

ENGINEERING SERVICES AGREEMENT

THIS ENGINEERING SERVICES AGREEMENT (“Agreement”) is entered into between the **CITY AND COUNTY OF DENVER** (the "City"), a municipal corporation of the State of Colorado, and **BLACK & VEATCH CORPORATION**, a Delaware corporation licensed to do business in the State of Colorado, whose address is 11401 Lamar Avenue, Overland Park, KS 66211 (the "Consultant"), each a “Party” and collectively, the “Parties.”

SECTION 1 – ENGAGEMENT

1.01 Engagement. The City engages the Consultant to furnish professional engineering design services to create and implement a flow monitoring plan, build a calibrated hydraulic model for both wet and dry conditions, and update the City’s 2009 Sanitary Sewer Master Plan (the “Project”), as set forth in this Agreement. The Consultant accepts such engagement upon, subject to and in accordance with the terms, conditions and provisions of this Agreement.

1.02 Line of Authority for Contract Administration. The City's Executive Director of the Department of Transportation and Infrastructure ("Director") is the City's representative responsible for authorizing and approving the work performed under this Agreement. The Director hereby designates the City Engineer as the Director’s authorized representative for the purpose of designating one or more representatives to act as Project Manager for the purpose of issuing written Notice to Proceed and to administer, coordinate and approve the work performed by the Consultant under this Agreement. The Project Manager shall be responsible for the day-to-day administration, coordination and approval of work performed by the Consultant, except for approvals which are specifically identified in this Agreement as requiring the Director’s approval. The Director expressly reserves the right to designate another authorized representative to perform on the Director’s behalf by written notice to the Consultant.

1.03 Independent Contractor. The Consultant is an independent contractor retained to perform professional or technical services for limited periods of time. Neither the Consultant nor any of its employees are employees or officers of the City under Chapter 18 of the Denver Revised Municipal Code, or for any purpose whatsoever.

1.04 Scope of Consultant’s Authority. The Consultant shall have no authority to act on behalf of the City other than as expressly provided in this Agreement. The Consultant is not authorized to act as a general agent for or to undertake, direct or modify any contracts on behalf of the City. The Consultant lacks any authority to bind the City on any contractual matters. Final approval of all contractual matters that purport to obligate the City must be executed by the City in accordance with the City’s Charter and the Denver Revised Municipal Code (“Code”).

SECTION 2 – CONSULTANT’S SERVICES

2.01 General. The Consultant shall provide professional design services for the Project in accordance with the terms and conditions of this Agreement (the “Services”). The Consultant's basic Services shall consist of all of those services described in this Agreement and in **Exhibit A**.

2.02 Professional Responsibility.

- (a) All of the Services performed by the Consultant under this Agreement shall be performed in accordance with the standards of care, skill and diligence provided by competent professionals who perform work of a nature similar to the Services described in this Agreement.

- (b) The Consultant agrees to strictly conform to and be bound by written standards, criteria, budgetary considerations and memoranda of policy furnished to it by the City and further agrees to design each project in compliance with applicable laws, statutes, codes, ordinances, rules and regulations, and industry standards.
- (c) All professional services, plans and specifications and other work, or deliverables provided under this Agreement for the Project shall be adequate and sufficient for the proper construction of the Project and its intended purpose.
- (d) All drawings, specifications and other products shall be prepared so the Project, when constructed in accordance with such drawings and specifications, is in compliance with all applicable laws, statutes, codes, ordinances, and rules and regulations of the City, the State of Colorado (the "State"), and the Federal government.
- (e) Any design changes required by changes in such applicable laws, statutes, codes, ordinances or rules and regulations of the City, the State or the Federal government, which are enacted after the City's acceptance of Construction Documents, defined herein, will be outside the scope of the Consultant's basic Services and basic fee, and will be compensated for approval as an additional service, subject to the additional services budget for that project.
- (f) The Consultant shall prepare the plans, specifications and other materials for the Project ("Construction Documents") in a format that complies with all City requirements as well as all state and federal requirements for the Project. No funds will be paid to the Consultant for the preparation of contract documents in a form other than that considered usual and customary by the City's Department of Transportation and Infrastructure. It shall be the responsibility of the Consultant to contact the reviewing agencies and determine the acceptable format for the final documents. No documents will be considered final until approved by the City, even though any responsible Federal and State agencies have approved such documents.
- (g) The City reserves the right to proceed with the construction of the Project using either the City's standard general contractor bidding approach, on-call contractors or using construction management techniques. The Consultant agrees to organize its Construction Documents for either construction technique and to coordinate the Construction Documents into selected bid packages, as appropriate. The City will notify the Consultant prior to the completion of the design development design phase which method will be used and the amount of work or the limits of construction to be included in the proposed bid package(s).
- (h) The reports, studies, drawings and specifications and other products prepared by the Consultant under this Agreement, when submitted by the Consultant to the Director and the user agency for any identified phase of the Project, must represent a thorough study and competent solution for the Project as per usual and customary professional standards and shall reflect all architectural and engineering skills applicable to that phase of the Project.
- (i) The responsibilities and obligations of the Consultant under this Agreement shall not be relieved or affected in any respect by the presence on the site of any agent, consultant or subconsultant, or an employee of the City.
- (j) The Consultant shall provide all professional services required by the City in defending all claims against the City, which relate in any way to alleged default hereunder, errors or omissions of the Consultant or its subconsultants, without additional compensation.

2.03 Program and Budget.

- (a) The Consultant agrees to review the City's program and budget for the Project and further agrees, unless it has timely notified the City that the Project cannot be accomplished within such budget, to accomplish the Project within the intent of the program and established budget. Should the Consultant determine that the Project cannot be accomplished within the established budget, the Consultant shall immediately notify the City, in writing, so that the Project scope or Project budget can be reviewed and modified if necessary.
- (b) The term "Project Construction Cost" shall mean the estimated cost to the City of actually constructing the Project, but such cost shall not include any Consultant's or special consultant's fees or reimbursements or the cost of equipment installed by the City under separate contract, unless the Consultant is required by the City to prepare drawings and specifications for such equipment. The initial Project Construction Cost has been provided to the Consultant.
- (c) The Consultant agrees to design the Project within the estimated Project Construction Cost for the Project.

2.04 Coordination and Cooperation.

- (a) The Consultant agrees to perform under this Agreement in such a manner and at such times that the City or any Contractor who has work to perform, or contracts to execute, can do so without unreasonable delay.
- (b) Coordination with the City and other involved agencies shall be a continuing work item through all phases of each assigned project. Such coordination shall consist of regular progress and review meetings with the City, and other user agencies or as otherwise directed by the City. Such coordination may also include field and office reviews of plans and documents as required during the development of the design for any specific project. The Consultant shall document all such conferences and distribute notes to the City.

2.05 Personnel Assignments.

- (a) The key professional personnel identified in **Exhibit B** will be assigned by the Consultant or its subconsultants to perform the Services required under this Agreement, as appropriate.
- (b) The Consultant's Services shall be diligently performed by the regular professional and technical staff of the Consultant. In the event the Consultant does not have as part of its regular staff certain professional consultants, then such Services shall be performed, with City approval, by practicing professional consultants outside of the employ of the Consultant.
- (c) The Consultant agrees, at all times during the term of this Agreement, to maintain on its payroll or to have access to through outside subconsultants, professional design personnel and technicians in sufficient strength and experience to meet the requirements of the City. Such personnel and technicians shall be of the classifications referenced in **Exhibit B**. The hourly rates specified therein include all costs except those specifically referenced as reimbursables in the appropriate hourly rate schedule.
- (d) Prior to designating an outside professional to perform subconsultant work, the Consultant shall submit the name of such subconsultant, together with a resume of

training and experience in work of like character and magnitude of the project being contemplated, to the City and receive prior approval in writing before allowing such subconsultant to perform any Services on the Consultant's behalf.

- (e) It is the intent of the Parties hereto that all key professional personnel be engaged to perform their specialty for all such Services required by this Agreement and that the Consultant's and, to the extent applicable, any subconsultant's key professional personnel be retained for the life of this Agreement to the extent practicable and to the extent that such Services maximize the quality of work performed hereunder.
- (f) If the Consultant or a subconsultant, if applicable, decides to replace any of its key professional personnel, the Consultant shall notify the Director in writing of the desired change. No such changes shall be made until replacement personnel are recommended by the Consultant and approved in writing by the Director, which approval shall not be unreasonably withheld.
- (g) If, during the term of this Agreement, the Director determines that the performance of approved key personnel or a subconsultant is not acceptable, the Director shall notify the Consultant and give the Consultant an allowable amount of time that the Director considers reasonable to correct such performance. Thereafter, the Director may require the Consultant to reassign or replace such key personnel. If the Director notifies the Consultant that certain of its key personnel or a subconsultant should be replaced, the Consultant will use its best efforts to replace such key personnel or a subconsultant within ten (10) days from the date of the Director's notice, or as soon as reasonably practicable thereafter.
- (h) Neither the Consultant nor any subconsultant shall have other interests which conflict with the interests of the City, including being connected with the sale or promotion of equipment or material which may be used on the Project, or any portion thereof, to which they may be assigned, and the Consultant shall make written inquiry of all of its subconsultants concerning the existence of a potential for such conflict. In unusual circumstances, and with full disclosure to the City of such conflict of interest, the City, in its sole discretion, may grant a written waiver to the particular Consultant or subconsultant for such a conflict relating to the Project, or any portion thereof.
- (i) Actions taken by the City under this Article shall not relieve the Consultant of its responsibility for contractual or professional deficiencies, errors or omissions.
- (j) The Consultant shall submit to the Director a list of any additional key professional personnel who will perform work under this Agreement within thirty (30) days after this Agreement has been executed by the Consultant, together with complete resumes and other information describing their ability, skill and experience to perform the tasks which may be assigned. Such additional personnel must be recommended by the Consultant and approved by the Director before they are assigned to a specific portion of the Project.
- (k) The Director shall respond to the Consultant's written notice regarding replacement of key professional personnel within fifteen (15) days after the Director receives the list of changes. If the Director or the Director's designated representative does not respond within that time, the proposed changes shall be deemed to be tacitly approved.

2.06 Basic Services – General.

- (a) These Services shall be diligently performed by the regular professional and technical staff of the Consultant. In the event the Consultant does not have as part of its regular staff certain professional consultants, then such consulting services shall be performed, with City approval, by practicing professional subconsultants outside of the employ of the Consultant.
- (b) Prior to designating an outside professional to perform work or Services under this Agreement, the Consultant shall submit the name of such professional, together with a resume of training and experience in work of like character and magnitude as the Project being contemplated, to the City and receive prior approval in writing.
- (c) All professional consultants and subconsultants must be retained for the life of the Project to the extent practicable, except that acceptable replacements may be substituted with prior written approval from the City as set out in Section 2.05.
- (d) The Consultant's basic Services for the Project shall consist of the phases described below and shall include, but not be limited to, architectural, structural, mechanical, civil and electrical engineering services appropriate to the Project for each phase.
- (e) The Consultant shall obtain written authorization from the City before proceeding with each phase of the Project.
- (f) Nothing in this Agreement shall be construed as placing any obligation on the City to proceed with any Project phase beyond the latest phase authorized in writing by City.
- (g) The responsibilities and obligations of the Consultant under this Agreement shall not be relieved or affected in any respect by the presence on the site of any agent, consultant, subconsultant, or employee of the City.

2.07 Basic Services - Phase Specific. In the interest of tracking progress towards completion of all work items necessary to complete the Project specified herein, the required basic Services that must be performed on the Project have been separated into phases. As applicable for the Project, the Consultant shall satisfactorily complete all work necessary to complete each Project phase as specifically set out in **Exhibit A**.

2.08 Additional Services.

- (a) If the Consultant performs services in addition to its basic Services, as a result of material changes in the Project or due to other circumstances beyond the Consultant's control, and if such additional service(s): (1) are pre-approved in writing; (2) will not cause the total compensation payable to the Consultant to exceed the Maximum Contract Amount; and (3) are not occasioned by any neglect, breach or default of the Consultant, then the Consultant will be reimbursed its pre-approved cost for performance of such additional service(s).
- (b) Before providing any such additional services, the Consultant first shall file with the City, and secure the City's written approval of, a complete description of the proposed additional services including an estimate of the maximum cost of any and all such services, on the basis set out in **Exhibits A and B**, of rates per hour, per day, or other basis of cost. Such description shall also include a statement from the Consultant that the maximum cost of such additional services will not cause the total amount payable to the Consultant under this Agreement to exceed the Maximum Contract Amount. In no event shall any form of authorization or pre-approval of additional services be deemed

valid or binding upon either the City or the Consultant if the maximum cost of such additional services would cause the aggregate amount payable under this Agreement to exceed the Maximum Contract Amount. Payment for additional services shall not, in any event, exceed the cost estimated by the Consultant and approved in writing by the City.

