

Contract for Professional Architectural and Engineering Services

Project W.O. 19-01 Southside Triangle Water Line Replacement

In consideration of the mutual promises herein, City of Billings and Kadrmas, Lee & Jackson, Inc. agree as follows. This Contract consists of:

Part I, consisting of 15 Sections of Special Provisions;

Part II, consisting of 11 Sections of General Provisions;

Appendix A consisting of ___ pages (Basic Services of Contractor);

Appendix B consisting of ___ pages (Methods and Times of Payment);

Appendix C consisting of ___ pages (Additional Services of Contractor);

Appendix D consisting of ___ pages (Schedule of Professional Fees);

Appendix E consisting of ___ pages (Project Schedule);

Appendix F consisting of ___ pages (Certificate(s) of Insurance); and

PART I SPECIAL PROVISIONS

Section 1. Definitions.

In this Contract:

- A. "Administrator" means the City Engineer of the Engineering Division of the Public Works Department or his designee.
- B. "Billings" means the City of Billings.
- C. "Contractor" or "Engineer" means Kadrmas, Lee & Jackson, Inc. (dba "KLJ").

Section 2. Scope of Services.

- A. The Contractor shall perform professional services in accordance with Appendix A, which is attached hereto and incorporated in this Section by reference.
- B. Billings shall pay the Contractor in accordance with the Schedule of Professional Fees attached as Appendix D and incorporated herein by reference for services actually performed under this Contract.

- C. Billings shall not allow any claim for services other than those described in this Section. However, the Contractor may provide, at its own expense, any other services that are consistent with this Contract.
- D. The Engineer shall provide as-built drawings as approved by the City of Billings, to the Administrator within 30 days after the project completion date. Final payment will be withheld until the as-built drawings are received by the City of Billings. Requirements for submitting as constructed documents of completed Private Contracts, Work Orders, Special Improvement Districts and Site plans involving any City of Billings infrastructure: a point file; 1 (*.asc, *.txt, comma delimited; point number, northing, easting, elevation and description) / 2 (*.csv, with headings for; point number, northing, easting, elevation and description), with northings and eastings to the nearest tenth of a foot, elevations to the nearest hundredth of a foot, representing new, updated or relocated City of Billings infrastructure features such as, but not limited to Sanitary Sewer Manholes, Storm Drain Manholes, Water Valves, Water Bends, Signals, Street Light, etc., in the coordinates of Montana State Plane, Zone 2500 using NAD83(2011), Horizontal and NAVD88 Vertical, Horizontal units and Vertical units will be International feet, one half size paper copy to scale, one full size paper copy to scale, two CD's or DVD's with PDF files being half size to scale and full size to scale and AutoCAD DWG files as-constructed / as-built, Version 2016, or equivalent.
- ~~E. The Contractor shall provide certified construction payrolls to the Administrator stating in writing that the payrolls have been reviewed and are acceptable.~~

Section 3. Time for Performance.

- A. This Contract becomes effective when signed on behalf of Billings.
- B. The Contractor shall commence performance of the Work described in Section 2 on receipt of written Notice to Proceed and complete that performance in accordance with the schedule set forth in Appendix E.
- C. This Contract shall terminate at midnight on December 31, 2020.

Section 4. Compensation; Method of Payment.

- A. Each month, or at the conclusion of each phase of the Work for which payment is due, as negotiated on a per-task basis, the Contractor shall present a bill to the Administrator describing the Work for which it seeks payment and documenting expenses and fees to the satisfaction of the Administrator. If any payment is withheld because the Contractor's performance is unsatisfactory, the Administrator must, within ten (10) days of the payment denial, notify the Contractor of the payment denial and set forth, with reasonable specificity, what was unsatisfactory and why. Billings will pay Contractor within 30 days of receiving an acceptable invoice.
- B. The Contractor is not entitled to any compensation under this Contract, other than is expressly provided for in this Section.
- C. As a condition of payment, the Contractor shall have paid all City taxes currently due and owing by the Contractor.

Section 5. Termination of the Contractor's Services.

The Contractor's services under Section 2 of this Part may be terminated:

- A. By mutual consent of the parties.
- B. For the convenience of Billings, provided that Billings notifies the Contractor in writing of its intent to terminate under this paragraph at least 10 days prior to the effective date of the termination.
- C. For cause, by either party where the other party fails in any material way to perform its obligations under this Contract. Termination under this Subsection is subject to the condition that the terminating party notifies the other party of its intent to terminate, stating with reasonable specificity the grounds therefor, and the other party fails to cure the default within 30 days after receiving the notice.

