ODOT) directed JUA to move approximately 5 miles of their gas line. ODOT required that JUA meet a strict timeline of compliance. We assisted JUA with the design process to keep the project on-time and in budget. The project timeline was foreshortened by ODOT and the design met those expectation. The estimated cost for the project was \$1,750,000 and the actual construction cost was \$1,228,426.

Grove Municipal Services Authority (GMSA), Highway 59 Waterline & Gasline Utility Relocation – Also in conjunction with the widening of US Highway 59, the Oklahoma Department of Transportation (ODOT) directed GMSA to move approximately 1-mile of their gasline, and 1-mile of their waterline. ODOT required that GMSA meet a strict timeline of compliance. We assisted GMSA with the design process to keep the project on-time and in budget. The project timeline was foreshortened by ODOT and the design met those expectation. The estimated cost for the waterline project was \$140,000 and the actual construction cost was \$70,377. The estimated cost for the gasline project was \$750,000 and the actual construction cost was \$453,229.

Cherokee County Rural Water District #3 (RWD#3), Tahlequah, OK, Hilltop Tank – RWD#3 is experiencing significant growth due to expansion by the Cherokee Nation and other expansions in Tahlequah. To meet the increased demands, RWD#3 needed to construct a new elevated storage tank. We assisted RWD#3 with the design process and we kept the project on-time and in budget. The estimated cost for the project was \$685,000 and the actual construction cost was \$553,000.

Delaware County Commissioners, District #3, Kansas, OK, Jerry Carnes Culvert – We assisted with the design process and kept the project on-time and in budget. The estimated cost for the project was \$135,000 and the actual construction cost was \$137,193. The proposed contract time was shortened to expedite the construction time period. The cost of construction went over the budget because of an unpredictable shortening of the contract construction time allowed.

Delaware County Commissioners, District #1, Grove, OK, Whitewater Bridge Replacement – A large storm event in December of 2015 irreparable damaged the Whitewater Creek Bridge. This bridge is an important piece of the Delaware County Transportation system. We assisted Delaware County, in an emergency funding effort, to keep the design process and the project on a short time line, and within budget. The estimated cost for the project was \$917,000 and the actual construction cost was \$794,425.

6. QUALITY ASSURANCE/QUALITY CONTROL

Rose & McCrary is dedicated to provide high-quality design services to the City of Branson. That dedication starts with every employee motivated to perform high-quality work on each project. We believe that quality should be integral to a project, from beginning, through the project, until the end, when we receive that final feedback from our client. When every employee is dedicated to performing high-quality work, that effort spills over into every relationship that we have, but especially with our clients.

7. REFERENCES

City of Grove, Oklahoma

Bill Keefer, City Manager
104 West 3rd Street
Grove, OK 74344
(918) 786.6107
wmkeefer@sbcglobal.net

Town of Langley, Oklahoma

Steve Brown, Public Works Director
P.O. Box 760
Langley, Oklahoma 74350
(918) 782.0500
langleypublicworks@yahoo.com

Delaware County Board of Commissioners

David Poindexter
District #1 Commissioner
2001 Industrial 10 Rd
Grove, Oklahoma 74344
(918) 786.9774
delcoroadboss@yahoo.com

Ottawa County RWD #6

Crafton Pump Service
Duane Bryant, Owner
P.O. Box 616
Fairland, Oklahoma 74343
(918) 676.3662
craftonpump@sbcglobal.net

City of Jay

Les Newkirk
Mayor (former)
P.O. Box 348
Jay, Oklahoma 74346
(918) 253-4148

Cherokee County Rural Water District #3

Philip Hix
District Manager
18464 W. Jones Road
Talequah, Oklahoma 74464
(918) 458-3040



ROSE & McCRARY, P.C.
ENGINEERING & LAND SURVEYING

CITY OF BRANSON
STATEMENT OF QUALIFICATIONS

OF
PROFESSIONAL CONSULTING
ENGINEERING SERVICES
FOR
PROPOSAL NUMBER 2493-25



RoseMcCrary.com

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2125 S. Broadway, Grove, OK 74344

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1. SAMPLE OF ROSE & MCCRARY'S EXPERIENCE

This table shows a sample of Rose & McCrary's experience with water and waste water design and rehabilitation, pump stations, and site improvements.