- (c) The cost of such additional service shall be deemed to be the lesser of the estimated maximum cost or:
 - 1. The actual time card cost of all design personnel including principal designer's time at the rates as set out in **Exhibit B**;
 - 2. The actual cost to the Consultant for other necessary outside services, such as structural, mechanical or electrical engineering performed by independent consultants; and
 - 3. The Consultant's actual reproduction cost for drawings.
- (d) The Consultant shall maintain an accurate and acceptable cost accounting as to all such additional expenses and shall make available to the City all records, canceled checks and other disbursement media to substantiate any and all requests for payment for additional services.
- (e) Payment to the Consultant for such additional services shall not, in any event, exceed the maximum additional services amount set forth in Section 3.

2.09 Surveying and Testing.

- (a) The Consultant shall obtain all necessary surveying, tests and reports to properly design and administer the construction of the Project, including, but not limited to, soils and hazardous materials testing. The Consultant shall be responsible for the accuracy, adequacy and content of such tests, surveying and reports.
- (b) The Consultant and its appropriate subconsultant shall review all survey and test results reports and shall follow the recommendation of the soils engineer or other subconsultant unless, in the exercise of appropriate professional judgment, the Consultant or appropriate subconsultant discovers, or should in the exercise of professional judgment discover, factors indicating the report or results are not reliable.
- (c) If any such inadequacy or any inconsistency, based upon such exercise of professional judgment, is noted the Consultant and/or its appropriate subconsultant shall report such inconsistency or inadequacy promptly to the City and require such inadequacy or inconsistency to be addressed by the soils engineer, testing laboratory or land surveyor before any further use is put to the data.
- (d) The Consultant shall require all surveying, engineering and testing entities it selects to carry and maintain Workers' Compensation Coverage, Comprehensive Auto Liability and Property Damage Insurance, General Commercial Liability and Property Damage Insurance and Professional Errors and Omissions coverage as required by the City's Office of Risk Management which will adequately protect the interests of the City and third parties from the acts and omissions of the testing entity.
- (e) The amount of surveying or testing, the cost, and the types of reports required must be approved by the Director prior to the Consultant actually ordering any such work to be accomplished. Such approvals by the City shall be for purposes of compensation only and shall not relieve the Consultant of any responsibility for determining the scope and amount of surveying and testing necessary for the design of the Project.

- (f) It is understood and agreed that this Agreement does not include the investigation, sampling, testing, planning, abatement design, and remediation management of asbestos or other hazardous waste material. Should the presence of asbestos or other hazardous waste material be known to exist on a specific project or if the Consultant shall observe the presence of asbestos or hazardous waste material on any Project site during its performance of services under this Agreement, the Consultant shall notify the City in writing immediately.
- (g) Payment to the Consultant for such surveying, testing, and abatement shall not exceed the surveying and testing budget set forth in the project specific proposal for each project.

2.10 Compliance with M/WBE Requirements.

- (a) This Agreement is subject to Article III, Divisions 1 and 3 of Chapter 28, D.R.M.C., designated as Sections 28-31 to 28-36 and 28-52 to 28-90, D.R.M.C. (the “M/WBE Ordinance”) and any Rules or Regulations promulgated pursuant thereto. The Consultant identified in its Proposal MBE and/or WBE firms with which it intends to subcontract under this Agreement, with a total participation level by such firms of **13%**. The project goal for M/WBE participation established for this Agreement by the Division of Small Business Opportunity (DSBO) is 100%.
- (b) Under § 28-72, D.R.M.C., the Consultant has an ongoing, affirmative obligation to maintain for the duration of this Agreement, at a minimum, compliance with its originally achieved level of MBE and WBE participation upon which this Agreement was awarded, unless the City initiates a material alteration to the scope of work affecting MBEs or WBEs performing on this Agreement through change order, contract amendment, force account, or as otherwise described in § 28-73, D.R.M.C. The Consultant acknowledges that it must establish and maintain records and submit regular reports, as required, which will allow the City to assess progress in achieving the M/WBE participation goal.
- (c) If change orders or any other contract modifications are issued under the Agreement, the Consultant shall have a continuing obligation to immediately inform DSBO in writing of any agreed upon increase or decrease in the scope of work of such contract, upon any of the bases discussed in § 28-73, D.R.M.C., regardless of whether such increase or decrease in scope of work has been reduced to writing at the time of notification.
- (d) If change orders or other contract modifications are issued under the contract, that include an increase in scope of work of this Agreement, whether by amendment, change order, force account or otherwise which increases the dollar value of the contract, whether or not such change is within the scope of work designated for performance by an M/WBE at the time of contract award, such change orders or contract modification shall be immediately submitted to DSBO for notification purposes. Those amendments, change orders, force accounts or other contract modifications that involve a changed scope of work that cannot be performed by existing project subconsultants or by the Consultant shall be subject to a goal for M/WBEs equal to the original goal on the contract which was included in the proposal. The Consultant shall satisfy such goal with respect to such changed scope of work by soliciting new M/WBEs in accordance with § 28-73, D.R.M.C., as applicable, or the Consultant must show each element of modified good faith set out in § 28-75(c), D.R.M.C. The Consultant shall supply to the director the documentation described in § 28-75-(c), D.R.M.C. with respect to the increased dollar value of the contract.

- (e) Failure to comply with these provisions may subject the Consultant to sanctions set forth in the M/WBE Ordinance. Should any questions arise regarding specific circumstances, the Consultant must consult the M/WBE Ordinance or contact the Project's designated DSBO representative at (720) 913-1999

SECTION 3 – COMPENSATION, PAYMENT, AND FUNDING

The City shall compensate the Consultant for its service performed and expenses incurred under this Agreement as follows.

3.01 Fee for basic services. The City agrees to pay the Consultant, as full compensation for its basic Services rendered hereunder, a fee not to exceed **SEVEN HUNDRED AND SEVENTY-FOUR THOUSAND, ONE HUNDRED AND ELEVEN DOLLARS AND ZERO CENTS (\$774,111.00)**, in accordance with the billing rates and fee proposed in **Exhibits A and B**. The amounts budgeted for phases may be increased or decreased, and the amounts allocated for Services and expenses adjusted, upon written approval of the Director or his/her designee, and subject to the Maximum Contract Amount stated in this Section 3.

3.02 Reimbursable Expenses. Except for those reimbursable expenses specifically identified in **Exhibit B**, or approved in writing by the City as reasonably related to or necessary for the Consultant's Services, all other expenses shall be included in the Consultant's fee and will not be reimbursed hereunder. The maximum amount to be paid for all reimbursable expenses under this Agreement is **THREE THOUSAND, FIVE HUNDRED DOLLARS AND ZERO CENTS (\$3,500.00)** unless an additional amount is approved by the Director or his/her designee in writing, subject to the Maximum Contract Amount stated herein. Unless this Agreement is amended in writing according to its terms to increase the Maximum Contract Amount, any increase in the maximum amount of reimbursable expenses will reduce the Consultant's maximum fee amount accordingly.

3.03 Additional Services. If pre-approved additional services are performed by the Consultant, the City agrees to pay the Consultant for such additional services in accordance with Section 2.08. The maximum amount to be paid by the City for all additional services under this contract is **ZERO DOLLARS AND ZERO CENTS (\$0.00)**.

3.04 Invoicing and Payment. The City will make monthly progress payments for all Services performed under this Agreement based upon the Consultant's monthly invoices. Such invoices shall be in a form acceptable to the City and shall include detail of the time worked by the Consultant's own personnel, billings from subcontractors, and all other information necessary to assess the Consultant's progress. Invoices shall be accompanied by documentation of expenses for which reimbursement is sought, and all other supporting documentation required by the City. The City's Prompt Payment Ordinance, §§ 20-107 to 20-118, D.R.M.C., applies to invoicing and payment under this Agreement. Final Payment to the Consultant shall not be made until after the Project is accepted, and all certificates of completion, record drawings and reproducible copies are delivered to the City, and the Agreement is otherwise fully performed by the Consultant. The City may, at the discretion of the Director, withhold reasonable amounts from billing and the entirety of the final payment until all such requirements are performed to the satisfaction of the Director. However, no deductions shall be made from the Consultant's compensation on account of penalty, liquidated damages or other sums withheld from payments to contractor(s).

3.05 Maximum Contract Amount.

- (a) Notwithstanding any other provision of the Agreement, the City's maximum payment obligation will not exceed **SEVEN HUNDRED AND SEVENTY-SEVEN THOUSAND, SIX HUNDRED AND ELEVEN DOLLARS AND ZERO CENTS (\$777,611.00)** (the "Maximum Contract Amount"). The City is not obligated to execute an Agreement or any amendments for any further services, including any services performed by Consultant beyond that specifically described in **Exhibit A**. Any services performed beyond those set forth therein are performed at Consultant's risk and without authorization under the Agreement.
- (b) The City's payment obligation, whether direct or contingent, extends only to funds appropriated annually by the Denver City Council, paid into the Treasury of the City, and encumbered for the purpose of the Agreement. The City does not by the Agreement irrevocably pledge present cash reserves for payment or performance in future fiscal years, and the Agreement does not and is not intended to create a multiple-fiscal year direct or indirect debt or financial obligation of the City.
- (c) The Consultant understands and agrees that the provision of any services by the Consultant, which would cause the total amount payable to the Consultant to exceed the amount of previously appropriated and encumbered funds, is strictly prohibited. In the event the continuation of Services by the Consultant would cause the amount payable to the Consultant to exceed such amounts, the Consultant agrees to give to the Project Manager at least two (2) weeks notice of the exhaustion of available funds. In the event additional funds are not made available within such two (2) week period, the Consultant agrees to stop providing Services until such time as additional funds are appropriated and encumbered for the purposes of this Agreement, and amounts which remain available for payment to the Consultant

SECTION 4 – TERM AND TERMINATION**4.01 Term.**

The Agreement will commence upon mutual execution of this Agreement, and will expire on April 30, 2023 (the "Initial Term"). The City may automatically renew the Initial Term for up to two (2) additional one-year terms by appropriation of sufficient amounts for the subsequent year by City Council, and by providing notification of such renewal to the Consultant prior to the beginning of each one-year renewal term (each a "Renewal Term" and collectively the "Renewal Terms"). The first Renewal Term shall be from May 1, 2023 to April 30, 2024, and the second Renewal Term shall be from May 1, 2024 to April 30, 2025. Subject to the Executive Director's prior written authorization, the Consultant shall complete any Services in progress as of the expiration date of the Initial Term and any applicable Renewal Terms, and the term of the Agreement will extend until the Services are completed or earlier terminated by the Director.

4.02 Termination.

- (a) Nothing herein shall be construed as giving the Consultant the right to perform the Services contemplated under this Agreement beyond the time when its Services become unsatisfactory to the Director.
- (b) The Director may terminate this Agreement for cause at any time if the Consultant's Services become unsatisfactory, in the sole discretion of the Director. The City shall have

the sole discretion to permit the Consultant to remedy the cause of a contemplated termination for cause without waiving the City's right to terminate the Agreement.

- (c) In the event of a termination for cause, or in the event the Consultant becomes unable to serve under this Agreement, the City may take over work to be done under this Agreement and prosecute the work to the completion by contract or otherwise, and the Consultant shall be liable to City for all reasonable cost in excess of what the City would have paid the Consultant had there been no termination for cause.
- (d) The City may, for convenience, cancel and terminate this Agreement by giving not less than thirty (30) days' prior written notice to the Consultant, which notice shall state the date of cancellation and termination.
- (e) If the Consultant's services are terminated, postponed or revised, or if the Consultant shall be discharged before all the work and Services contemplated have been completed, or if the Project is, for any reason, stopped or discontinued, the Consultant shall be paid only for the portion of work or Services that has been satisfactorily completed at the time of such dismissal, termination, cancellation, postponement, revision or stoppage.
- (f) All drawings, specifications, and other documents relating to the design or administration of Services completed or partially completed shall be delivered by the Consultant to the City in the event of any dismissal, termination, cancellation, postponement, revision or stoppage.
- (g) In the event of any dismissal, termination, cancellation, postponement, revision or stoppage, the Consultant shall cooperate in all respects with the City. Such cooperation shall include, but not be limited to, delivery of drawings, specifications, and other documents referred to herein, and assisting the City during a transition to another Consultant, if applicable.

SECTION 5 – GENERAL PROVISIONS

5.01 City's Responsibilities.

- (a) The City shall provide available information regarding its requirements for each phase of the Project, including related budgetary information, and shall cooperate fully with the Consultant at all times. However, the City does not guarantee the accuracy of any such information and assumes no liability therefore. The Consultant shall not assume liability for relying upon inaccurate information provided to it by the City, except to the extent that the Consultant reasonably should have determined that such information was inaccurate and taken reasonable steps to promptly remedy or correct such inaccurate information. The Consultant shall notify City in writing of any information or requirements provided by the City which the Consultant believes to be inaccurate or inappropriate to the design or construction of the Project.
- (b) If the City observes or otherwise becomes aware of any fault or defect in the Project or non-conformance with Construction Documents, it shall give prompt notice thereof to Consultant.