Section 6. Duties Upon Termination

- A. If Billings terminates the Contractor's services for convenience, Billings shall pay the Contractor for its actual costs reasonably incurred in performing before termination and Billings shall pay for services rendered prior to termination. Payment under this Subsection shall never exceed the total compensation allowable under Section 4 of this Part. All finished and unfinished documents and materials prepared by the Contractor shall become the property of Billings.
- B. If the Contractor's services are terminated for cause, Billings shall pay the Contractor the reasonable value of the services satisfactorily rendered prior to termination, less any damages suffered by Billings because of the Contractor's failure to perform satisfactorily. The reasonable value of the services rendered shall never exceed ninety percent (90%) of the total compensation allowable under Section 4 of this Part. Any finished or unfinished documents or materials prepared by the Contractor under this Contract shall become the property of Billings at its option.
- C. If the Contractor receives payments exceeding the amount to which it is entitled under Subsections A or B of this Section, he shall remit the excess to the Administrator within 30 days of receiving notice to do so.
- D. The Contractor shall not be entitled to any compensation under this Section until the Contractor has delivered to the Administrator all documents, records, Work product, materials and equipment owned by Billings and requested by the Administrator.
- E. If the Contractor's services are terminated for whatever reason the Contractor shall not claim any compensation under this Contract, other than that allowed under this Section.
- F. If a final audit has not been performed before the Contractor's services are terminated, Billings may recover any payments for costs disallowed as a result of the final audit.
- G. Except as provided in this Section, termination of the Contractor's services under Section 5 of this Part does not affect any other right or obligation of a party under this Contract.

Section 7. Insurance.

- A. The Contractor shall maintain in good standing the insurance described in Subsection B of this Section. Before rendering any services under this Contract, the Contractor shall furnish the Administrator with proof of insurance in accordance with Subsection B of this Section.
- B. The Contractor shall provide the following insurance:
 - 1. Workers' compensation and employer's liability coverage as required by Montana law.
 - 2. Commercial general liability, including contractual and personal injury coverage's -- \$1,500,000 per occurrence.
 - 3. Commercial automobile liability -- \$1,500,000 per accident.
 - 4. Professional liability in the amount of \$1,500,000 per claim.
- C. Each policy of insurance required by this Section shall provide for no less than 30 days' advance notice to Billings prior to cancellation.
- D. Billings SHALL be listed as an additional insured on all policies except Professional Liability and Worker's Compensation Policies. In addition, all policies except Professional Liability and Worker's Compensation shall contain a waiver of subrogation against Billings.

Section 8. Assignments.

Unless otherwise allowed by this Contract or in writing by the Administrator, any assignment by the Contractor of its interest in any part of this Contract or any delegation of duties under this Contract shall be void, and an attempt by the Contractor to assign any part of its interest or delegate duties under this Contract shall give Billings the right immediately to terminate this Contract without any liability for Work performed.

Section 9. Ownership; Publication, Reproduction and Use of Material.

- A. Except as otherwise provided herein, all data, documents and materials produced by the Contractor under this Contract shall be the property of Billings, which shall retain the exclusive right to publish, disclose, distribute and otherwise use, in whole or in part, any such data, documents, or other materials. Exclusive rights shall not be attributed to portions of such materials presently in the public domain or which are not subject to copyright. Contractor shall retain rights to pre-existing proprietary property including but not limited to interactive models. The Contractor shall have the right to include photographic or artistic representations of the design and construction of the Project among the Contractor's promotional and professional materials. The Contractor's materials shall not include Billings' confidential or proprietary information regardless of whether Billings has previously advised the Contractor in writing of the specific information considered by Billings to be confidential and proprietary.
- B. Equipment purchased by the Contractor with Contract funds: See Appendix A, Section 3. Scope of Work.
- C. Should Billings elect to reuse Work products provided under this Contract for other than the original project and/or purpose, Billings will indemnify and hold harmless

the Contractor from any and all claims, demands and causes of action of any kind or character arising as a result of reusing the documents developed under this contract. Additionally, any reuse of design drawings or specifications provided under this Contract must be limited to conceptual or preliminary use for adaptation, and the original Contractor's or subcontractor's signature, professional seals and dates removed. Such reuse of drawings and specifications, which require professional seals and dates removed, will be signed, sealed, and dated by the professional who is in direct supervisory control and responsible for adaptation.

Section 10. Notices.

Any notice required pertaining to the subject matter of this Contract shall be ~~either sent via facsimile (FAX) or~~ mailed by prepaid first class registered or certified mail, return receipt requested to the following addresses:

Billings: City Engineer (Debi Meling)
City of Billings
Public Works - Engineering
2224 Montana Avenue
Billings, Montana 59101

Contractor: Kadrmas, Lee & Jackson Inc.
Attn: Carl Jackson
4585 Coleman Street
Bismarck, ND 58503

Notices are effective upon the earlier of receipt, ~~proof of good transmission (facsimiles only)~~, or 5 days after proof of proper posting.

Section 11. Contract Budget.

In connection with its performance under this Contract, the Contractor shall not make expenditures other than as provided in line items in the Contract budget.

Section 12. Force Majeure.

- A. Any failure to perform by either party due to force majeure shall not be deemed a violation or breach hereof.
- B. As used in this Contract, force majeure is an act or event of substantial magnitude, beyond the control of the delayed party, which delays the completion of this Contract, including without limitation:
 - 1. Any interruption, suspension or interference resulting solely from the act of Billings or neglect of Billings not otherwise governed by the terms of this Contract.
 - 2. Strikes or Work stoppages.
 - 3. Any interruption, suspension or interference with the project caused by acts of God, or acts of a public enemy, wars, blockades, insurrections, riots, arrests or restraints of governments and people, civil disturbances or similar occurrences.

4. Order of court, administrative agencies or governmental officers other than Billings.

Section 13. Financial Management System.

