

Contract for Professional Architectural and Engineering Services

Project W.O. 20-14: Wastewater Master Plan Update

In consideration of the mutual promises herein, City of Billings and Morrison-Maierle, 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 6 pages (Basic Services of Contractor);

Appendix B consisting of 2 pages (Methods and Times of Payment);

Appendix C consisting of 1 page (Additional Services of Contractor);

Appendix D consisting of 1 page (Schedule of Professional Fees);

Appendix E consisting of 1 page (Project Schedule);

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

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. "Engineer" and/or "Contractor" means Morrison-Maierle, Inc.,

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.

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 May 31, 2021.

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: Randy Straus, PE
City of Billings
Engineering Division
2224 Montana Avenue
Billings, MT 59101 e-mail: strausr@billingsmt.gov

Contractor: Casey Hanson, PE
Morrison-Maierle
315 N. 25th Street, Suite 102
Billings, MT 59101 e-mail: chanson@m-m.net

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: Vice President or Authorized Designee
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.

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.

Billings shall indemnify, defend, save, and hold the Contractor 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 Billings or any agent, employee or subcontractor as a result of Billings' or any subcontractor's performance pursuant to this Contract.

Billings shall not indemnify, defend, save and hold the Contractor 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 the Contractor occurring during the course of or as a result of the performance of the Contract.

Where claims, lawsuits or liability, including attorneys' fees and costs arise from wrongful or negligent act of both Billings and the Contractor, Billings shall indemnify, save, and hold the Contractor 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 Billings' or any subcontractor's wrongful or negligent acts occurring as a result from Billings' 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

STATE OF MONTANA)
 :ss.
COUNTY OF YELLOWSTONE)

On this ____ day of _____, 2019, before me, the undersigned, a Notary Public for the State of Montana, personally appeared _____, known to me to be the _____ of _____, and acknowledged to me that they executed the foregoing instrument on behalf of said corporation having first been authorized to do so.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year first above written.

Notary Public for the State of Montana
Residing at Billings, Montana
My Commission Expires: _____

Appendix A

Basic Services of Engineer City of Billings W.O. 20-14: Wastewater Master Plan Update

Section 1. Engineer's Rights and Duties.

- A. To furnish 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 provide a professional engineer's stamp 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. 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.
- I. Name a Task Director who shall be the liaison between Billings and the Engineer. For this project the Task Director and Principal-In-Charge designated for the Engineer is Casey Hanson, P.E..

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 Randy Straus, working under the City Engineer, Debi Meling.

Section 3. Scope of Work.

TASK SERIES 100 – Meetings and Project Management

Task 101 –Project Kickoff Meeting:

The Morrison-Maierle project team will attend a project kick-off meeting to be held with City staff. Prepare agenda, minutes and attend a project kick-off meeting to establish project goals, preferred communications, project execution plan, schedule, etc. attended by project manager, WWTP evaluation lead, collection systems lead, and infiltration/inflow lead. Meeting will be conducted virtually.

Task 102 –Work Task Coordination:

General project management activities, including overseeing and coordinating project tasks, correspondence with the City, budget schedule and quality tracking, monthly invoice preparation, etc.

Task 103 – Project Meetings:

Assumes four additional meetings (in Billings, MT) to discuss project progress, specific needs, or significant events as they arise. Project manager and collection systems lead will attend all four meetings. WWTP evaluation lead and infiltration/inflow lead will attend two meetings - one in person, and one virtually.

TASK SERIES 200 – Inflow-Infiltration Analysis

Task 201 – Flow Monitoring

Develop a flow monitoring program consisting of up to four (4) flow meters to capture tributary and cumulative flows within certain basins or subbasins of the City's wastewater collection system. The flow meters will be installed for various time periods and possibly various locations within basins or subbasins, depending on responses to rainfall events. The total monitoring period will be thirty (30) days in anticipation of identifying and quantifying inflow and infiltration (I/I). Flow monitoring activities include installation of flow meters, re-locating flow meters if desired response is obtained, bi-weekly servicing of flow meters (including manual depth and velocity measurements, and downloading of collected data), and removal of flow meters. All flow meters will be synchronized to record data contemporaneously and in 15-minute intervals. Rain data from the City's rain gauge network over the monitoring period will be provided by the City in 15-minute increments.

Task 202 – Basin Delineation

Hydrologic sub-catchments will be delineated in GIS based on the location of flow meters. A graphic showing basin delineations will be produced for inclusion in reports and/or technical memoranda.

Task 203 – Flow Analysis

The collected flow meter data will be analyzed to compare the extracted average daily dry weather flow (ADDF) to flow data measured during individual rain events.

Rain gauge data, provided by the City, will be used to identify independent and unique rainfall events within the flow metering period and the associated sewer system response to those events. Total Inflow and infiltration will be disassembled from the aggregate flow meter data for each rain event. Results will be used to identify areas for additional field investigations.