| | Land Surveying, Easements and Legal Descriptions | Planning and Hydraulic Analysis | Utility Design and/or Relocations | Ground or Elevated Storage Tank | Pump Station or Lift Station | SCADA and/or Process Instrumentation | Construction Estimating and Administration | Perimeter Fencing and Gates |
|---|--|---------------------------------|-----------------------------------|---------------------------------|------------------------------|--------------------------------------|--|-----------------------------|
| OKLAHOMA | | | | | | | | |
| Monkey Island Development Authority– Monkey Island | ● | ● | ● | | ● | | ● | ● |
| Cherokee County Rural Water Dist. #3 – Hill Top 0.3 MG Water Tower | ● | ● | | ● | | | ● | ● |
| Cherokee County Rural Water Dist. #6 – Grandview 4" Water Line | ● | ● | ● | | | | ● | |
| Delaware County RWD # 1 - Water Line Design & Easements | ● | ● | ● | | | | ● | ● |
| Delaware County RWD # 9 - Water Line Design | ● | ● | ● | | | | ● | ● |
| Delaware County Rural Water Dist. #10 – Water Study | ● | ● | ● | ● | ● | ● | ● | ● |
| City of Grove, OK – Grove Regional Airport Utilities and Pump Station | ● | | ● | ● | | | | |
| GEDA, Grove, OK – NEO Commercial Addition, 6" WL & 6" SS | ● | | ● | | ● | | | |
| GEDA, Grove, OK – Water Line Addition | ● | | ● | | | | ● | |
| Grove Municipal Services Authority - 4.0 MGD WTP Expansion | ● | ● | ● | ● | ● | ● | ● | ● |
| Grove Municipal Services Auth. – US-59 6" Water & 6" Gas Lines | ● | | ● | | | | ● | |
| Grove Municipal Services Auth. – N. Cherokee St. 12" WL & 6" Gas Line | ● | ● | ● | | | | ● | |
| Grove Municipal Services Auth. – Industrial Water Line Addition | ● | | ● | | | | ● | |
| Kansas Public Works Authority - Water Line Replacement | ● | | ● | | | | ● | |
| Town of Langley – Pickles Lift Station Rehabilitation and Expansion | ● | ● | ● | ● | | ● | ● | ● |
| Ottawa County Rural Water Dist. #6 – Water Distribution Master Plan | ● | ● | | | | | ● | |

This table shows a sample of Rose & McCrary's experience with water and waste water design and rehabilitation, pump stations, and site improvements.

| | Land Surveying, Easements and Legal Descriptions | Planning and Hydraulic Analysis | Utility Design and/or Relocations | Ground or Elevated Storage Tank | Pump Station or Lift Station | SCADA and/or Process Instrumentation | Construction Estimating and Administration | Perimeter Fencing and Gates |
|--|--|---------------------------------|-----------------------------------|---------------------------------|------------------------------|--------------------------------------|--|-----------------------------|
| Ottawa County Rural Water Dist. #6 – OK-125 Waterlines (<8") | ● | ● | ● | | | | ● | |
| Ottawa County Rural Water Dist. #6 – Booster Station & 0.9MG Ground Tank | ● | ● | | ● | ● | ● | ● | ● |
| TEXAS (represents the experience of Steven McCrary before joining Rose & McCrary) | | | | | | | | |
| Brazos River Authority, TX - Raw Water Line | ● | ● | ● | | | ● | ● | ● |
| Brazos River Authority, TX – 60MGD Waste Water Treatment Plant | ● | ● | ● | ● | ● | ● | ● | ● |
| Ellis Co. Water District #1 - Grand Avenue Pump Station | ● | ● | ● | ● | | | ● | |
| Ellis Co. Water District #1 - US 287 Bypass Water Line | ● | ● | ● | | | | ● | |
| Ellis Co. Water District #1 - Water & Sewer Improvements | ● | | ● | | | | ● | |
| Ellis Co. Water District #1 - Water Treatment Plant Expansion | ● | ● | ● | ● | ● | ● | ● | ● |
| City of Irving, TX – 2.5 MG Belt Line Elevated Tank and 18" Water Line | ● | | ● | | | | ● | ● |
| City of Lewisville, TX - Whippoorwill FM & Sanitary Sewer | ● | | ● | | | | ● | ● |
| City of Plano, TX - White Rock Lift Station | ● | ● | ● | ● | | ● | ● | ● |
| City of Plano, TX - Carpenter Water Main | ● | | ● | | | | ● | |
| City of Plano, TX – W. Plano Parkway Extension | ● | | ● | | | | ● | |
| City of Plano, TX - Spring Creek Interceptor | ● | ● | ● | | | | ● | |
| City of Plano, TX - Water and Sanitary Sewer Relocation | ● | | ● | | | | ● | |
| City of Plano, TX - Spring Creek & Street B Water Main | ● | | ● | | | | ● | |
| City of Plano, TX - Dallas North Trunk Sewer Line | ● | | ● | | | | ● | |