The Contractor shall establish and maintain a financial management system that:

- A. Provides accurate, current, and complete disclosure of all financial transactions relating to the Contract;
- B. Maintains separate accounts by source of funds for all revenues and expenditures and identifies the source and application of funds for the Contractor's performance under this Contract, including information pertaining to subcontracts, obligations, unobligated balances, assets, liabilities, outlays and income;
- C. Effectively controls and accounts for all municipal funds and Contract property;
- D. Compares actual expenditures with budgeted amounts and relates financial information to performance or productivity data including unit cost information where applicable;
- E. Allocates administrative costs to direct service delivery units;
- F. Minimizes the time between receipt of funds from Billings and their disbursement by the Contractor;
- G. Provides accounting records supported by source documentation; and
- H. Provides a systematic method assuring the timely and appropriate resolution of audit findings and recommendations.

Section 14. Funding Requirements.

In the event that any funding source for this Contract should impose additional requirements upon Billings for the use of those funds, the Contractor agrees to abide by those additional requirements immediately upon receipt of written notice thereof from Billings.

Section 15. Subcontracts.

The Contractor may enter into subcontracts for the purchase of goods and services necessary for the performance of this Contract, provided:

- A. Every subcontract shall be reduced to writing and contain a precise description of the services or goods to be provided and the nature of the consideration paid therefor.
- B. Every subcontract under which the Contractor delegates the provision of services shall be subject to review and approval by the Administrator before it is executed by the Contractor.
- C. Every subcontract in an amount exceeding \$1,000 shall require reasonable access to business records of the subcontractor relating to the purchase of goods or services pursuant to the subcontract.

PART II GENERAL CONTRACT PROVISIONS

Section 1. Relationship of Parties.

The Contractor shall perform its obligations hereunder as an independent Contractor of Billings. Billings may administer the Contract and monitor the Contractor's compliance with its obligations hereunder. Billings shall not supervise or direct the Contractor other than as provided in this Section.

Section 2. Nondiscrimination.

- A. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry, age, sex, or marital status or who is a "qualified individual with a disability" (as that phrase is defined in the Americans With Disabilities Act of 1990). The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, or mental or physical impairment/disability. Such action shall include, without limitation, employment, upgrading, demotion or transfer, recruitment or recruiting advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The Contractor agrees to post, in conspicuous places available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.
- B. The Contractor shall state, in all solicitations or advertisements for employees to Work on Contract jobs, that all qualified applicants will receive equal consideration for employment without regard to race, color, religion, national origin, ancestry, age, sex or marital status, or mental or physical impairment/disability.
- C. The Contractor shall comply with any and all reporting requirements that may apply to it which the City of Billings may establish by regulation.
- D. The Contractor shall include the provisions of Subsections A through C of this Section in every subcontract or purchase order under this Contract, so as to be binding upon every such subcontractor or vendor of the Contractor under this Contract.
- E. The Contractor shall comply with all applicable federal, state, and city laws concerning the prohibition of discrimination.
- F. The Contractor and subcontractor shall abide by the requirements of 41 CFR 60-300.5(a) and 41 CFR 60-741.5(a), which prohibit discrimination against qualified protected veterans and/or qualified individuals on the basis of disability, and requires affirmative action by covered prime contractors and subcontractors to employ and advance in employment qualified protected veterans and individuals with disabilities.

Section 3. Permits, Laws, and Taxes.

The Contractor shall acquire and maintain in good standing all permits, licenses and other entitlements necessary to its performance under this Contract. All actions taken by the

Contractor under this Contract shall comply with all applicable statutes, ordinances, rules and regulations. The Contractor shall pay all taxes pertaining to its performance under this Contract.

Section 4. Nonwaiver.

The failure of either party at any time to enforce a provision of this Contract shall in no way constitute a waiver of the provision, nor in any way affect the validity of this Contract or any part hereof, or the right of such party thereafter to enforce each and every provision hereof.

Section 5. Amendment.

- A. This Contract shall only be amended, modified or changed by a writing, executed by authorized representatives of the parties, with the same formality as this Contract was executed.
- B. For the purposes of any amendment modification or change to the terms and conditions of this Contract, the only authorized representatives of the parties are:

Contractor: Director or Authorized Designee
(title of position)

Billings: City Council or Authorized Designee

- C. Any attempt to amend, modify, or change this Contract by either an unauthorized representative or unauthorized means shall be void.

Section 6. Jurisdiction; Choice of Law.

Any civil action rising from this Contract shall be brought in the District Court for the Thirteenth Judicial District of the State of Montana, Billings. The law of the State of Montana shall govern the rights and obligations of the parties under this Contract.

Section 7. Severability.

Any provision of this Contract decreed invalid by a court of competent jurisdiction shall not invalidate the remaining provisions of the Contract.

Section 8. Integration.

This instrument and all appendices and amendments hereto embody the entire agreement of the parties. There are no promises, terms, conditions or obligations other than those contained herein; and this Contract shall supersede all previous communications, representations or agreements, either oral or written, between the parties hereto.

Section 9. Liability.