5.02 Ownership of Documents.

- (a) The City shall have title and all intellectual and other property rights, in and to all phased and final design documents, and all data used in the development of the same, including the results of any tests, surveys or inspections at the Project site, and all photographs, drawings, drafts, studies, estimates, reports, models, notes and any other

materials or work products, whether in electronic or hard copy format, created by the Consultant pursuant to this Agreement, in preliminary and final forms and on any media whatsoever (collectively, the "Documents"), whether the Project for which the Documents were created is completed or not. The Consultant shall identify and disclose, as requested, all such Documents to the City.

- (b) To the extent permitted by the U.S. Copyright Act, 17 USC §§ 101, *et seq.*, as the same may be amended from time to time, the Documents are a "work made for hire," and all ownership of copyright in the Documents shall vest in the City at the time the Documents are created. To the extent that the Documents are not a "work made for hire," the Consultant hereby assigns and transfers all right, title and interest in and to the Documents to the City, as of the time of the creation of the Documents, including the right to secure copyright, patent, trademark, and other intellectual property rights throughout the world and to have and to hold such copyright, patent, trademark, and other intellectual property rights in perpetuity.
- (c) The Consultant shall provide (and cause its employees and subcontractors to provide) all assistance reasonably requested in securing for the City's benefit any patent, copyright, trademark, service mark, license, right or other evidence of ownership of such Documents, and shall provide full information regarding the Documents and execute all appropriate documentation in applying for or otherwise registering, in the City's name, all rights to such Documents.
- (d) The Consultant agrees to allow the City to review any of the procedures used in performing the work and services hereunder, and to make available for inspection the field notes and other documents used in the preparation for and performance of any of the services performed hereunder.
- (e) The Consultant shall be permitted to retain reproducible copies of all of the Documents for the information and reference, and the originals of all of the Documents, including all CAD disks, shall be delivered to the City promptly upon completion thereof, or if authorized by the City's Project Manager, upon termination or expiration of this Agreement.

5.03 Taxes and Licenses. The Consultant shall promptly pay, when they are due, all taxes, excises, license fees and permit fees of whatever nature applicable to the work and services which it performs under this Agreement, and shall take out and keep current all required municipal, county, State or Federal licenses required to perform its services under this Agreement. The Consultant shall furnish the Director, upon request, duplicate receipts or other satisfactory evidence showing or certifying to the proper payment of all required licenses and/or registrations and taxes. The Consultant shall promptly pay all owed bills, debts and obligations it incurs performing work under this Agreement and shall not allow any lien, verified claim, mortgage, judgment or execution to be filed against land, facilities or improvements owned or beneficially owned by the City as a result of such bills, debts or obligations.

5.04 Consultant's Records. Any authorized agent of the City, including the City Auditor or his or her representative, has the right to access, and the right to examine, copy and retain copies, at City's election in paper or electronic form, any pertinent books, documents, papers and records related to the Consultant's performance pursuant to this Agreement, provision of any goods or services to the City, and any other transactions related to this Agreement. The Consultant shall cooperate with City representatives and City representatives shall be granted access to the foregoing documents and information during reasonable business hours and until the latter of three (3) years after the final payment under the Agreement or expiration of the applicable statute of limitations. When conducting an audit of this Agreement, the City Auditor shall be subject to government auditing standards issued by the United States Government Accountability Office by the Comptroller General of the United States, including with respect to disclosure

of information acquired during the course of an audit. No examination of records and audits pursuant to this paragraph shall require the Consultant to make disclosures in violation of state or federal privacy laws. The Consultant shall at all times comply with D.R.M.C. 20-276.

5.05 Assignment and Subcontracting. The City is not obligated or liable under this Agreement to any party other than the Consultant named herein. The Consultant understands and agrees that it shall not assign or subcontract with respect to any of its rights, benefits, obligations or duties under this Agreement except upon prior written consent and approval of the City to such assignment or subcontracting. Any attempt by the Consultant to assign or subcontract its rights hereunder without such prior written consent of the City shall, at the option of the City, automatically terminate this Agreement and all rights of the Consultant hereunder. Such consent may be granted or denied at the sole and absolute discretion of the City. In the event any such subcontracting shall occur, with the City's approval, such action shall not be construed to create any contractual relationship between the City and such subcontractor, and the Consultant named herein shall in any and all events be and remain responsible to the City according to the terms of this Agreement.

5.06 No Discrimination in Employment. In connection with the performance of work under this contract, the Consultant may not refuse to hire, discharge, promote or demote, or discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, gender, age, military status, sexual orientation, gender identity or gender expression, marital status, or physical or mental disability. The Consultant shall insert the foregoing provision in all subcontracts.

5.07 Insurance.

- (a) **General Conditions:** The Consultant agrees to secure, at or before the time of execution of this Agreement, the following insurance covering all operations, goods or services provided pursuant to this Agreement. The Consultant shall keep the required insurance coverage in force at all times during the term of the Agreement, or any extension thereof, during any warranty period, and for eight (8) years after termination of the Agreement. The required insurance shall be underwritten by an insurer licensed or authorized to do business in Colorado and rated by A.M. Best Company as "A-"VIII or better. Each policy shall contain a valid provision or endorsement requiring notification to the City in the event any of the required policies be canceled or non-renewed before the expiration date thereof. Such written notice shall be sent to the parties identified in the Notices section of this Agreement. Such notice shall reference the City contract number listed on the signature page of this Agreement. Said notice shall be sent thirty (30) days prior to such cancellation or non-renewal unless due to non-payment of premiums for which notice shall be sent ten (10) days prior. If such written notice is unavailable from the insurer, the Consultant shall provide written notice of cancellation, non-renewal and any reduction in coverage to the parties identified in the Notices section by certified mail, return receipt requested within three (3) business days of such notice by its insurer(s) and referencing the City's contract number. If any policy is in excess of a deductible or self-insured retention, the City must be notified by the Consultant. The Consultant shall be responsible for the payment of any deductible or self-insured retention. The insurance coverages specified in this Agreement are the minimum requirements, and these requirements do not lessen or limit the liability of the Consultant. The Consultant shall maintain, at its own expense, any additional kinds or amounts of insurance that it may deem necessary to cover its obligations and liabilities under this Agreement.
- (b) **Proof of Insurance:** The Consultant shall provide a copy of this Agreement to its insurance agent or broker. The Consultant may not commence services or work relating to the Agreement prior to placement of coverages required under this Agreement. The

Consultant certifies that the certificate of insurance attached as **Exhibit C**, preferably an ACORD certificate, complies with all insurance requirements of this Agreement. The City requests that the City's contract number be referenced on the Certificate. The City's acceptance of a certificate of insurance or other proof of insurance that does not comply with all insurance requirements set forth in this Agreement shall not act as a waiver of the Consultant's breach of this Agreement or of any of the City's rights or remedies under this Agreement. The City's Risk Management Office may require additional proof of insurance, including, but not limited to, endorsements. Consultant shall allow inspection of insurance policies at a location in the Denver Metro area upon request by the City and in redacted form if reasonably necessary to protect confidential information.

- (c) **Additional Insureds:** For Commercial General Liability, Auto Liability and Excess Liability/Umbrella (if required), the Consultant's and subcontractor's insurer(s) shall include the City and County of Denver, its elected and appointed officials, employees and volunteers as additional insured.
- (d) **Waiver of Subrogation:** For all coverages required under this Agreement, with the exception of Professional Liability, the Consultant's insurer shall waive subrogation rights against the City.
- (e) **Subcontractors and Subconsultants:** All subcontractors and subconsultants (including independent contractors, suppliers or other entities providing goods or services required by this Agreement) shall be subject to all of the requirements herein and shall procure and maintain the same coverages required of the Consultant. The Consultant shall include all such subconsultants as additional insured under its policies (with the exception of Workers' Compensation) or shall ensure that all such subcontractors and subconsultants maintain the required coverages. The Consultant agrees to provide proof of insurance for all such subcontractors and subconsultants upon request by the City.
- (f) **Workers' Compensation/Employer's Liability Insurance:** The Consultant shall maintain the coverage as required by statute for each work location and shall maintain Employer's Liability insurance with limits of \$100,000 per occurrence for each bodily injury claim, \$100,000 per occurrence for each bodily injury caused by disease claim, and \$500,000 aggregate for all bodily injuries caused by disease claims. The Consultant expressly represents to the City, as a material representation upon which the City is relying in entering into this Agreement, that none of the Consultant's officers or employees who may be eligible under any statute or law to reject Workers' Compensation Insurance shall effect such rejection during any part of the term of this Agreement, and that any such rejections previously effected, have been revoked as of the date the Consultant executes this Agreement.
- (g) **Commercial General Liability:** The Consultant shall maintain a Commercial General Liability insurance policy with limits of \$1,000,000 for each occurrence, \$1,000,000 for each personal and advertising injury claim, \$2,000,000 products and completed operations aggregate, and \$2,000,000 policy aggregate.
- (h) **Business Automobile Liability:** The Consultant shall maintain Business Automobile Liability with limits of \$1,000,000 combined single limit applicable to all owned, hired and non-owned vehicles used in performing services under this Agreement.
- (i) **Professional Liability (Errors & Omissions):** The Consultant shall maintain limits of \$1,000,000 per claim and \$1,000,000 policy aggregate limit.
- (j) **Additional Provisions:**

- (a) For Commercial General Liability, the policy must provide the following:
 - (i) That this Agreement is an Insured Contract under the policy;
 - (ii) Defense costs are outside the limits of liability;
 - (iii) A severability of interests or separation of insureds provision (no insured vs. insured exclusion); and
 - (iv) A provision that coverage is primary and non-contributory with other coverage or self-insurance maintained by the City.
- (b) For claims-made coverage:
 - (i) The retroactive date must be on or before the contract date or the first date when any goods or services were provided to the City, whichever is earlier.
- (c) The Consultant shall advise the City in the event any general aggregate or other aggregate limits are reduced below the required per occurrence limits. At their own expense, and where such general aggregate or other aggregate limits have been reduced below the required per occurrence limit, the Consultant will procure such per occurrence limits and furnish a new certificate of insurance showing such coverage is in force.

5.08 Defense & Indemnification.

- (a) To the fullest extent permitted by law, the Consultant agrees to defend, indemnify, reimburse and hold harmless City, its appointed and elected officials, agents and employees for, from and against all liabilities, claims, judgments, suits or demands for damages to persons or property arising out of, resulting from, or related to the work performed under this Agreement that are attributable to the negligence or fault of the Consultant or the Consultant's agents, representatives, subcontractors, or suppliers ("Claims"). This indemnity shall be interpreted in the broadest possible manner consistent with the applicable law to indemnify the City.
- (b) The Consultant's obligation to defend and indemnify may be determined after the Consultant's liability or fault has been determined by adjudication, alternative dispute resolution, or otherwise resolved by mutual agreement between the parties. The Consultant's duty to defend and indemnify the City shall relate back to the time written notice of the Claim is first provided to the City regardless of whether suit has been filed and even if the Consultant is not named as a Defendant.
- (c) The Consultant will defend any and all Claims which may be brought or threatened against the City and will pay on behalf of the City any expenses incurred by reason of such Claims including, but not limited to, court costs and attorney fees incurred in defending and investigating such Claims or seeking to enforce this indemnity obligation. Such payments on behalf of the City shall be in addition to any other legal remedies available to the City and shall not be considered the City's exclusive remedy.
- (d) Insurance coverage requirements specified in this Agreement shall in no way lessen or limit the liability of the Consultant under the terms of this indemnification obligation. The Consultant shall obtain, at its own expense, any additional insurance that it deems necessary for the City's protection.
- (e) This defense and indemnification obligation shall survive the expiration or termination of this Agreement.

5.09 Colorado Governmental Immunity Act. The Parties hereto understand and agree that the City is relying upon, and has not waived, the monetary limitations (presently \$350,000 per person, \$990,000 per occurrence, subject to adjustment pursuant to C.R.S. § 24-10-114(1)(b)) and all other rights, immunities and protection provided by the Colorado Governmental Immunity Act, C.R.S. §§ 24-10-101, *et seq.*

5.10 Contract Documents; Order of Precedence. This Agreement consists of Sections 1 through 5, which precede the signature page, and the following attachment, which is incorporated herein and made a part hereof by reference:

Exhibit A	Scope of Work/Reimbursables
Exhibit B	Key Personnel/Fee/Classification/Hourly Rates
Exhibit C	ACORD Certificate of Insurance

In the event of an irreconcilable conflict between a provision of Sections 1 through 5 and the listed attachments, or between provisions of any attachments, such that it is impossible to give effect to both, the order of precedence to determine which provision shall control to resolve such conflict, is as follows:

Sections 1 through 5
Exhibit A
Exhibit B
Exhibit C

5.11 When Rights and Remedies Not Waived. In no event shall any payment by the City constitute a waiver of any breach of covenant or default which may then exist on the part of the Consultant. No assent, expressed or implied, to any breach of the Agreement shall be held to be a waiver of any later or other breach.

5.12 Governing Law; Venue. This Agreement shall be construed and enforced in accordance with the laws of the State of Colorado, the City's Charter and Code, and the ordinances, regulations and Executive Orders enacted or promulgated pursuant to the City's Charter and the Code, including any amendments. The City's Charter and the Code, as the same may be amended from time to time, are hereby expressly incorporated into this Agreement. Venue for any action arising hereunder shall be in the court exercising appropriate jurisdiction located within the City and County of Denver, Colorado.