TASK SERIES 300 – Sanitary Sewer Collection System Modeling

No new hydraulic model development is included in this scope. The existing hydraulic model provided by the City will be utilized for planning field observations.

Task 301 – West End Sewer Routing

Engineer will evaluate current master planning concepts for routing sewer trunk mains west of Shiloh Road on King Avenue and Hesper Road west to 72nd into the City collection system. The evaluation will include details, such as physical barriers (ditch and known utility crossings), as well as routing to avoid further loading the King Avenue Lift Station. Analysis for this evaluation is assumed to be spreadsheet or hand calculation based and will not be incorporated into the hydraulic model. A Technical Memorandum will be prepared detailing the findings of this task.

TASK SERIES 400 – Supplement to the Wastewater Treatment Facilities Plan (WWFP)

Task 401 – Prioritization Assessment

Burns & McDonnell will review the previous improvements lists provided by the City with City staff to prioritize the identified projects. If non-monetary analyses are needed to prioritize the projects, Burns & McDonnell will work with City staff to use a paired comparison process to rank projects based on City defined criteria. Two site visits, consisting of an 8-hour day each, from the assessment team consisting of Burns & McDonnell's Treatment Lead, a Wastewater Treatment Engineer, and Morrison-Maierle's Collection Lead are included.

After reviewing the existing improvement information, meeting with City staff on the site visits, and considering the overall needs of the facility, Burns & McDonnell will develop a list of proposed improvements to the facility. These proposed improvements will be collated and ranked with I/I proposed improvements to develop a wastewater specific capital improvement plan (CIP).

Task 402 - Cost Opinion Development

Burns & McDonnell will develop planning level (AACE Class 5) engineer's opinion of probable cost for each project identified in Task 401. These cost opinions will be based on minimal design, major equipment costs, unit pricing for commodities, and will largely rely on Burns & McDonnell's experience as professional consultants.

Task 403 – Develop WWFP Supplement

Burns & McDonnell will develop a supplement to the WWFP to summarize these assessments. This supplement will identify the prioritization, scope and timing for each upcoming project at the wastewater facility as excerpted from the combined WWFP and I/I CIP defined further in Task Series 600.

TASK SERIES 500 – Sanitary Sewer Evaluation Study (SSES)

A budget of \$X has been included to be allocated across Task 500 items as directed by the City. If any City directed activities will, or are expected to exceed this budget, the work will be discussed with the City, and either the scope will be adjusted, or the budget will be adjusted by amendment before proceeding.

Task 501 – Develop Field Program

Engineer will develop a recommended field testing program to the City for City approval and direction prior to proceeding with this phase of the work. The purpose of this program is to develop solutions to known I/I areas of concern that are identified (e.g. Lake Hills golf course area, etc.). Solutions to the I/I issues will be prioritized with the WWFP CIP to develop a five-year CIP.

Task 502 – Perform and Review Manhole Inspections

Review manhole inspection protocol under the City's Asset Management program and provide recommendations to enhance for condition assessment and I/I data collection purposes. Review data previously collected and provide recommendations for future inspections in areas identified during the flow monitoring activities. Perform manhole inspections as directed by the City to support I/I investigations. The Field manhole observations will be consistent with the Asset Management program with enhancements provided under this scope.

Task 503 – Smoke Testing

Smoke testing will be conducted on selected line segments located within the areas identified during the flow monitoring activities to identify I/I sources from both the public and private sector. Each positively identified source is photographically documented, precisely located and referenced to allow for efficient repair. Engineer will provide a Microsoft Access database (or agreed upon format) of attribute data that is compatible with the City's CMMS and ArcView GIS software.

Smoke testing activities will include a minimum of 48 hours advance notification to all residents within the study areas. Notification will be done by placement of door hangers on homes and businesses. The notice will include general information about the testing; including instructions to fill infrequently used plumbing traps with water and a tablespoon of cooking oil to prohibit smoke from entering buildings via service lines. Additionally, daily notification of smoke testing boundaries will be provided to Fire Dispatch, City Utilities and other designated personnel as determined in the Project Kick-off Meeting.

Task 504 – Canal Inspections

Canal inspections will be performed as directed by the City to support I/I investigations. During smoke testing activities, crews will diligently inspect sewers crossing and/or paralleling

drainage ditches/canals. Follow-up dyed water testing of suspected I/I sources identified both during the smoke testing activities and during the canal inspections in the studied areas will be performed to verify direct connection to the sanitary sewer system and quantify leakage. A fluorescent dye will be washed down any suspected I/I connection. This will be accomplished by placing the dye directly into the identified source and running an adequate amount of water to ensure that the dye has a sufficient amount of time to be observed in the downstream manhole. Presence of dyed water in the system downstream of the test verifies the I/I source connection.