The Contractor shall indemnify, defend, save, and hold Billings harmless from any and all claims, causes of action, lawsuits, damages, judgments, liabilities, and litigation costs and expenses including reasonable attorneys' fees and costs, arising from any wrongful or negligent act, error or omission of the Contractor or any agent, employee or subcontractor as a result of the Contractor's or any subcontractor's performance pursuant to this Contract.

- A. The Contractor shall not indemnify, defend, save and hold Billings harmless from claims, causes of action, lawsuits, damages, judgments, liabilities, and litigation costs and expenses or attorneys' fees and costs arising from wrongful or negligent acts, error or omission solely of Billings occurring during the course of or as a result of the performance of the Contract.
- B. Where claims, lawsuits or liability, including attorneys' fees and costs arise from wrongful or negligent act of both Billings and the Contractor, the Contractor shall indemnify, defend, save, and hold Billings harmless from only that portion of claims, causes of action, lawsuits, damages, judgments, liabilities, and litigation costs and expenses including attorneys' fees and costs, which result from the Contractor's or any subcontractor's wrongful or negligent acts occurring as a result from the Contractor's performance pursuant to this Contract.

Section 10. Inspection and Retention of Records.

The Contractor shall, at any time during normal business hours and as often as Billings may deem necessary, make available to Billings, for examination, all of its records with respect to all matters covered by this Contract for a period ending three years after the date the Contractor is to complete performance in accordance with Section 2 of the Special Provisions. Upon request, and within a reasonable time, the Contractor shall submit such other information and reports relating to its activities under this Contract, to Billings, in such form and at such times as Billings may reasonably require. The Contractor shall permit Billings to audit, examine and make copies of such records, and to make audits of all invoices, materials, payrolls, records of personnel, and other data relating to all matters covered by this Contract. Billings may, at its option, permit the Contractor to submit its records to Billings in lieu of the retention requirements of this Section.

Section 11. Availability of Funds.

Payments under this Contract may require funds from future appropriations. If sufficient funds are not appropriated for payments required under this Contract, this Contract shall terminate without penalty to Billings; and Billings shall not be obligated to make payments under this Contract beyond those which have previously been appropriated.

IN WITNESS WHEREOF, the parties have executed this Contract on the date and at the place shown below.

City of Billings

Contractor

City Council or Designee

Date: _____

Name: _____

Title: _____

Date: _____

ATTEST:

IRS Tax ID # _____

City Clerk

APPROVED AS TO FORM:

Date: _____

By _____

BRENT BROOKS, City Attorney

Appendix A

Basic Services of Engineer

Section 1. Engineer's Rights and Duties.

- A. To furnish all labor, materials, equipment, supplies, and incidentals necessary to conduct and complete the Engineer's portion of the project as defined in the scope of work and to prepare and deliver to Billings all plans, specifications, bid documents, and other material as designated herein.
- B. Ascertain such information as may have a bearing on the work from local units of government, utility companies, and private organizations and shall be authorized to procure information from other authorities besides Billings, but shall keep Billings advised as to the extent of these contacts and the results thereof.
- C. Prepare and present such information as may be pertinent and necessary in order for Billings to pass critical judgment on the features of the work. The Engineer shall make changes, amendments or revisions in the detail of the work as may be required by Billings. When alternates are being considered, Billings shall have the right of selection.
- D. Engineer's work shall be in accordance with the standards of sound engineering and present City, State, and National standards and policies currently in use.
- E. Conform to the requirements of the Montana Code Annotated Title 18 "Public Contracts" and more particularly Sections 18-2-121 and 18-2-122, and all other codes of the State of Montana applicable to providing professional services including codes and standards nationally recognized.
- F. The Engineer shall certify with the submission of final plans that the plans are in conformance with applicable sections of Title 69, Chapter 4, Part 5, of the Montana Code Annotated as pertaining to existing utilities.
- G. To perform professional services in connection with the project and will serve as Billings' representative in those phases of the project to which this agreement applies.
- H. Where Federal funds are involved, the necessary provisions to meet all requirements will be complied with and documents secured and placed in the bidding documents.
- I. Submit an estimated progress schedule as to time and costs at the beginning of the work, and monthly progress reports thereafter until complete. The reports will include any problems, potential problems, and delays as foreseen by the Engineer. Reports will be submitted in a timely manner to permit prompt resolution of problems.
- J. ~~Contract administration duties will include review of contractor certified payrolls for wage rate compliance. Discrepancies in certified payrolls will be resolved with the~~

~~Contractor. A signed Engineer's Payroll Check Sheet (included in the Standard Modifications to MPWSS) will be submitted as proof of this review with one copy of each payroll.~~

- K. Name a Task Director who shall be the liaison between Billings and the Engineer. For this project the Task Director designated for the Engineer is Carl Jackson, working under the Principal-in-Charge, Kris Bakkegard.

Section 2. Billings Rights and Duties.

- A. To furnish all labor, materials, equipment, supplies, and incidentals necessary to conduct and complete Billings' portion of the project as designated in the scope of work.
- B. Name a Task Director who shall be the liaison between the Engineer and Billings. For this project, the Task Director designated is Travis Harris.

Section 3. Scope of Work.