5.13 Conflict of Interest.

- (a) The Parties agree that no employee of the City shall have any personal or beneficial interest in the Services or property described herein, and the Consultant further agrees not to hire or contract for Services with any employee or officer of the City which would be in violation of D.R.M.C., Chapter 2, Article IV, the City's Code of Ethics, or Denver City Charter provisions 1.2.9 and 1.2.12.
- (b) The Consultant agrees that it will not engage in any transaction, activity or conduct that would result in a conflict of interest under this Agreement. The Consultant represents that it has disclosed any and all current or potential conflicts of interest. A conflict of interest shall include transactions, activities or conduct that would affect the judgment, actions or work of the Consultant by placing the Consultant's own interests, or the interests of any party with whom the Consultant has a contractual arrangement, in conflict with those of the City. The City, in its sole discretion, shall determine the existence of a conflict of interest and may terminate this Agreement in the event such a conflict exists after it has given the Consultant written notice which describes the conflict. The Consultant shall have

thirty (30) days after the notice is received to eliminate or cure the conflict of interest in a manner that is acceptable to the City.

5.14 No Third-Party Beneficiaries. Enforcement of the terms and conditions of this Agreement, and all rights of action relating to such enforcement, shall be strictly reserved to the City and the Consultant, and nothing contained in this Agreement shall give or allow any claim or right of action by any other or third person under this Agreement. It is the express intention of the Parties that any person other than the City or the Consultant receiving services or benefits under this Agreement shall be deemed to be an incidental beneficiary only.

5.15 Time is of the Essence. The Parties agree that in the performance of the terms, conditions and requirements of this Agreement by the Consultant, time is of the essence.

5.16 Taxes, Charges and Penalties. The City shall not be liable for the payment of taxes, late charges, or penalties of any nature except as provided in the City's Prompt Payment Ordinance, §§ 20-107 to 20-118, D.R.M.C..

5.17 Proprietary or Confidential Information.

- (a) City Information: The Consultant acknowledges and accepts that, in performance of the Services under the terms of this Agreement, the Consultant may have access to Proprietary Data, as defined below, or confidential information which may be owned or controlled by the City and that the disclosure of such data or information may be damaging to the City or third parties. As such, the Consultant agrees that all Proprietary Data or confidential information provided or otherwise disclosed by the City to the Consultant be held in confidence and used only in the performance of its obligations under this Agreement. The Consultant shall exercise the same standard of care to protect such Proprietary Data or confidential information as a reasonably prudent Consultant would do to protect its own proprietary or confidential data. "Proprietary Data" shall mean geographic materials or Geographic Information Systems ("GIS") data owned by the City and County of Denver including but not limited to maps, computer programs, aerial photography, methodologies, software, diagnostics and documents; or any other materials or information which may be designated or marked "Proprietary" or "Confidential" and provided to or made available to the Consultant by the City. Such Proprietary Data may be in hardcopy, printed, digital or electronic format.
- (b) Consultant's Information: The Parties understand that all the material provided or produced under this Agreement may be subject to the Colorado Open Records Act, C.R.S. §§ 24-72-201, *et seq.*, and that in the event of a request to the City for disclosure of such information, the City shall advise the Consultant of such request in order to give the Consultant the opportunity to object to the disclosure of any of its proprietary or confidential material. In the event of the filing of a lawsuit to compel such disclosure, the City will tender all such material to the court for judicial determination of the issue of disclosure and the Consultant agrees that it shall be responsible to intervene in such lawsuit to protect and assert its claims of privilege and against disclosure of such material or waive the same. The Consultant further agrees to defend, indemnify and save and hold harmless the City, its officers, agents and employees, from any claim, damages, expense, loss or costs arising out of the Consultant's intervention to protect and assert its claim of privilege against disclosure under this Section 5.17(b) including, but not limited to, prompt reimbursement to the City of all reasonable attorney fees, costs and damages that the City may incur directly or may be ordered to pay by such court.

5.18 Use, Possession or Sale of Alcohol or Drugs. The Consultant, its officers, agents, and employees shall cooperate and comply with the provisions of Executive Order 94 and Attachment A thereto

concerning the use, possession or sale of alcohol or drugs, as may be amended. Violation of these provisions or refusal to cooperate with implementation of the policy can result in the City's barring the Consultant from City facilities or participating in City operations.

5.19 No Employment of Illegal Aliens to Perform Work Under the Agreement.

- (a) This Agreement is subject to Division 5 of Article IV of Chapter 20 of the Denver Revised Municipal Code, and any amendments thereto (the "Certification Ordinance").
- (b) The Consultant certifies that:
 - (1) At the time of its execution of this Agreement, it does not knowingly employ or contract with an illegal alien who will perform work under this Agreement.
 - (2) It will participate in the E-Verify Program, as defined in § 8-17.5-101(3.7), C.R.S., to confirm the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement.
- (c) The Consultant also agrees and represents that:
 - (1) It shall not knowingly employ or contract with an illegal alien to perform work under the Agreement.
 - (2) It shall not enter into a contract with a subconsultant or subcontractor that fails to certify to the Consultant that it shall not knowingly employ or contract with an illegal alien to perform work under the Agreement.
 - (3) It has confirmed the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement, through participation in the E-Verify Program.
 - (4) It is prohibited from using the E-Verify Program procedures to undertake pre-employment screening of job applicants while performing its obligations under the Agreement, and that otherwise requires the Consultant to comply with any and all federal requirements related to use of the E-Verify Program including, by way of example, all program requirements related to employee notification and preservation of employee rights.
 - (5) If it obtains actual knowledge that a subconsultant or subcontractor performing work under the Agreement knowingly employs or contracts with an illegal alien, it will notify such subconsultant or subcontractor and the City within three (3) days. The Consultant will also then terminate such subconsultant or subcontractor if within three (3) days after such notice the subconsultant or subcontractor does not stop employing or contracting with the illegal alien, unless during such three-day period the subconsultant or subcontractor provides information to establish that the subconsultant or subcontractor has not knowingly employed or contracted with an illegal alien.
 - (6) It will comply with any reasonable request made in the course of an investigation by the Colorado Department of Labor and Employment under authority of § 8-17.5-102(5), C.R.S, or the City Auditor, under authority of D.R.M.C. § 20-90.3.
- (d) The Consultant is liable for any violations as provided in the Certification Ordinance. If Consultant violates any provision of this section or the Certification Ordinance, the City may terminate this Agreement for a breach of the Agreement. If the Agreement is so terminated, the Consultant shall be liable for actual and consequential damages to the City. Any such termination of a contract due to a violation of this section or the Certification Ordinance may also, at the discretion of the City, constitute grounds for disqualifying Consultant from submitting bids or proposals for future contracts with the City.

5.20 Disputes. All disputes between the City and Consultant regarding this Agreement shall be resolved by administrative hearing pursuant to the procedure established by D.R.M.C. §§ 56-106(b), *et seq.*, provided, however, that such administrative hearing requirements shall not limit the Consultant's right to seek review of such administrative hearing determination as allowed by applicable law. For the purposes of that procedure, the City official rendering a final determination shall be the Director.

5.21 Waiver of C.R.S. §§ 13-20-802, et seq. The Consultant specifically waives all the provisions of Chapter 8 of Article 20 of Title 13, Colorado Revised Statutes (also designated C.R.S. §§ 13-20-802, *et seq.*) relating to design defects in the Project under this Agreement.

5.22 Survival of Certain Contract Provisions. The Parties understand and agree that all terms and conditions of this Agreement, together with the exhibits and attachments hereto, which, by reasonable implication, contemplate continued performance or compliance beyond the termination of this Agreement, (by expiration of the term or otherwise), shall survive such termination and shall continue to be enforceable as provided herein. Without limiting the generality of the foregoing, the Consultant's obligations for the provision of insurance and to indemnify the City shall survive for a period equal to any and all relevant statutes of limitation, plus the time necessary to fully resolve any claims, matters, or actions begun within that period.

5.23 Advertising and Public Disclosure. The Consultant shall not include any reference to this Agreement or to Services performed pursuant to this Agreement in any of its advertising or public relations materials without first obtaining the written approval of the Director, which will not be unreasonably withheld. Any oral presentation or written materials related to Services performed under this Agreement shall include only Services that have been accepted by the City. The Director shall be notified in advance of the date and time of any such presentation. Nothing in this provision shall preclude the transmittal of any information to officials of the City, including without limitation the Mayor, the Director, City Council or the Auditor.

5.24 Legal Authority. The Consultant represents and warrants that it possesses the legal authority, pursuant to any proper, appropriate and official motion, resolution or action passed or taken, to enter into this Agreement. Each person signing and executing this Agreement on behalf of Consultant represents and warrants that he/she has been fully authorized by Consultant to execute this Agreement on behalf of Consultant and to validly and legally bind Consultant to all the terms, performances and provisions of this Agreement. The City shall have the right, in its sole discretion, to either temporarily suspend or permanently terminate this Agreement if there is a dispute as to the legal authority of either Consultant or the person signing the Agreement on behalf of the Consultant to enter into this Agreement.

5.25 Notices. Notices, bills, invoices or reports required by this Agreement shall be sufficiently delivered if sent in the United States mail, postage prepaid, to the Parties at the following addresses:

to the City: Executive Director of Department of Transportation
and Infrastructure
201 West Colfax Avenue, Department 608
Denver, Colorado 80202

to the Consultant: Mr. Shawn LaBonde
Black & Veatch Corporation
4600 South Syracuse Street
Suite 800
Denver, CO 80237

The addresses may be changed by the Parties by written notice.

5.26 Severability. It is understood and agreed by the Parties hereto that, if any part, term, or provision of this Agreement, except for the provisions of this Agreement requiring prior appropriation and limiting the total amount to be paid by the City, is by the courts held to be illegal or in conflict with any law of the State of Colorado, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular part, term or provision held to be invalid.

5.27 Agreement as Complete Integration-Amendments. This Agreement is intended as the complete integration of all understandings between the Parties. No prior or contemporaneous addition, deletion or other amendment shall have any force or effect, unless embodied herein in writing. No subsequent novation, renewal, addition, deletion or other amendment hereto shall have any force or effect unless embodied in a written amendatory or other agreement executed by the Parties and signed by the signatories to the original Agreement. This Agreement and any amendments shall be binding upon the parties, their successors and assigns.

5.28 Electronic Signatures and Electronic Records. The Consultant consents to the use of electronic signatures by the City. The Agreement, and any other documents requiring a signature hereunder, may be signed electronically by the City in the manner specified by the City. The Parties agree not to deny the legal effect or enforceability of the Agreement solely because it is in electronic form or because an electronic record was used in its formation. The Parties agree not to object to the admissibility of the Agreement in the form of an electronic record, or a paper copy of an electronic document, or a paper copy of a document bearing an electronic signature, on the ground that it is an electronic record or electronic signature or that it is not in its original form or is not an original.

[Signature Pages and Exhibits to Follow]

Contract Control Number: DOTI-202053972-00
Contractor Name: BLACK & VEATCH CORPORATION

IN WITNESS WHEREOF, the parties have set their hands and affixed their seals at Denver, Colorado as of:

SEAL

CITY AND COUNTY OF DENVER:

ATTEST:

By:

APPROVED AS TO FORM:

REGISTERED AND COUNTERSIGNED:

Attorney for the City and County of Denver

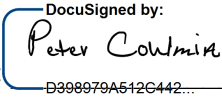
By:

By:

By:

Contract Control Number:
Contractor Name:

DOTI-202053972-00
BLACK & VEATCH CORPORATION

By:  _____
D398979A512C442...

Name: Peter Cohlma
(please print)

Title: Vice President
(please print)

ATTEST: [if required]

By: _____

Name: _____
(please print)

Title: _____
(please print)

Detailed Scope of Work

Task 1: Project Coordination and Management

1.1 Project Initiation Meeting

Hold a Project initiation meeting to set Project vision, expectations, communications, roles/responsibilities, schedule, and scope for the Project Management Team (PMT). At a minimum, the Consultant's Project Manager, Project Engineer and other key staff shall attend. Prepare and submit an agenda one week in advance of the meeting. Provide meeting minutes to the PMT within two days after the meeting.

1.2 Project Coordination

1.2.1 Project Coordination Meetings. Lead bi-weekly project coordination meetings with the PMT, highlighting progress and identifying issues and resolutions. Meeting minutes, including a list of action items shall be emailed to the PMT within 48 hours of each meeting. It is anticipated that progress meetings will be held remotely via web conferencing to facilitate attendance between the various City buildings and attendees.

1.2.2 Monthly Invoicing and Project Progress Reports.

Submit Monthly Project Progress Reports as part of the Consultant's monthly invoices. These reports shall include:

- Summary of work completed by task
- List of out-of-scope items and project change impacts (trends)
- Percent complete/budget status summary
- Other relevant project issues

1.2.3 Stakeholder Meetings. Attend quarterly stakeholder meetings. Meeting minutes, including a list of action items shall be emailed to the PMT within 48 hours of each meeting. When feasible, these meetings shall be scheduled adjacent to, or in conjunction with, other project coordination meetings or workshops to save staff time.