This table shows a sample of Rose & McCrary's experience with water and waste water design and rehabilitation, pump stations, and site improvements.

| | Land Surveying, Easements and Legal Descriptions | Planning and Hydraulic Analysis | Utility Design and/or Relocations | Ground or Elevated Storage Tank | Pump Station or Lift Station | SCADA and/or Process Instrumentation | Construction Estimating and Administration | Perimeter Fencing and Gates |
|--|--|---------------------------------|-----------------------------------|---------------------------------|------------------------------|--------------------------------------|--|-----------------------------|
| Rosewood Properties – 35-acre Heavy Commercial Site Plan | ● | ● | ● | ● | ● | | ● | |
| City of Waxahachie, TX - Grove Creek Sanitary Sewer Improvements | ● | | ● | | | | ● | |
| State of Louisiana – Infrastructure Engineering and Management | | | | ● | | | | |

2. RELEVANT QUALIFICATIONS FOR ROSE & MCCRARY KEY PERSONNEL

Steven McCrary, Ph.D., P.E., P.L.S. Project Manager



Experience

35 years

Education

Doctorate of Philosophy in Engineering Management
Missouri School of Science and Technology/
(University of Missouri-Rolla), 1991

Masters of Engineering in Civil Engineering,
University of Texas at Arlington, 1988

Bachelor of Science in Civil Engineering,
University of Texas at Arlington, 1980

Professional Licenses and Certifications

Professional Engineer / State of Oklahoma #17963

Professional Land Surveyor / State of Oklahoma # 1489

Professional Affiliations

American Society of Civil Engineers

List of Relevant Projects

- Brazos River Authority, TX - Raw Water Line
- Brazos River Authority, TX - Transfer Stations
- City of Grove, OK - Patricia Island Water Line Addition
- City of Waxahachie, TX - Grove Creek Sanitary Sewer Improvements
- City of Waxahachie, TX - Sewer Replacements
- City of Dallas, TX - Cadiz Pump Station
- Ellis Co. Water District #1 - Water & Sewer Improvements
- Ellis Co. Water District #1 - Grand Avenue Pump Station
- Ellis Co. Water District #1 - Waxahachie Raw Water P.S.
- Ellis Co. Water District #1 - Northeast Elevated Tank
- Ellis Co. Water District #1 - US 287 Bypass Water Line
- Ellis Co. Water District #1 - Interceptor Sewer Extension
- Ellis Co. Water District #1 - High Service Pump Replacement
- GMSA, Grove, OK - East Sanitary Sewer
- GMSA, Grove, OK - East Ground Storage Tank
- GMSA, Grove, OK - Utility Relocations
- GMSA, Grove, OK - Quail Run Sanitary Sewer Study
- GMSA, Grove, OK - Industrial Water Line Addition
- GMSA, Grove, OK - Broadway Water and Sewer Improv'ts
- City of Irving, TX - Belt Line Tank
- City of Irving, TX - Carbon Road Pump Station
- City of Irving, TX - US 183 & Loop 12 Water Line Improvements
- City of Irving, TX - Hackberry Pump Station
- Stewart Properties - Sewer Line Study and Addition
- City of Lewisville, TX - Whippoorwill FM & Sanitary Sewer
- LML Properties - Vintage Grand Sewer Design
- Grove Devel. Auth. - NEO Sanitary Sewer Design
- Melody Point Devel. - Sanitary Sewer Improvements
- NTxMWD - Wylie Sanitary Sewer Ph. II
- NTxMWD - Upper Rowlett Lift Station
- Patricia Island Developments, Grove, Oklahoma - Water Line Addition and Sanitary Sewer Study
- City of Plano, TX - Indian Creek Sanitary Sewer Study
- City of Plano, TX - West Plano Water District
- City of Plano, TX - Spring Creek Water & Sewer Improv.
- City of Plano, TX - Rosewood Sanitary Sewer Replace't.
- City of Plano, TX - Spring Creek Interceptor
- City of Plano, TX - White Rock Lift Station
- City of Plano, TX - Inflow and Infiltration Study
- City of Plano, TX - Water and Sanitary Sewer Reloc.
- City of Plano, TX - Spring Creek & Street B Water Main
- City of Plano, TX - Carpenter Water Main
- City of Plano, TX - Caddo Park Sanitary Sewer
- City of Plano, TX - Rowlett Pump Station
- City of Plano, TX - Dallas North Trunk
- City of Plano, TX - Stadium Pump Station
- Port Duncan Properties - Water Line
- RWD#6 - Water Service Study
- RWD#10 - Water Study
- Sailboat Bridge Devel. - Water Supply Studies
- Shangri La Realty Property, Bernice, OK - Island Park Development
- Tera Miranda Devel. - Water Service Study

Tim McCrary, P.E.
President, Rose & McCrary, P.C.