PROJECT SUMMARY

Engineer will be responsible for survey, design, bidding and construction administration for 34 blocks of water main rehabilitation identified in the City of Billings W.O. 19-01 request for proposals. Engineer's services described below are based on survey and design commencing in March 2019 and bidding in June 2019. Construction is anticipated to begin in July/August 2019 and finish prior to June 2020 after a winter shutdown, followed by close-out phase activities.

Billings will be responsible for all tasks related to lead water service line replacement, including property owner/tenant coordination, establishing protocols for testing and chain of custody, obtaining samples and other related activities. Billings will also confirm final water main sizes for Engineer to incorporate in the design.

SERVICES TO BE PERFORMED

100 PROJECT MANAGEMENT

Engineer will provide project management necessary to complete services described below, throughout the anticipated project duration. This includes developing a project management plan, leading the team, assuring coherence with project objectives, specifying tasks and resources, tracking budgets and timelines and communicating with Billings. The project manager will handle day to day activities and coordination for all actions throughout the duration of the project. The project manager will also assure quality control procedures are on-going throughout the project. The project manager will be the liaison between external parties and the Engineer's team. The project manager will notify Billings of ongoing progress along with any concerns. If any items arise during the duration of the project that are outside this scope of work, the project manager will address them with Billings. Ultimately, the project manager is accountable for delivering a successful project.

101 Work Plan

Prepare a work plan to establish communication protocol, means to control scope of work, track schedules and budget, assign engineering team and subconsultant roles, assure quality and manage project production.

102 Kick-off Meetings and Project Schedule

Conduct an internal kick-off meeting to review work tasks and establish schedule milestones. At the kick-off meeting the approach for completing work, schedule and team responsibilities will be refined. Following the kick-off meeting, the schedule will be modified to include milestone dates for the major work items. The schedule will be reviewed and adjusted as necessary to incorporate changes in the work concept and progress to-date. Conduct an external kick-off meeting to include Billings' engineering staff to discuss the project schedule and work plan. Maintain and update the schedule prior to construction.

103 Project Coordination

Project coordination will occur throughout the project duration and include Billings staff, Engineer's staff, subconsultants, utility owners, construction contractor and other stakeholders.

104 Budget Monitoring and Progress Reports

Manage the timeline and budget. Prepare monthly invoices and progress reports according to Billings' requirements.

105 Unscheduled External Meetings

Attend unscheduled external meetings with Billings or other stakeholders. Provide meeting documentation upon request. Twenty (20) unscheduled meetings are included throughout the project duration.

200 PUBLIC INVOLVEMENT

Billings will coordinate with news media as needed, develop a landowner mailing list, arrange and facilitate all public meetings, coordinate with City Council and provide all inter-department coordination as needed.

201 Miscellaneous Landowner Coordination Meetings

Upon request by Billings, meet with individual landowners to discuss proposed improvements or coordination matters. Engineer will provide preliminary drawings to assist with the discussion as needed. A record of conversation will be completed for each meeting. Ten (10) individual landowner meetings are included in Engineer's fee.

202 Public Informational Meeting

Attend one public informational meeting following bidding, prior to construction. Provide exhibits consisting of construction drawings and a plan view depicting the overall project areas. Assist Billings and its construction contractor with facilitating the meeting.

203 Communications

Using the mailing list provided, prepare up to two (2) form letters that will be sent in bulk to property owners with project information and meeting notifications. During construction, provide weekly status reports with upcoming schedules for Billings' website updates.

300 DESIGN ENGINEERING

Design engineering encompasses preliminary tasks such as data collection, investigation and analysis necessary to secure input from Billings' engineering staff and concurrence on the project direction. This phase also includes preliminary design and generating draft construction drawings and specifications. Given the time-sensitive nature of awarding the construction contract before July 2019, several tasks will be completed concurrently. Engineer and Billings will collaborate to streamline decision-making and reduce design iterations and formal submittals.

301 Topographic Survey and Base Mapping

Design survey will include aerial data gathering using unmanned aerial vehicle (UAV) to collect surface data; utilities will be surveyed using conventional methods. Conventional survey to include water appurtenances, storm and sanitary sewer inlets and manholes, measured downs for any pipes which may cross the anticipated water main alignments, as well as any marked private utilities.

Survey is intended to be an unconventional streamlined approach to save time and reduce fees. Particularly, if March weather conditions prohibit UAV data collection and require conventional surveying, this change in scope will be addressed as Additional Services. Right-of-way and other legal surveys are not included; Engineer's base map will show approximate lot line locations based on GIS information obtained from public domain.

Primary control points will be established as Montana NAD83 (2002) OPUS corrected State Plane Coordinates or City of Billings Coordinates Datum if available. Prior to beginning data collection, a level network will be run through all control points and tied to the published City of Billings Vertical Datum.

An existing conditions base map will be created for design and construction purposes.

302 Background Data Gathering and Evaluation

Evaluate existing record information related to the project from public records. Information will include record drawings, construction documentation relating to groundwater depths and excavation, record utility drawings, right-of-way maps and/or record plats, previous design reports and studies, and water service locations. Billings will provide Engineer the aforementioned record drawings, service data, design reports, construction documentation and geotechnical reports.