1.3 Quality Control Plan

Develop and submit a Quality Control Plan. Among other items, this Quality Control Plan will include the following:

- Consultant's Project Manager shall review all submittals prior to submitting to the PMT.
- Project Manager QC will be in addition to QA/QC reviews required by Black & Veatch. Note that quality control review efforts are included in the subtask for each deliverable.

1.4 Data Request Log

Prepare and maintain a list of items identified by the PMT or requested by the Consultant indicating the item(s) requested, when it is needed by, and when it was provided to Consultant.

TASK 1 DELIVERABLES AND MEETINGS

- Project initiation meeting including agenda and meeting notes
- Bi-weekly Project Coordination meetings including schedule updates, meeting notes, and materials
- Quarterly stakeholder meetings with meeting notes and materials
- Monthly invoicing and Project progress updates
- Quality Control Plan
- Data Request Log

Task 2: Flow Monitoring Program

2.1 Selection of Flow and Rainfall Monitoring Sites

Evaluate the sanitary sewer system, with the understanding of the relationship between the City-owned and MWRD-owned infrastructure, as well as MWRD permanent and temporary flow meter locations and non-Denver flow contributions. Propose adequate flow monitoring, including the period of monitoring, to develop dry weather flows and wet weather responses for the City.

Provide a draft Flow and Rainfall Monitoring Plan to the PMT. The draft plan shall include the flow meter and gauge types, locations, schedule, and data collection methodologies. Rain gauges shall be located to supplement existing Mile High Flood District (MHFD) ALERT System (maintained by OneRain, Inc) as needed to provide adequate rainfall monitoring over the City.

Field investigate the flow meter and rain gauge locations to verify sites provide appropriate site access, safety, and suitable hydraulic conditions. Inspect monitoring manholes to determine if any special problems might be encountered, i.e., surcharging, extreme depths, debris, etc.

Consultant and PMT shall discuss the draft plan and results of field investigations at a Field Investigations and Flow and Rainfall Plan Review Meeting. Incorporate any revisions into the final flow and rainfall monitoring plan.

2.2 Conduct Flow and Rainfall Monitoring Program

2.2.1 Permitting and Installation. Install approximately 30 area-velocity flow monitors and up to 10 bucket-type rain gauges. The installation date will be determined collaboratively with the PMT during the project.

Obtain necessary permitting and access prior to installation of flow meters and rain gauges. Provide all necessary traffic control and safety measures during installation.

The field crew will remove minor debris or sediment at the flow metering sites that would influence the measurement of wastewater flows. For severe line deposition, the City's maintenance personnel will be requested to clean the lines prior to flow monitoring.

2.2.2 Flow and Rainfall Monitoring. Maintain and collect data for approximately 30 area-velocity flow monitors and up to 10 bucket-type rain gauges for at least 60 days. The ultimate duration of the flow and rainfall monitoring will be determined collaboratively with the PMT during the Project and will be discussed during the bi-weekly Project Coordination meetings.

Flow, depth, velocity, and rainfall data will be recorded in 5-minute timesteps, where the time step represented is the beginning of the 5-minute period. Flow, depth, velocity, and rainfall data will be available for viewing, QA/QC verification, and analysis during the monitoring period through a

cloud-based web application. All monitored data shall be reviewed weekly, at a minimum, to ensure data quality and to identify any meter maintenance needs.

Check and calibrate the monitors prior to installation, and routinely check each instrument to determine if re-calibration is needed. Flow monitors and rain gauges shall be maintained to ensure proper meter operation. Maintenance shall include an inspection of the depth and velocity sensors to ensure they are clean and free of debris. Maintain a formal log of each field inspection including the meter location, data, time on meter, and time of manual depth verification. Provide all necessary traffic control and safety measures during site maintenance.

2.3 Flow and Rainfall Monitoring Memorandum

Provide a memorandum detailing the results of the flow and rainfall monitoring including:

1. The daily average, minimum, and maximum flows
2. Daily rainfall and storm analysis (including depth, duration, recurrence interval)
3. Analysis of the rain dependent inflow/infiltration (RDII)
4. Field installation and maintenance sheets, raw data, and any adjustments made during the quality control/quality assurance (QA/QC) process shall be included as appendices to the Flow and Rainfall Monitoring Memorandum.

Provide a copy of all recorded 15-minute flow, depth, velocity and rainfall monitoring data in electronic format to the PMT.

Provide a draft copy of the Flow and Rainfall Monitoring Memorandum in electronic format to the PMT for review. Incorporate review comments and submit a final Flow and Rainfall Monitoring Memorandum to the PMT as part of the Draft Master Plan Report.

TASK 2 DELIVERABLES AND MEETINGS

- Draft and Final Flow and Rainfall Monitoring Plan
- Field Investigations and Flow and Rainfall Plan Review Meeting
- All flow and rainfall monitoring data in electronic format
- Draft Flow and Rainfall Monitoring Memorandum in electronic format
- Final Flow and Rainfall Monitoring Memorandum as part of Draft Master Plan Report

Task 3: Model Build

3.1 Data Gap Analysis

Prior to beginning this task, the City will update the collection system information in GIS so that the most current GIS database information is made available.

Obtain a copy of the City's most current GIS database and perform a network connectivity evaluation to identify any connectivity issues in the GIS. Conduct a review of existing GIS attribute information to identify incorrect or missing data to support hydraulic model development, including but not limited to, duplicate or missing Facility IDs, inverse pipe slopes, and incomplete or missing pipe materials, age, diameters, lengths, invert elevations, and manhole rim elevations.

Prepare and submit a Data Gap Analysis Memorandum to the PMT that documents any missing data and GIS database attribute and/or connectivity errors.

Coordinate with the PMT to develop a recommended approach for addressing missing data and GIS database attribute and/or connectivity errors. Recommendations could include, but not limited to:

- Assigning elevations to manhole rims using elevation contour data.
- Inferring missing pipe elevations using upstream and downstream known pipe elevations
- Assuming missing diameters based on upstream and downstream pipe sizes
- Identifying any recommended survey locations

Missing data and GIS database attribute and/or connectivity errors shall be resolved based on direction and/or data supplied by the City. The Consultant shall not be responsible for any additional field survey or data collection necessary to complete data gaps.

In coordination with the PMT, develop a data flagging protocol to identify data sources, changes, or assumptions to physical model facilities for documentation and data quality purposes.

3.2 Data Collection and Physical Facilities Model Construction

Work directly with the City to complete necessary revisions to the GIS collection system for subsequent hydraulic model development. It is anticipated that any GIS revisions necessary to correct for pipe connectivity or flipped pipes identified in Task 3.1 will be completed by the City. Minor corrections and revisions to the GIS collection system necessary for hydraulic model construction will be made by Consultant up to a maximum 40-hour level of effort, based on direction and/or data supplied by the City in Task 3.1. Any effort projected to exceed 40 hours will be turned back to the City for further revisions.

After the City has completed all necessary GIS revisions, use the updated GIS to construct a hydraulic model of the City's collection system to include all pipes (8" and larger), manholes, lift stations, and special structures. Data for physical facilities will be collected from the City's GIS and direction and/or data supplied by the City. Model construction will also include:

- Excluding facilities that are abandoned or taken out of service
- Excluding private lines and/or non-City owned facilities
- Assuming pipe roughness data based on pipe material and age
- Adding pump curves and on/off elevations as needed to simulate pump station operations.
- Including hydraulic details for other special structures such as pump stations wet wells, siphons, weirs, and diversion structures
- Based on direction from the City in Task 3.1, align MWRD-owned facilities identified in the City's GIS with MWRD model export and re-connect the City's network to the MWRD nodes.

GIS revisions and final model data will be provided to the City.

3.3 Development of Flow Components

Determine model node allocation for contributing land use parcels. Associate contributing parcels to modeled sanitary sewer node by tracing connectivity and/or associating to nearest sanitary sewer node.

Delineate flow meter basins to identify the portion of the City's collection system and parcels that contributes flow to the flow meters installed per Task 2 as well as connections to the MWRD interceptors.

Collect and format rain gauge data from the Mile High Flood District ALERT System for up to 35 rain gauges to supplement the rain gauges installed during Task 2. Perform a Thiessen analysis of the rain gauge data to correlate rainfall to each meter basin.

Determine the dry weather flows, dry weather diurnal curves, base infiltration, and RDII parameters (using the RTK method) for each meter basin using the flow monitoring data obtained in Task 2. Perform a flow balance to identify any negative flows or meter errors that require flow adjustment to obtain accurate accounting of flow contributions. In the case of low rainfall or inconclusive RDII parameters, the consultant will coordinate with MWRD and use MWRD-owned meters to help refine the RDII in the model. Any assumptions shall be clearly documented within the model and in the report.

Review water usage data from Denver Water (provided by the City) to evaluate existing user wastewater return flows and industrial/commercial users. This analysis will also be used to understand and define future flows.

Data developed during this task will include:

- Modeled node allocations
- Flow meter basins
- Average daily dry weather flow (ADDF) and unitized dry-weather diurnal flow hydrographs for each meter basin.
- Industrial and/or large water user flows in each meter basin.
- Base wastewater production flow (WWP) and dry weather infiltration (DWI) flow in each meter basin.
- RDII hydraulic coefficients (RTK parameters) for each meter basin for storm events captured during the temporary flow and rainfall monitoring.

3.4 Development of Unit Rates and Flow Allocation

Use the flows developed in Task 3.3, along with population and land use data to derive unit rates for each meter basin. The DRCOG Urban Sim model, and current zoning from Denver Right – Blueprint Denver, will be the basis for population, employment, equivalent population (PE) and land use data. Summarize and spatially locate existing land use types, developed acreage, development limits, and PEs for existing developed areas in each meter basin. Determine WWP and DWI unit rates in terms of gallons per capita per day (gpcd) and gallons per acre per day (gpad) by meter basin. The large user flows will be identified separately from the ADDF identified for each meter basin to develop appropriate per-capita unit flow rates.

Based on the results of the flow balance in Task 3.3, determine any adjusted flow contribution rates necessary for flow generation in the model.

Existing wastewater flow distributions will be based on unit rates associated with the flow and land use aggregated by meter basin areas. Land use data will be applied to the WWP and DWI unit rates used to allocate existing WWP and DWI. Large water users and/or industrial flows will be loaded as an additional separate base flow. Diurnal curves, developed for each meter basin, will be applied to the WWP to generate daily diurnal variations in dry flow. Based on the analysis conducted in Task 3.3, meter-basin specific RDII components will be assigned based on land use (developed acreage) and added to the dry weather unitized hydrographs to generate peak wet-weather flows.

Compare the WWP, DWI, and RDII between meter basins, identify any high DWI or RDII areas, and provide a comparison of unit rates to the City's existing model assumption loading.

3.4.1 Develop Flow Components Digital Module.

Develop a digital module in Power BI to provide data visualization of the results of Task 3.3 and 3.4. The flow components digital module will show spatial distribution (by meter basin) of population, employment, PE, land use, dry flows and rates, and RDII flows and rates. Coordinate with the City to decide ultimate layout and functionality of the Flow Components digital module.

Provide the City with a Draft Flow Components digital module for review. Incorporate City comments and provide an updated Flow Components digital module with the Draft Master Plan Report. All Final digital modules will be provided as part of the Final Master Plan as part of Task 7.5.3.

3.5 Flow Components and Unit Rates Workshop

Conduct a Flow Analysis and Unit Rates Workshop to discuss the flows, diurnal curves, demographic and land use data, unit rates, and unit rate comparisons. The workshop will be used to discuss how the results of this task will be used for model loading, any items of concern, and receive staff comments. Within two days after the workshop, provide meeting minutes to the City.

3.6 Lift Station Assessment and Memorandum

Perform a planning level capacity evaluation of 6 of the 7 lift stations appropriate for modeling the stations. Coordinate with City staff to obtain any available lift station capacity and operations information. Previous modeling and pump station data collected in conjunction with the Lift Station #5 Alternatives Analysis, including condition assessment and all models, will be provided by the City. It is anticipated that no pump station recorded flow data will be provided as part of the analysis.

The following will be included as part of the planning-level evaluation of the lift stations:

1. **Define contributing service area and wastewater flows (dry-weather and wet-weather).** Quantify the flows tributary to each lift station for each of the planning scenarios. Prepare a flow summary which will include average dry weather flow, peak dry weather flow, and peak wet weather flow.
2. **Evaluate firm and total capacity of station and associated force main.** The lift stations and associated force mains will be evaluated for their ability to pump (firm capacity) and

transmit projected dry and peak wet weather flows without causing backup into upstream gravity collection system or causing excessive head loss in the force main.

3. **Identify lift station improvements.** Identify any capacity improvements to the lift stations and force mains to provide adequate capacity to meet future flows for each planning year.

Prepare and submit a Draft Lift Station Assessment Memorandum to the PMT for review. The Draft Lift Station Assessment Memorandum shall include the analysis results as described above for each of the 6 lift stations to be evaluated. Consultant shall incorporate review comments and submit a Final Lift Station Assessment Memorandum to the PMT as part of the Draft Master Plan Report.