Experience

27 years

Education

Bachelor of Science in Civil Engineering,
Missouri University of Science & Technology,
(University of Missouri-Rolla), 1992

Professional Licenses and Certifications

Professional Engineer / State of Oklahoma #19247

Professional Affiliations

American Society of Civil Engineers
National Society of Professional Engineers
Oklahoma Society of Professional Engineers

List of Relevant Projects

- City of Grove – City Hall Parking Lot Rehabilitation
- City of Grove – Wolf Creek Park, Phase I & III
- Grove Municipal Services Authority – Designed a 4.0 MGD expansion to the WTP
- Grove Municipal Services Authority – Designed a 0.5 MGD SBR expansion and Belt Filter Presses
- City of Grove – Downtown Drainage Improvements
- Various Entities – Pavement Design & Rehabilitation
- Grove Airport Authority – Drainage Analysis
- Monkey Island Development (Airport) Authority – Fence Design
- Designed multiple sewer line extensions for the Grove Municipal Services Authority
- Various Clients – Commercial Site Development
- Various Clients – Subdivision Design including streets & roads.
- Coordination with various funding agencies.
- Design of small concrete structures.
- Delaware County Commissioners – Designed multiple bridges and approaches.
- Prepared a multitude of cost opinions.
- Very familiar with the Oklahoma Public Bid Law.
- Various amounts of construction inspection.
- Designed multiple waterline extensions for the Grove Municipal Services Authority
- Designed dozens of sewage lift stations.

Levi Hix, E.I.
Project Engineer



Education

Bachelor of Science in Civil Engineering,
University of Arkansas, 2015

Professional Licenses and Certifications

Engineer Intern/ OK #15604
Oklahoma Class A Water Works Operator
Oklahoma Class A Water Works Laboratory Operator

Professional Affiliations

American Water Works Association

List of Relevant Projects

- Ottawa County Rural Water District No. 6
 - Hydraulic Model of Entire System
 - Booster Station & Ground Storage Tank
 - Highway 125 North – Waterline Relocation
 - Highway 125 South – Waterline Relocation
 - Highway 60 – Waterline Relocation
 - South 600 Rd – New Waterline
- Ottawa County Rural Water District No. 4
 - Highway 69-A – Waterline Relocation
- Ottawa County Rural Water District No. 2
 - Bridge 118 – Waterline Relocation
 - Windy Creek Bridge – Waterline Relocation
- Cherokee County Rural Water District No. 3
 - Hilltop Water Tower – New Elevated Water Tower
 - Moodys Water Tower – New Elevated Water Tower
 - Grandview Road – Waterline Replacement & Upsize
 - Burchett Road – Waterline Replacement & Upsize
 - Steely Hollow & 520 Road – New Waterline
 - 750 Road – Waterline Replacement & Upsize
 - North Bryant Road – New Waterline
 - Highway 82 – Waterline Replacement & Upsize
 - Lowrey Water Tower – Rehabilitation
- City of Grove/Grove Municipal Services Authority
 - North Cherokee Street – Waterline & Gas Line Replacement
 - Highway 59 – Waterline & Gas Line Relocation
- City of Afton/Afton Public Works Authority. Horse Creek Bridge – Waterline & Sanitary Sewer Relocation
- Town of West Siloam. State Line Road – New Waterline
- Town of Langley
 - Pickles Lift Station – Lift Station Rehabilitation & Expansion
 - Lift Station No. 1 – New Lift Station & Expansion
- Spinnaker Point Subdivision – WTP Rehabilitation
- City of Grove – Emergency Medical Services Addition
- City of Grove – City Hall Parking Lot Rehabilitation
- Baycrest Apartments – Site Development
- City of Grove – Wolf Creek Park, Phase III - Construction Inspection
- Shangri-La Hotel – Site Development
- Monkey Island Fire Department – Site Development
- Grove Airport Authority – Drainage Analysis
- Various Clients – Wastewater infrastructure, including lift stations, force mains, gravity collection systems, residential low pressure sewer systems
- Delaware County Commissioners – Designed multiple bridges and approaches
- Preparation of various cost opinions.
- Construction inspection – Various projects
- Field inspection of numerous Walmart/Sam's Club parking lots, shipping areas, and roadways