303 Desktop Environmental Review

Desktop review of historical aerial photographs and topographic maps; Sanborn (fire insurance) maps; city directories; published regulatory federal, state, local, and Tribal records/reports related to the study area and potential offsite sources of contamination (i.e., up to one mile from the study area); and pertinent Web-based databases. Results of the desktop review will be documented in a Memorandum, summarizing sites of concern and/or potential recognized environmental conditions. Coordination with the Montana Historical Society will occur to complete Literature Review of State Records to identify cultural and historical sites within the project study area. Identified sites will be provided on a map for analysis and avoidance purposes.

304 Previous Geotechnical Investigation Inventory

Review available geotechnical investigations from previous projects provided by Billings and understand the coverage of the project area. Verify the consistency of the soils and make recommendations for further investigations if necessary.

305 Geotechnical Analysis

Complete a geotechnical field investigation and analysis, if needed, including the following general items:

- Conduct twenty (20) soil borings extending to a depth of 12 feet.
- Measure groundwater depths at each boring location, if encountered.
- Prepare Log of Boring sheets showing the soil and groundwater conditions encountered.
- Conduct laboratory testing consisting of moisture content, sieve analysis, Atterberg limits, Proctor, and DIPRA corrosion.

- Provide a geotechnical report including the design and construction recommendations.

306 Private Utility Coordination

Submit notifications to utility companies regarding project and initiate discussions about utilities that may conflict with proposed improvements. Collect existing utility information and attend up to two (2) utility coordination meetings.

307 Design and Construction Drawings

Review data obtained from Billings, utility owners and surveys. Summarize technical constraints, missing information, constructability concerns, water service replacement considerations and discuss with Billings on an ongoing basis.

Water main replacement plan and profile drawings will be prepared. Construction drawings will show existing public and private utilities, surface features, service line locations and geotechnical borings. Drawings will also include general information and details. Profiles will be designed to minimize construction cost by balancing construction methods with soil conditions, impacts to utilities, conflicts with future surface features and surface restoration costs.

Potential conflicts with gravity sewers as well as private utilities will be identified and are anticipated to be avoided during design. Open trench construction is anticipated by Billings and Engineer, so trenchless construction design and specifications are not included. Designing modifications to the existing PCCP water transmission mains in State Avenue and 1st Avenue South, as well as to utility and street infrastructure within the South 27th Street roadway, are not anticipated and would be provided as Additional Services.

Providing customary 11x17 drawings is excluded; bidding and construction drawings will be plotted as long rolls (preliminary estimate is 8-12 sheets total). PDF drawings will be made available to Billings, bidders and construction contractor's.

308 Preliminary Opinion of Construction Cost

Perform quantity take-offs and create an initial opinion of construction cost to reflect design efforts to-date, including contingency.

309 Alternative Analysis and Value Engineering

In cooperation with Billings, evaluate cost saving scenarios such as temporary water scenarios, construction sequencing efficiency and alternative bid items.

310 Draft Project Manual

Prepare draft technical specifications and special provisions for review based on design to-date. Billings will provide examples of preferred technical specifications for related projects. Engineer will assemble the project manual.

Temporary water supply will be determined by the construction contractor and may entail utilizing a portion of the existing water main if practical. Engineer's scope includes providing parameters in the specifications that meet City of Billings requirements, which will be used by the construction contractor to develop its temporary water plan.

311 Valve Operation Verifications

To reduce bidder uncertainty, work with Billings to verify valves are operating properly and can be shut down during construction to isolate the work area. Visit the site and adjust preliminary design and temporary water parameters based on inoperable valves identified.

312 Quantities and Opinion of Cost

Prior to submittal, update quantity take-offs and opinion of probable construction cost.

313 Quality Assurance Review

Conduct internal quality assurance review according to Engineer's quality assurance and quality control procedures.

314 Design Engineering Phase Submittal

Submit construction drawings, project manual, and opinion of probable cost to Billings for final review and comment.

315 Design Review Meeting

Conduct a milestone review meeting to discuss the results of the Design Engineering phase. Minutes will be provided following the meeting.

500 FINAL DESIGN AND BIDDING

501 Final Drawings, Specifications, and Project Manual Revisions

Address comments from Billings' review of Design Engineering documents. Prepare and seal final bid documents.

502 Final Quantities and Opinion of Construction Cost

Prior to bidding, update the bid form and opinion of probable construction cost to reflect any modifications.

503 DEQ Submittal

Assemble and submit final drawings, specifications, and certified main extension checklists. Engineer's fee assumes Billings is providing documentation that mains are within current approved master plans and no design reports are necessary.

504 Bid Administration and Award Recommendation

Assemble twenty (20) sets of bid documents for distribution and coordinate with Billings and other entities required for advertisement and bidding. Respond to potential bidder questions, maintain a plan holders list, and assemble and distribute addenda as appropriate to clarify the contract documents. Prepare an agenda, facilitate the pre-bid meeting and respond to questions as needed. Attend the bid opening to be conducted by Billings. Review the bids received, prepare a bid tabulation, and prepare a Notice of Award recommendation to Billings.

505 Execution of Contract Documents

Upon dissemination of the Notice of Award assemble, distribute, and coordinate execution of the contract documents.

506 Issue Conformed Drawings and Project Manuals

Produce the appropriate number of conformed drawings and project manual copies requested by the Billings and construction contractor.