3.6.1 Develop Lift Station Assessment Digital Module.

Develop a digital module in Power BI to provide data visualization of the results of Task 3.6. The Lift Station Assessment digital module will show the peak and total capacity of the pump station and force main compared to current and projected flows for each planning year. In addition, the module will show a map of the lift station location and tributary area for each planning year. The module will also show system head curves for with and without improvements for each projected dry weather and wet weather flows. Coordinate with the City to decide ultimate layout, components, and functionality of the Lift Station Assessment digital module.

Provide the City with a Draft Lift Station Assessment digital module for review. Incorporate City comments and provide an updated Lift Station Assessment digital module with the Draft Master Plan Report. All Final digital modules will be provided as part of the Final Master Plan as part of Task 7.5.3.

3.7 Hydraulic Model Construction Memorandum and Model Files

Prepare a Hydraulic Model Construction Memorandum to summarize the physical data, flow loading basis, and flow components in the model. The memorandum will document the facilities included in the model, data sources, and any assumptions made about the facility data. The memorandum shall include maps showing the modeled City's collection system within each meter basin boundary. The memorandum will include summaries of existing land use types, developed acreage, development limits, and PEs for existing developed areas in each metered basin. The memorandum will include explanation about flow allocation, loading, and flow generation.

The memorandum is to summarize the flow and rainfall analysis, the development of dry and wet flow components, and unit rates for input into the hydraulic model. The memorandum shall include maps showing the City's collection system within each meter basin boundary as well as the flow and rain gauge locations used in the analysis. The memorandum shall document comparisons of WWP, DWI, and RDII between meter basins, identify any high DWI or RDII areas, and provide a comparison of unit rates to the City's existing model assumption loading.

Submit the Hydraulic Model Construction Memorandum for the City's review and comment. Incorporate comments on the draft memorandum and submit the final memorandum to the City as part of the Draft Master Plan.

Provide the draft constructed existing system hydraulic model in EPA SWMM compatible format to the PMT for review and approval. PMT shall provide review comments within two weeks to Consultant. Incorporate review comments and provide final constructed existing year hydraulic model to City.

TASK 3 DELIVERABLES AND MEETINGS

- Data Gap Analysis Memorandum
- Proposed model development approach, data flagging protocol, and survey locations, if needed
- Flow Components and Unit Rates Workshop
- Flow Components and Unit Rates Workshop Meeting Minutes
- Draft Lift Station Assessment Memorandum
- Draft Hydraulic Model Construction Memorandum
- Draft and Final constructed existing system hydraulic model in electronic EPA SWMM-compatible format
- Draft Flow Components Digital Module
- Draft Lift Station Assessment Digital Module
- Final Lift Station Assessment and Hydraulic Model Construction memorandums as part of Draft Master Plan

Task 4: Model Calibration and Validation**4.1 Dry Weather Calibration**

Calibrate the existing year hydraulic model to match dry weather flow monitoring data. Dry weather calibration will confirm that the model predicted WWP, DWI, Large User/Industrial flows, and average diurnal profile mimic the observed dry weather flows and diurnal patterns at each meter location. Pipe roughness and sediment depth will be adjusted to match observed depths and velocities.

Calibration will be performed to meeting industry standard calibration guidelines for dry weather calibration based on the Water Professional Users Group (WaPUG). Any meter basins that do not meet calibration guidelines shall be documented and discussed with the PMT.

4.2 Wet Weather Calibration

Wet weather calibration will consist of adjusting the RDII (RTK) parameters to achieve calibration with the peak wet weather flows observed during rainfall events captured during the flow monitoring program. The goal of wet weather model calibration is to result in wet weather parameters that provide a “best fit” to multiple events. Continuous simulations for the entire calibration period will be conducted to verify the model simulates RDII response to multiple storms events as well as varying soil moisture conditions.

Calibration will be performed to meeting industry standard WaPUG calibration guidelines for wet weather calibration. Any meter basins that do not meet calibration guidelines shall be documented and discussed the PMT.

4.3 Model Calibration Workshop

Conduct a Model Calibration Workshop to discuss the results of the dry weather and wet weather calibration. The workshop will be used to discuss any items of concern and receive staff comments. Provide meeting minutes to the City within two days after the workshop.

4.4 Model Calibration Memorandum and Model Files

Prepare a Model Calibration Memorandum to document the dry weather and wet weather calibration results. The memorandum will provide a detailed documentation of calibration results for each meter used including the percent variance tables, hydrographs showing the predicted and observed flows, “best fit” wet weather calibration graphs, as well as detailed model notes. The memorandum will include documented reasons for any locations where calibration tolerances are not achieved.

Submit the draft Model Calibration Memorandum for the City’s review and comment. Incorporate comments into the final Model Calibration Memorandum to the PMT as part of the Draft Master Plan.

Provide the draft calibrated model in EPA SWMM compatible format to the PMT for review and approval. PMT shall provide review comments within two weeks to Consultant. Incorporate review comments and provide final calibrated hydraulic model to PMT.

TASK 4 DELIVERABLES AND MEETINGS

- Model Calibration Workshop with City staff
- Model Calibration Workshop Meeting Minutes
- Calibrated Hydraulic Model in electronic EPA SWMM compatible files
- Draft Hydraulic Model Calibration Memorandum in electronic format
- Final Hydraulic Model Calibration Memorandum as part of the Draft Master Plan

Task 5: Existing System Evaluation

5.1 Wet Weather Sensitivity Analysis and Memorandum

Develop two design storm patterns unique for the City service area based on local historical rainfall patterns and the Colorado Urban Hydrograph Procedure (CUHP). One storm pattern shall reflect a short-duration, high intensity storm and the other patterns shall reflect a long-duration, low intensity storm. It is assumed that the long-duration, low intensity storm will be the same storm pattern used by MWRD.

Use the NOAA Atlas 14 Precipitation-Frequency Atlas of the United States (NOAA Atlas 14) to determine rainfall depths associated with the 1-year, 2-year, 5-year, 10-year, and 25-year storm frequencies for the City service area. The rainfall depths for each storm frequency shall be applied to the two design storm patterns to develop 10 unique design storms to be used for wet weather sensitivity analysis.

The design storms will be applied to the calibrated hydraulic model to compare the system response under each design event. Collaborate with the City to determine the appropriate basis for comparing results which could include the number of sanitary sewer overflows, the number of surcharged pipes, and wet weather flow volumes. Provide graphs of results and discuss with the City. Based on this “knee of the curve” analysis, the City will select a design storm around which to base the existing model and proposed capital improvements.

Submit the draft Wet Weather Sensitivity Memorandum for the City’s review and comment. Incorporate comments into the final Wet Weather Sensitivity Memorandum to the PMT as part of the Draft Master Plan.

5.2 Existing Condition Evaluation and Improvements

Using the calibrated model, the system will be evaluated to identify areas that may have low velocities (less than 2.0 feet per second (fps)) under typical dry weather flows. Any pipes that are approaching 75% capacity during dry weather peak flows shall also be identified and prioritized for capital improvements. Following an understanding of the existing system under dry weather flows, the system shall be evaluated under the selected design storm selected in Task 5.1. Basins with high baseflow or RDII shall be identified and prioritized for future lining projects. All pipes that are unable to meet current City criteria for capacity under the design storm shall also be identified for capital improvements and recommendations made for upsizing.

Identify opportunities for system efficiencies such as diverting flows to leverage existing capacity in relief sewers. Improvements shall be sized to accommodate future growth or anticipated changes in the tributary area. Final recommended pipe sizing will be completed after establishing future flows and after identifying opportunities for system efficiencies.

5.3 Existing System Evaluation and Improvements Memorandum and Model Files

Prepare an Existing System Evaluation and Improvements Memorandum. Submit the draft Existing System Evaluation and Improvements Memorandum for the City's review and comment. Incorporate comments on the draft memorandum and submit the final memorandum to the City as part of the Draft Master Plan.

Provide a copy of the model used for existing system evaluations and improvements in EPA SWMM compatible format to the PMT for review and approval. PMT shall provide review comments within two weeks to Consultant. Incorporate review comments and provide final existing system model to City.

TASK 5 DELIVERABLES AND MEETINGS

- Wet Weather Sensitivity resulting graphs and review meeting
- Wet Weather Sensitivity Memorandum
- Existing System Model in electronic EPA SWMM compatible files
- Draft Existing System Evaluation Memorandum in electronic format
- Final Wet Weather Sensitivity Memorandum and Existing System Evaluation Memorandum as part of the Draft Master Plan

Task 6: Future System Evaluations

6.1 Future Flow Model Development

6.1.1 Determine Future Flow Methodology

Using the results of Task 2 and Task 3.4, determine the dry and wet weather loading parameters based on current land uses. Comparisons will be made between newer developments, historic neighborhoods, and those experiencing infill and redevelopment. Based on a review of the available data sources, recommend a methodology for estimating future flows, including planning horizon. Evaluate up to two future scenarios and a build-out scenario (three total scenarios).

It is anticipated that the DRCOG Urban Sim model will provide population and employment projections for the year 2020 through year 2035. Based on the DRCOG growth trends and

development information from the City, estimate PEs and developed land use for planning years after 2035.

6.1.2 Develop Flow Projections Digital Module

Develop a digital module in Power BI to provide a data visualization of Task 6.1.1 and to provide a sensitivity analysis of the future flow assumptions by land use category. The module shall provide a data visualization of the land use and population/employment estimates by planning year. Module will allow varying usage rates to be applied to each land use category and provide resulting projected flows based on the varying rates to assess the sensitivity of future flow rate assumptions. Coordinate with the City to decide ultimate layout and functionality of the Flow Projections digital module.

Provide the City with a Draft Flow Projections digital module for review. Incorporate City comments and provide an updated Flow Projections digital module with the Draft Master Plan Report. All Final digital modules will be provided as part of the Final Master Plan as part of Task 7.5.3.

6.1.3 Develop Planning Year Hydraulic Models

Develop planning model scenarios for up to three future scenarios. For each planning year scenario, incorporate the projected land use and PE data into the hydraulic models as well as any proposed sewer extension and/or improvement projects and initial connections to future developments. For each planning scenario, this sub-task will include:

- Incorporate known plans for new future sewer facilities as well as any plans for sewer facility decommissioning. This task is intended to build a model that reflects known collection system changes for future planning year scenarios. It is not intended to substitute for the City's current Rehabilitation and Replacement Program.
- Incorporate sewer extensions and future developed land use and PE data.
- Load any changes to large user and/or industrial flows.
- Apply unit rates, diurnal curves, and wet weather parameters consistent with the Future Flow Methodology established in Task 6.1.1.

6.2 Future System Evaluation and Improvements

The future system will be evaluated under dry and wet weather conditions for three future year scenarios. The system will be evaluated to identify areas that may have low velocities (less than 2.0 fps) under projected dry weather flows. Any pipes that are approaching 75% capacity during dry weather peak flows shall also be identified and prioritized for capital improvements. The system shall be evaluated under the selected design storm selected in Task 5.1.

All pipes that are unable to meet current City criteria for capacity under the design storm under future conditions shall also be identified for capital improvements and recommendations made for upsizing. Improvements shall be sized to accommodate future growth or anticipated changes in the tributary area. Identify opportunities for system efficiencies such as diverting flows to leverage capacity in relief sewers.

6.3 System Evaluation and Improvements Workshop

A System Evaluation and Improvements Workshop will be conducted to discuss the results of the existing and future system evaluation and improvements. The workshop will be used to discuss

items of concern and receive staff comments. Provide meeting minutes to the City within two days after the workshop.

6.4 Future System Evaluation and Improvements Memorandum and Model Files

Prepare a Future System Evaluation and Improvements Memorandum. Summarize the methodology, data, and results in tabular and graphical forms for each planning year that will clearly show how and where growth will impact the City and the recommended improvements necessary to facilitate growth and possible/potential redevelopment. Submit the draft Future System Evaluation and Improvements Memorandum for the City's review and comment. Incorporate comments on the draft memorandum and submit the final memorandum to the City as part of the Draft Master Plan.

Provide a copy of the model used for future system evaluations and improvements in EPA SWMM compatible format to the PMT for review and approval. PMT shall provide review comments within two weeks to Consultant. Incorporate review comments and provide final existing system model to City.

TASK 6 DELIVERABLES AND MEETINGS

- Future Flow Methodology results and review meeting
- Draft Flow Projections Digital Module
- System Evaluation and Improvements Workshop
- Draft Future System Evaluation and Improvements Memorandum in electronic format
- Final Future System Evaluation and Improvements Memorandum as part of Draft Master Plan
- Future System Model in electronic EPA SWMM compatible files

Task 7: Final Report and Digital Master Plan

7.1 Develop Capital Improvement Plan

Development of the Capital Improvement Plan will include identifying prioritization and any phasing for recommended projects and developing mapping and electronic documentation of capital improvement projects. Coordinate with the City staff to develop the overall Capital Improvement Plan and to identify the proper format for submittal. It is anticipated that the recommended improvements shall be provided to the City in electronic shapefile format and include at least the following:

1. Each improvement will have an improvement identification number (ID) using a format provided by the City.
2. Projects shall be summarized by ID and include a description of the improvements (including the location of the project, length and diameter of all pipelines, and capacity of lift stations, etc.).
3. Project priority and phasing will be identified for each project.
4. Identify the driver for the improvement (existing deficiency, increased development, etc.), the year needed, and estimated construction costs and total project costs for each project using costs provided by the City.
5. The recommended improvements shall be shown in figures with the ID labeled on the figure, and tables shall be included in the report summarizing information for each project by ID.