Task 505 – Review CCTV Inspections

All data gathered from smoke testing and manhole/visual pipe inspections shall be analyzed for I/I sources to prioritize sewers for pipe cleaning and internal television (CCTV) inspections. Review of CCTV inspection of sewer lines is included in this scope. A list will be provided to the City of areas that needs subsequent CCTV work. All CCTV work is assumed to be provided by the City.

A list of noted pipe and service defects will be compiled, along with any infiltration observations.

Task 506 – I/I Summary

Engineer shall provide results from the Public I/I field investigations. Engineer will compile a list of each defect identified. Defects shall then be prioritized based upon severity, structural integrity, safety and estimated volume of I/I. Defect priority schedule shall be determined during the project “kick-off” meeting. A summary listing of each defect will be completed based on the best available data. The listing will, for each specific I/I source, include the following:

- Source type
- Source category (public sector, private sector)
- Number of such sources
- Source unit estimated flow rate, based on previous experience and/or City data
- Source unit repair cost
- Total repair cost for such sources
- Source cost/flow ratio (total repair cost divided by unit flow rate)

The final listing will be sorted in ascending order by source cost/flow ratio. Sources with low ratios are considered more cost-effective to repair than sources with higher ratios. Following the completion of the defect prioritization list, Engineer shall submit rehabilitation recommendations to the City, along with preliminary budget estimates.

A summary of all Private I/I sources will also be provided along with a discussion on the benefits of a Private I/I Reduction program, including cost-benefit analysis from several nation-wide programs, as well as a discussion of the estimated cost to implement a similar program for the City of Billings, MT. Recommendations for further work to pursue private I/I reduction will be provided at the request of the City.

Task 507 – Cost Analysis for Alternatives

Engineer will generate capital construction cost opinions for each improvement option developed as part of this project. Opinions of probable costs for each infrastructure improvement project will be completed in consultation with the City.

TASK SERIES 600 – Developing a List of Capital Improvement Projects

Task 601 – Priority Matrix Development

A draft weighted priority matrix will be developed to weigh the relative importance, benefits and costs of the combined pool of I/I and WWRP recommended improvements.

Task 602 – Review Meeting with City

This meeting will be conducted in Billings, MT to discuss and reach consensus with the City on priority recommendations. This meeting will be conducted virtually.

Task 603 – Finalize Recommendations in Recommendations TM

Priority recommendations will be revised and finalized based on discussions with the City. Recommendations TM will document the finalized priority recommendations.

TASK SERIES 700 – Final Report

Task 701 – Final Report Preparation

A draft report summarizing the work performed, recommendations, costs and the capital improvement plan will be prepared. An executive summary with graphical supporting documentation and a GIS layer will be developed for City use and presentation.

Appendix B

Methods and Times of Payment City of Billings W.O. 20-14: Wastewater Master Plan Update

Section 4. 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.

A. For services rendered prior to construction, Appendix A, the Engineer shall be paid based upon actual time accrued, but not to exceed the following total fee:

i.	Project Management	\$36,919
ii.	Inflow-Infiltration Analysis	\$57,935
iii.	Sanitary Sewer Collection System Modeling	\$7,536
iv.	Supplement to WWFP	\$46,146
v.	Sanitary Sewer Evaluation Study	\$105,289
vi.	Develop List of Capital Improvement Project	\$17,942
vii.	Report	\$28,332
viii.	Quality Assurance	\$7,992
	Total	\$308,091

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

Section 5. 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 based on a negotiated fee.

Section 6. 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 have increased for all comparable clients.

Appendix C

Additional Services of Engineer City of Billings W.O. 20-14: Wastewater Master Plan Update

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

- A. Requests made or conditions identified which are beyond the scope and intent of the services identified under Appendix A.

Appendix D

Schedule of Professional Fees
City of Billings W.O. 20-14: Wastewater Master Plan Update

Not used on this Contract.

Appendix E

Project Schedule City of Billings W.O. 20-14: Wastewater Master Plan Update

Based on a notice to proceed by Billings dated no later than May 11, 2020, the completion date for the Engineer's work shall be on or before April 30, 2021 based on the following estimated schedule for major deliverables:

- | | |
|---|----------------|
| A. Supplement to WWFP | November, 2020 |
| B. Sanitary Sewer Evaluation Study | January, 2021 |
| C. Develop List of Capital Improvement Projects | March, 2021 |
| D. Report | April, 2021 |

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.

Based on the results of the Alternatives Analysis, Engineer will reassess remainder of project schedule and revise accordingly with City's concurrence.

Appendix F

Certificate(s) of Insurance
City of Billings W.O. 20-14: Wastewater Master Plan Update

(Attach Certificate(s) of Insurance)