600 CONSTRUCTION PHASE SERVICES

It is anticipated that the construction contract will begin in August 2019 and be completed before June 2020, including an anticipated 5-month winter shutdown from November 2019-March 2020 when Engineer's services will be minimal, if any. For the purposes of Engineer's construction phase scope of services, it is assumed there will be one prime contractor, one mainline construction crew and one small crew installing water services. Engineer will provide construction administration and observation

services with a resident project representative (RPR) for an estimated 155 calendar day construction contract (22 weeks), which is the bases for Engineer's fee to complete the tasks below.

601 Preconstruction Conference and Notice to Proceed

Schedule and facilitate a preconstruction conference to coordinate and schedule with the construction contractor and answer project questions, including meeting minutes. Prepare and process a Notice to Proceed upon Billings' approval.

602 Construction Survey

Provide construction staking outlined below, the scope of which is based on several assumptions about the final project design. If it is determined following design that more staking services will be required than those specified below, a supplemental estimate will be prepared for additional staking services.

- Horizontal and vertical control – verify and reestablish horizontal and vertical coordinates of control required for construction staking at a frequency suitable for construction.
- Hydrants, fittings, valves, services, appurtenances and water pipes at 100-foot intervals.
- No staking is included in this scope for the following:
 - Private utility relocation
 - Pavement re-striping
 - Demolition limits
 - Asphalt patching or blue topping
 - Any other item not specified in this scope

The total number of Engineer's survey crew project site mobilizations included in the tasks above is three (3). The balance of construction staking will be provided by the RPR while already on-site performing RPR duties. Construction stakes for each item, including establishing horizontal and vertical control, will be provided one time. The Engineer will provide Billings with a periodic staking request status report and will not exceed the specified number of trips without prior approval by Billings.

Engineer-provided staking services will be identified in the project bidding documents. The construction contractor will be responsible for preserving all stakes throughout construction in accordance with the General Conditions. All other surveys required for construction of the project shall be the responsibility of the construction contractor. Re-staking or additional trips required will be provided as Additional Services. Any re-staking costs will be paid by Billings to the Engineer and then subsequently deducted from the construction contractor's payment.

603 Submittal Review

Review of product submittals and shop drawings for compliance with plans and specifications. A total of two reviews is provided in the scope for each product. Additional reviews due to construction contractor's failure to add review comments or due to alternate products submitted following initial submittal will be provided as Additional Services.

604 Construction Administration

Provide coordination and administration of project construction activities. Prepare project correspondence, and monthly pay applications. Respond to requests for information (RFIs). Evaluate change order requests and provide recommendations to Billings. Facilitate negotiations on change orders if any from either Billings or the construction contractor and prepare change orders.

605 Review Progress Schedules

Review construction progress schedule to identify conformance with contract time, and coordinate address any issues with Billings and construction contractor.

606 Progress Meetings and Site Visits

Facilitate weekly meetings during construction to discuss progress with Billings and construction contractor. Project Engineer will also conduct periodic site visits in addition to the weekly meetings. Engineer’s fee includes a combined sixty (60) meetings and site visits.

607 Quality Assurance (QA) Testing

Engineer will coordinate discretionary QA testing to verify construction contractor’s QC testing. The extents of QA testing will be determined in collaboration with Billings staff and depending on test results during early stages of construction and may be reduced if warranted. This scope and associated fee anticipate one trip per working day for compaction, and include up to a maximum of the following QA testing:

- Compaction Testing 110 trips
- Concrete Testing 15 trips
- Asphalt Testing 15 trips

608 Construction Observation

Assign an RPR to provide construction observation as necessary to ensure the construction contractor complies with contract documents. This includes full-time construction observation for water main and new services, and concrete or asphalt paving. Part-time observation will be provided during demolition work, forming for concrete work, grading and compaction of road base, clean-up and the other minor construction tasks.

The RPR’s responsibilities include maintaining a diary of construction activities, observations, and material quantities, attending progress meetings, taking construction photographs, communicating project issues with the construction contractor and project manager, communicating with property owners, and assisting the construction contractor by providing clarifications to design and construction requirements as needed. The RPR will assist with lead service line replacement coordination while on-site.

The RPR will also provide staking and as-built surveys while on-site as part of normal working hours. Engineer’s scope and fee is based on RPR staking hydrants, fittings, valves, services, appurtenances and water pipes at 100-foot intervals described above. Other required staking defined above will be provided by a 2-person survey crew.

Engineer anticipates 1,262 hours of RPR time will be required to provide the above services using the following breakdown:

$$1,150 = (22 \text{ weeks full-time} + 2 \text{ weeks half-time}) * 50 \text{ hours/week observation}$$

$$112 = 1 \text{ hour/day each week (working day) construction staking and as-builts}$$

RPR hours exceeding this amount are Additional Services and would require written authorization prior to proceeding. Construction observation time resulting from construction contractor working outside of normal work hours, as will be defined in the construction contract documents will be paid by Billings to the Engineer and then deducted from the construction contractor's payment.

609 Substantial Completion Walkthrough

Schedule and facilitate a walkthrough with the construction contractor and Billings to review all project components. Prepare a punch list of incomplete or unsatisfactory items to be resolved before final project closeout. Create and issue Certificate of Substantial Completion.