7.1.1 Develop CIP Digital Module

Develop a digital module in Power BI to provide a data visualization of the capital improvement plan including a project location map and project details developed in Task 7.1. Coordinate with the City to decide ultimate layout and functionality of the CIP digital module.

Provide the City with a Draft CIP digital module for review. Incorporate City comments and provide an updated CIP digital module with the Draft Master Plan Report. All Final digital modules will be provided as part of the Final Master Plan as part of Task 7.5.3.

7.2 Conduct CIP Review Workshop

Conduct a Capital Improvements Plan Review Workshop to present the draft CIP and discuss project details, prioritization, and phasing as well as discuss any items of concern, and receive staff comments. Provide meeting minutes to the City within two days after the workshop.

7.3 Submittal for Cost Estimates for Recommended Improvements

The City currently has a preferred software program (WCPMIS) used to develop cost estimates for planning projects. It is not anticipated that the Consultant will develop any unit costs or cost estimates for CIPs associated with this Project.

Coordinate with the City to provide the recommended improvement details for the CIPs for the City to input into their WCPMIS. The City will provide projects costs to be documented in the Master Plan in the Final CIP Digital Module.

7.4 Capital Improvement Plan Memorandum and Model Files

Submit the Draft Capital Improvement Plan Memorandum for the City's review and comment following the workshop. Incorporate comments on the memorandum and provide to the City as part of the Draft Master Plan.

Provide a copy of the model that includes all CIP projects for each planning year in an EPA SWMM compatible format to the PMT for review and approval. PMT shall provide review comments within two weeks to Consultant. Incorporate review comments and provide final CIP model to City.

7.5 Master Plan Report

7.5.1 Prepare and Submit Draft Report and Digital Modules

Prepare a draft version of the Sanitary Sewer Master Plan in electronic format. The Draft master plan report will be a compilation of all memorandums updated to include City's review comments, as well as an Executive Summary. The Draft Master Plan report shall be bookmarked for easy navigation to all report sections.

Provide all updated digital modules that incorporate the City's comments with the Draft Master Plan Report. These modules will incorporate City comments throughout the project based on prior draft submittals.

7.5.2 Conduct Draft Master Plan Review Meeting

Conduct a Draft Master Plan Review Meeting to present the Draft Master Plan and Digital Modules, discuss items of concern, and receive staff comments. Submit the Draft Sanitary Sewer Master Plan and all Digital Modules for the City's review and comment at least two weeks before the meeting.

7.5.3 Submit Final Master Plan Report, Digital Modules, and Model Files

Incorporate comments on the Draft Master Plan and Digital Modules and submit the final deliverables to the City. Final deliverables shall include:

- Final electronic copy (pdf) of the Final Master Plan Report. The Final Master Plan report shall be bookmarked for easy navigation to all report sections.
- Final copies of the digital modules
- Final copies of the hydraulic model in EPA SWMM compatible format
- Copies of the GIS files used in the creation of the Master Plan CIP mapping

TASK 7 DELIVERABLES AND MEETINGS

- Draft CIP Digital Module
- Capital Improvement Plan Workshop
- Capital Improvement Plan Workshop Meeting Minutes
- Excel or GIS shapefile of the CIP projects for City Cost Estimating is WCPMIS
- Electronic format of Capital Improvement Plan details
- Draft Capital Improvement Plan Memorandum in electronic format
- Final Capital Improvement Plan Memorandum to be provided as part of Draft Master Plan
- 1 electronic copy (PDF) of the Draft Master Plan Report
- Draft Master Plan Review Meeting
- 1 electronic copy (PDF) of the Final Master Plan Report
- Final Digital Modules
- Final EPA SWMM format model files
- Final GIS files used for CIP mapping

Task 8: Optional Tasks

8.1 Lift Station Drawdown Flow Testing

Perform wet well draw down testing at up to 4 lift stations to obtain more accurate estimates of station pumping capacity where existing pumped flow records do not exist or where gravity flow monitoring cannot adequately capture pumped flows.

EXHIBIT B**PER SECTION 2.D OF THE REQUEST FOR PROPOSAL BLACK & VEATCH CONSIDERS THE INFORMATION CONTAINED IN ATTACHEMENT 2 CONFIDENTIAL AND PROPRIETARY****CONSULTANT TEAM MEMBERS**

Prime Consultant: **Black & Veatch**

List **ALL** potential firm personnel titles/classification that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (e.g. Project Manager). Provide additional sheets as necessary

Title/Classification	Responsibilities	Hourly Billing Rate
Project Director	Contract management, QA/QC, oversight	\$256
Project Manager - Senior	Lead B&V contact, daily technical team management	\$235
Project Manager - Mid	Lead B&V contact, daily technical team management	\$208
Project Manager - Junior	Lead B&V contact, daily technical team management	\$182
Quality Control Reviewer - Senior	QA/QC review of deliverables and technical products	\$254
Quality Control Reviewer - Mid	QA/QC review of deliverables and technical products	\$196
Quality Control Reviewer - Junior	QA/QC review of deliverables and technical products	\$163
Project/Hydraulics Engineer - Senior	Primary task leads for technical tasks	\$197
Project/Hydraulics Engineer - Mid	Primary task leads for technical tasks	\$170
Project/Hydraulics Engineer - Junior	Primary task leads for technical tasks	\$130
Staff Engineer - Senior	Engineering support for technical tasks	\$131
Staff Engineer - Mid	Engineering support for technical tasks	\$114
Staff Engineer - Junior	Engineering support for technical tasks	\$108
Technical Specialists - Senior	Subject matter experts and senior technical input	\$257
Technical Specialists - Mid	Subject matter experts and senior technical input	\$226
Technical Specialists - Junior	Subject matter experts and senior technical input	\$197
GIS Specialist - Senior	GIS data processing and hydraulic model integration	\$183
GIS Specialist - Mid	GIS data processing and hydraulic model integration	\$156
GIS Specialist - Junior	GIS data processing and hydraulic model integration	\$130
CAD Graphics and Tech Support - Senior	CAD graphics and other technician support	\$172
CAD Graphics and Tech Support - Mid	CAD graphics and other technician support	\$147
CAD Graphics and Tech Support - Junior	CAD graphics and other technician support	\$103
Project Support Assistant - Senior	Project administration, controls, and invoicing	\$148
Project Support Assistant - Mid	Project administration, controls, and invoicing	\$109
Project Support Assistant - Junior	Project administration, controls, and invoicing	\$85

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate:	
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The City will not compensate the consultant for expenses such as postage, mileage, parking, or telephone costs. Reproduction, if requested by the City, shall be reimbursed at actual cost if approved in advance by Project Manager. Such costs are, in all such instances, included in the hourly rates paid by the City. Reproduction of submittals requested by the City including such items as end-of-phase reports, drawings, bid documents, record drawing reproductions, etc. are not included in the hourly rates, and will be itemized as a not-to-exceed reproducible expense and will be reimbursed at actual cost.

REIMBURSABLE EXPENSES

Prime Consultant: **Black & Veatch**

The additional expenses of the consultant reimbursable by the City shall include:

- Actual cost of reproduction of drawings and specifications requested by the City.
- Travel/transportation costs shall not be reimbursable by the City for Prime Consultants.
- Subconsultant costs shall be reimbursable for the invoiced amount plus 5% markup.

Actual Costs:

Copies (8 1/2 x 11")	Color - \$0.65 each Black & White - \$0.15 each	\$/each
Copies (8 1/2 x 14" or 8 1/2 x 17")	Color - \$0.90 each Black & White - \$0.25 each	\$/each
Red-line copies	Color - \$0.60 each Black & White - \$0.15 each	\$/sf
Reproducibles	Color - \$0.60 each Black & White - \$0.15 each	\$/sf
Vehicle Mileage	Not Reimbursable	
Telephone Costs	Not Reimbursable	
Technology Costs (computer, software, etc.)	Not Reimbursable	
Travel/transportation costs	Not Reimbursable	

EXHIBIT B**PER SECTION 2.D OF THE REQUEST FOR PROPOSAL RJN GROUP, INC CONSIDERS THE INFORMATION CONTAINED IN ATTACHEMENT 2 CONFIDENTIAL AND PROPRIETARY****SUB-CONSULTANT TEAM MEMBERS**

Sub-Consultant: ADS Environmental Services

List **ALL** potential firm personnel titles/classification that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (e.g. Project Manager). Provide additional sheets as necessary

Title/Classification	Responsibilities	Unit Cost
ADS Environmental Services will complete the required flow monitoring in much the same way as a construction contractor on a project for a fixed fee/bid that covers mobilization, permit acquisition, equipment installation, equipent commissioning, data transmission and monitoring, field calibration and troubleshooting, equipment removal, and demobilization. As such their reimbursement on an hourly rate structure does not apply. The City will be billed based on a schedule of values that establishes a percent complete for meter installation activities, activity during flow monitoring, and meter removal activities.		
	Flow Monitor Site Investigation and Installation	\$1400.00 Each
	Rain Guage Site Investigation and Installation	\$500.00 each
	Flow Monitor Data Collection and Maintenance	\$2100.00 Per Meter Per Month
	Rain Guage Data Collection and Maintenance	\$500.00 Per Gauge Per Month
	Data Analysis with QA/QC	\$450.00 Per Meter Per Month
	Monthly Reporting	\$550.00 Per Month
	Permitting and Traffic Control	To Be Determined Based on Individual Site Requirements

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate:	N/A
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The City will not compensate the consultant for expenses such as postage, mileage, parking, or telephone costs. Reproduction, if requested by the City, shall be reimbursed at actual cost if approved in advance by Project Manager. Such costs are, in all such instances, included in the hourly rates paid by the City. Reproduction of submittals requested by the City including such items as end-of-phase reports, drawings, bid documents, record drawing reproducibles, etc. are not included in the hourly rates, and will be itemized as a not-to-exceed reproducible expense and will be reimbursed at actual cost.

REIMBURSABLE EXPENSES

Sub-Consultant ADS Environmental Services

The additionl expenses of the consultant reimbursable by the City shall include:

Does not apply; See note above.

Actual Costs:

Copies (8 1/2 x 11")	Does not apply; See note above.
Copies (8 1/2 x 14" or 8 1/2 x 17")	Does not apply; See note above.
Red-line copies	Does not apply; See note above.
Reproducibles	Does not apply; See note above.
Flow monitoring equipment rental	Does not apply; See note above.
Vehicle Mileage	Does not apply; See note above.
Telephone Costs	Does not apply; See note above.
Technology Costs (computer, softwater, etc.)	Does not apply; See note above.
Travel/transportation costs	Does not apply; See note above.

EXHIBIT B**PER SECTION 2.D OF THE REQUEST FOR PROPOSAL BLACK & VEATCH CONSIDERS THE INFORMATION CONTAINED IN ATTACHEMENT 2 CONFIDENTIAL AND PROPRIETARY****SUB-CONSULTANT TEAM MEMBERS**

Sub-Consultant

West Coast Civil

List **ALL** potential firm personnel titles/classification that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (e.g. Project Manager). Provide additional sheets as necessary

Title/Classification	Responsibilities	Hourly Billing Rate
Principal Engineer	Lead and supervise model build activities.	\$175
Project Engineer	Lead B&V contact, daily technical team management	\$135
Engineering Technician	Lead B&V contact, daily technical team management	\$105

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate:	2.75
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The City will not compensate the consultant for expenses such as postage, mileage, parking, or telephone costs. Reproduction, if requested by the City, shall be reimbursed at actual cost if approved in advance by Project Manager. Such costs are, in all such instances, included in the hourly rates paid by the City. Reproduction of submittals requested by the City including such items as end-of-phase reports, drawings, bid documents, record drawing reproducibles, etc. are not included in the hourly rates, and will be itemized as a not-to-exceed reproducible expense and will be reimbursed at actual cost.

REIMBURSABLE EXPENSES

Sub-Consultant

West Coast Civil

The additional expenses of the consultant reimbursable by the City shall include:

1. Actual cost of reproduction of drawings and specifications requested by the City.
2. Travel/transportation costs shall not be reimbursable by the City for Prime Consultants.