610 Final Walkthrough and Project Closeout

Schedule and facilitate a final walkthrough with the construction contractor and Billings to review the punch list developed during the substantial completion walkthrough to ensure punch list items satisfactorily completed.

611 Record Drawings and Providing Electronic Files

Complete record drawings and provide to Billings and DEQ.

612 1-Year Warranty Review

Approximately 11 months after substantial completion, schedule with all parties and be present at a 1-year warranty walkthrough of all project components. Coordinate warranty repairs with the construction contractor.

EXCLUSIONS

This scope of work contains specific information regarding tasks, number of iterations, and deliverables included in the Agreement. Additional Services beyond this scope of work are extra and will be addressed as a contract amendment. As a supplement to Appendix C and in addition to those specifically identified in the above tasks, the following list, which is not intended to be exclusive, summarizes services not included in Engineer's scope of work.

- Designing modifications to the existing PCCP transmission mains in State Avenue and 1st Avenue South, as well as within the South 27th Street roadway
- Developing construction contractor's temporary water sequencing and associated drawings
- Hydraulic modeling
- Coordinating lead service replacement prior to construction phase
- Sanitary sewer design, including modifications to accommodate new water main
- Storm drain design, including modifications to accommodate new water main
- Designing private utility modifications
- Paving, grading and other surface improvements, beyond trench restoration
- Landscaping design (impacts will be a like-for-like replacement)
- Structural design
- Dewatering design, dewatering plan review and foundation monitoring from dewatering activities
- Artistic renderings and models
- Environmental studies, documentation and permitting beyond desktop review
- Temporary or permanent easements
- Right-of-way and boundary surveys and mapping
- Resetting lost or destroyed survey monuments after construction
- Subsurface Utility Engineering
- Preparation of change orders, which require additional engineering design or construction review
- Permit application review fees
- Preparation of a Stormwater Pollution Prevention Plan (SWPPP) or any documents necessary to obtain coverage under the General Permit for Stormwater Discharges Associated with Construction Activities.

Appendix B

Methods and Times of Payment

Section 1. Payments for Basic Services.

Billings shall authorize payment to the Engineer for services performed under Appendix A of this Agreement. Partial payment shall be due the Engineer upon receipt of the Engineer's pay estimate, said estimate being proportioned to the work completed by the Engineer.

Partial payment shall be made to the Engineer upon receipt of the Engineer's pay estimate, said estimate being proportioned to the work completed by the Engineer. Billings shall deduct five percent (5%) from each monthly pay estimate to be held until the completion of the final scope of work. The final payment shall be made only after acceptance of final documents by Billings, and determination that the scope of work has been satisfactorily completed.

The Engineer shall be paid based upon actual time accrued, but not to exceed the following amount: five hundred seventy-seven thousand six hundred dollars (\$577,600.00).

Final payment shall be the above stated basic fee less all previous payments.

Section 2. Payments for Extra Services when Authorized by Billings.

Requests made or conditions identified by interested groups at the agency or public meetings, which are beyond the scope and intent of this study shall be paid for on an hourly basis at the applicable fees in Appendix D.

Section 3. Corrections.

Costs of Billings work that is required for corrections to the Engineer's work which requires redoing by Billings shall be deducted from any payments due the Engineer, if the Engineer fails to make the required corrections.

Section 4. Fee Increases

For contracts and services that are expected to require more than one (1) year to complete, the above stated basic services payments may be reviewed and adjusted annually by mutual agreement of the parties, based upon documented evidence that the Engineer's costs and hourly rates as shown in Appendix D have increased for all comparable clients.

Appendix C

Additional Services of Engineer

Additional Services of the Engineer will be paid only with written prior authorization by Billings.

- A. Requests made or conditions identified by interested groups at the agency or public meetings, which are beyond the scope and intent of this project.
- B. Revisions or additions when such revisions or additions are inconsistent with written approvals or instructions previously given by Billings, required by enactment or revisions of codes, laws, or regulations, or are due to other causes not solely within control of the Engineer.
- C. As may be requested by Billings, additional services not included in, or exceeding, the scope of work outlined in Appendix A.
- D. Additional time and/or services resulting from additional requirements imposed by any funding source for use of those funds, as outlined in Part I, Section 14 of this Contract.
- E. Preparing to serve or serving as a consultant or witness for Billings in any litigation, arbitration, or other dispute resolution process related to the Project.

Appendix D

Schedule of Professional Fees

Not Included

Appendix E

Project Schedule

Based on a notice to proceed by Billings dated no later than March 11, 2019, the completion date for the Engineer's work is anticipated to be:

- A. Design Engineering Phase – May 1, 2019
- B. Final Design Phase – May 24, 2019
- C. Bid Award – June 24, 2019
- D. Construction Start – August 1, 2019
- E. Construction Completion – June 1, 2020

Delays affecting the completion of the work within the time specified of more than ninety (90) days, not attributable to or caused by the Parties hereto, may be considered as cause for the renegotiation or termination of this Contract.

If the Engineer is behind on this Contract due to no fault of Billings, then the Engineer hereby acknowledges the right of Billings to withhold future Contracts to the Engineer in addition to any other remedy until this Contract is brought back on schedule or otherwise resolved.