Actual Costs:

Copies (8 1/2 x 11")	Color - \$0.65 each Black & White - \$0.15 each	\$/each
Copies (8 1/2 x 14" or 8 1/2 x 17")	Color - \$0.90 each Black & White - \$0.25 each	\$/each
Red-line copies	Color - \$0.60 each Black & White - \$0.15 each	\$/sf
Reproducibles	Color - \$0.60 each Black & White - \$0.15 each	\$/sf
Vehicle Mileage	Not Reimbursable	
Telephone Costs	Not Reimbursable	
Technology Costs (computer, software, etc.)	Not Reimbursable	
Travel/transportation costs	Not Reimbursable	

CITY AND COUNTY OF DENVER
Sanitary Sewer Master Plan
Budget Estimate - 3/17/2020



TASK #	DESCRIPTION	Shawn LaBonde (Project Director)	Kelly Loyd (Project Manager & Technical Lead)	Amanda Burns (Project Engineer)	Julia Mattom (Staff Engineer)	Chris Cornett (Staff Engineer)	James Maher (Digital Delivery)	Karen Burgi (QA/QC)	Brian Lendt (GIS)	CAD Graphics and Tech Support	Admin, Finance, Clerical	Subconsultant - West Coast Civil	B&V Total Hours	Subconsultant - WCC Total Hours	B&V Total Labor	Subconsultant - ADS Total Labor	Subconsultant - WCC Total Labor	Direct Project Expense Allowance	Total
		\$256	\$182	\$170	\$130	\$130	\$196	\$254	\$183	\$147	\$109	\$175							
TASK 1 - PROJECT COORDINATION AND MANAGEMENT																			
1.1	Project Initiation Meeting	4	8	0	4	0	12	0	0	0	4	12	32	12	\$5,790	\$0	\$2,100		\$7,890
1.2	Project Coordination																		
1.2.1	Project Coordination Meetings	16	40	32	16	16	16	0	0	0	0	0	136	0	\$24,112	\$0	\$0		\$24,112
1.2.2	Monthly Invoicing and Project Progress Reports	54	16	0	0	0	0	0	0	0	72	0	142	0	\$24,606	\$0	\$0		\$24,606
1.2.3	Stakeholder Meetings	16	16	8	0	0	0	0	0	0	0	0	40	0	\$8,362	\$0	\$0		\$8,362
1.3	Quality Control Plan	0	8	0	0	0	0	2	0	0	0	0	10	0	\$1,962	\$0	\$0		\$1,962
1.4	Data Request Log	0	4	4	0	0	0	0	0	0	0	0	8	0	\$1,406	\$0	\$0		\$1,406
TASK 1 - PROJECT COORDINATION AND MANAGEMENT SUBTOTAL		90	92	44	20	16	28	2	0	0	76	12	368	12	\$66,238	\$0	\$2,100	\$736	\$69,074
TASK 2 - FLOW MONITORING PROGRAM																			
2.1	Selection of Flow and Rainfall Monitoring Sites	0	24	4	0	0	0	2	0	6	0	0	36	0	\$6,429	\$5,000	\$0		\$11,429
2.2	Conduct Flow and Rainfall Monitoring Program																		
2.2.1	Permitting and Installation	2	8	0	0	0	0	0	0	0	0	0	10	0	\$1,965		\$0		\$1,965
	ADS Permitting and Traffic Control Allowance - \$800/site for 30 sites															\$24,000			
	ADS Site Investigation and Installation - 30 monitoring sites + 10 rain guage sites															\$42,000			
2.2.2	Flow and Rainfall Monitoring	0	8	0	40	0	0	0	0	0	0	0	48	0	\$6,669	\$164,100	\$0		\$170,769
2.3	Flow and Rainfall Monitoring Memorandum	2	16	0	40	0	0	2	0	4	8	0	72	0	\$10,606	\$0	\$0		\$10,606
TASK 2 - FLOW MONITORING PROGRAM SUBTOTAL		4	56	4	80	0	0	4	0	10	8	0	166	0	\$25,668	\$235,100	\$0	\$332	\$261,100
TASK 3 - MODEL BUILD																			
3.1	Data Gap Analysis & Memorandum	0	40	0	0	0	0	0	24	0	0	0	64	0	\$11,646	\$0	\$0		\$11,646
3.2	Data Collection & Physical Facilities Model Construction	0	16	0	0	0	0	2	16	0	0	80	34	80	\$6,336	\$0	\$14,000		\$20,336
3.3	Development of Flow Components	0	16	0	0	8	0	2	16	0	0	190	42	190	\$7,379	\$0	\$33,250		\$40,629
3.4	Development of Unit Rates and Flow Allocation	0	16	0	0	16	0	4	24	0	0	120	60	120	\$10,392	\$0	\$21,000		\$31,392
3.4.1	Develop Flow Components Digital Module	0	4	0	0	32	16	0	8	0	0	4	60	4	\$9,499	\$0	\$700		\$10,199
3.5	Flow Components and Unit Rates Workshop	2	4	0	4	0	0	0	0	0	0	16	10	16	\$1,760	\$0	\$2,800		\$4,560
3.6	Lift Station Assessment and Memorandum	0	8	0	0	12	0	2	8	0	2	60	32	60	\$5,206	\$0	\$10,500		\$15,706
3.6.1	Develop Lift Station Assessment Digital Module	0	4	0	0	24	8	0	0	0	0	4	36	4	\$5,426	\$0	\$700		\$6,126
3.7	Hydraulic Model Construction Memorandum and Model Files	2	16	0	8	0	0	2	8	4	4	80	44	80	\$7,456	\$0	\$14,000		\$21,456
TASK 3 - MODEL BUILD SUBTOTAL		4	124	0	12	92	24	12	104	4	6	554	382	554	\$65,100	\$0	\$96,950	\$764	\$162,814
TASK 4 - MODEL CALIBRATION AND VALIDATION																			
4.1	Dry Weather Calibration	0	12	40	40	40	0	2	0	0	0	0	134	0	\$19,920	\$0	\$0		\$19,920
4.2	Wet Weather Calibration	0	24	60	60	60	0	2	0	0	0	0	206	0	\$30,715	\$0	\$0		\$30,715
4.3	Model Calibration Workshop	2	8	12	8	0	0	0	0	0	0	0	30	0	\$5,048	\$0	\$0		\$5,048
4.4	Model Calibration Memorandum and Model Files	2	16	40	24	24	0	2	0	8	2	0	118	0	\$18,380	\$0	\$0		\$18,380
TASK 4 - MODEL CALIBRATION AND VALIDATION SUBTOTAL		4	60	152	132	124	0	6	0	8	2	0	488	0	\$74,064	\$0	\$0	\$976	\$75,040
TASK 5 - Existing System Evaluation																			
5.1	Wet Weather Sensitivity Analysis and Memorandum	2	12	24	60	0	0	2	0	0	2	0	102	0	\$15,323	\$0	\$0		\$15,323
5.2	Existing Condition Evaluation and Improvements	0	8	24	40	0	0	2	4	0	0	0	78	0	\$11,988	\$0	\$0		\$11,988
5.3	Existing System Evaluation and Improvements Memorandum and Model Files	2	12	24	40	0	0	4	8	0	4	0	94	0	\$14,903	\$0	\$0		\$14,903
TASK 5 - Existing System Evaluation SUBTOTAL		4	32	72	140	0	0	8	12	0	6	0	274	0	\$42,214	\$0	\$0	\$548	\$42,762

CITY AND COUNTY OF DENVER
 Sanitary Sewer Master Plan
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TASK #	DESCRIPTION	Shawn LaBonde (Project Director)	Kelly Loyd (Project Manager & Technical Lead)	Amanda Burns (Project Engineer)	Julia Mattom (Staff Engineer)	Chris Cornett (Staff Engineer)	James Maher (Digital Delivery)	Karen Burgi (QA/QC)	Brian Lendt (GIS)	CAD Graphics and Tech Support	Admin, Finance, Clerical	Subconsultant - West Coast Civil	B&V Total Hours	Subconsultant - WCC Total Hours	B&V Total Labor	Subconsultant - ADS Total Labor	Subconsultant - WCC Total Labor	Direct Project Expense Allowance	Total
		\$256	\$182	\$170	\$130	\$130	\$196	\$254	\$183	\$147	\$109	\$175							
TASK 6 - Future System Evaluations and Improvments																			
6.1	Future Flow Model Development																		
6.1.1	Determine Future Flow Methodology	0	12	16	0	32	0	2	0	0	0	0	62	0	\$9,581	\$0	\$0		\$9,581
6.1.2	Develop Flow Projections Digital Module	0	8	0	0	24	16	0	8	4	0	0	60	0	\$9,770	\$0	\$0		\$9,770
6.1.3	Develop Planning Year Hydraulic Models	0	4	24	40	0	0	2	0	4	0	0	74	0	\$11,119	\$0	\$0		\$11,119
6.2	Future System Evaluation and Improvements (up to 3 planning years)	0	24	60	80	0	0	4	4	4	0	0	176	0	\$27,326	\$0	\$0		\$27,326
6.3	System Evaluation and Improvements Workshop	2	8	12	4	0	0	0	0	0	0	0	26	0	\$4,526	\$0	\$0		\$4,526
6.4	Future System Evaluation Memorandum and Model Files	2	16	24	40	0	0	2	12	6	4	0	106	0	\$16,733	\$0	\$0		\$16,733
TASK 6 - Future System Evaluations and Improvments SUBTOTAL		4	72	136	164	56	16	10	24	18	4	0	504	0	\$79,056	\$0	\$0	\$1,008	\$80,064
TASK 7 - FINAL REPORT AND DIGITAL MASTER PLAN																			
7.1	Develop Capital Improvement Plan	0	16	24	16	32	0	2	0	0	0	0	90	0	\$13,754	\$0	\$0		\$13,754
7.1.1	Develop Draft Capital Improvement Digital Module	0	4	4	0	24	16	0	8	4	0	0	60	0	\$9,724	\$0	\$0		\$9,724
7.2	CIP Review Workshop	2	4	8	4	0	0	0	0	0	0	0	18	0	\$3,120	\$0	\$0		\$3,120
7.3	Submittal for Cost Estimates for Recommended Improvements	0	2	4	0	0	0	0	0	0	0	0	6	0	\$1,043	\$0	\$0		\$1,043
7.4	Draft Capital Improvement Memorandum	2	16	24	32	0	0	4	16	8	2	0	104	0	\$17,004	\$0	\$0		\$17,004
7.5	Master Plan Report																		
7.5.1	Prepare and Submit Draft Report and Digital Modules	2	12	24	16	16	4	2	8	0	8	0	92	0	\$14,574	\$0	\$0		\$14,574
7.5.2	Conduct Draft Master Plan Review Meeting	2	8	0	0	0	0	0	0	0	0	0	10	0	\$1,965	\$0	\$0		\$1,965
7.5.3	Deliver Final Master Plan Report, Digital Modules, & Model Files	2	8	12	12	8	2	2	4	0	8	0	58	0	\$9,120	\$0	\$0		\$9,120
TASK 7 - FINAL REPORT AND DIGITAL MASTER PLAN SUBTOTAL		10	70	100	80	80	22	10	36	12	18	0	438	0	\$70,303	\$0	\$0	\$876	\$71,179
TASK 8 - Optional Tasks																			
8.1	Lift Station Drawdown Flow Tests	2	8	0	0	0	0	0	0	0	0	0	56	0	\$1,965	\$10,000	\$0		\$11,965
TASK 8 - Optional Tasks SUBTOTAL		2	8	0	0	0	0	0	0	0	0	0	56	0	\$1,965	\$10,000	\$0	\$112	\$12,077
TOTAL (Without Optional Tasks)		120	506	508	628	368	90	52	176	52	120	566	2620	566	\$422,644	\$235,100	\$99,050	\$5,240	\$762,034
TOTAL (With Optional Tasks)		122	514	508	628	368	90	52	176	52	120	566	2676	566	\$424,609	\$245,100	\$99,050	\$5,352	\$774,111



CERTIFICATE OF LIABILITY INSURANCE

11/1/2020

DATE (MM/DD/YYYY)

3/19/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Lockton Companies 444 W. 47th Street, Suite 900 Kansas City MO 64112-1906 (816) 960-9000	CONTACT NAME: PHONE (A/C. No. Ext): FAX (A/C. No): E-MAIL ADDRESS:														
INSURED 1456545 BLACK & VEATCH CORPORATION 11401 LAMAR OVERLAND PARK KS 66211 LABONDE, SHAWN	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">INSURER(S) AFFORDING COVERAGE</th> <th style="text-align: center;">NAIC #</th> </tr> </thead> <tbody> <tr> <td>INSURER A : Zurich American Insurance Company</td> <td style="text-align: center;">16535</td> </tr> <tr> <td>INSURER B : American Zurich Insurance Company</td> <td style="text-align: center;">40142</td> </tr> <tr> <td>INSURER C : Lexington Insurance Company</td> <td style="text-align: center;">19437</td> </tr> <tr> <td>INSURER D :</td> <td></td> </tr> <tr> <td>INSURER E :</td> <td></td> </tr> <tr> <td>INSURER F :</td> <td></td> </tr> </tbody> </table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A : Zurich American Insurance Company	16535	INSURER B : American Zurich Insurance Company	40142	INSURER C : Lexington Insurance Company	19437	INSURER D :		INSURER E :		INSURER F :	
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INSURER F :															

COVERAGES BLAVE01 **CERTIFICATE NUMBER:** 16653566 **REVISION NUMBER:** XXXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR	Y	Y	GLO 4641358	11/1/2019	11/1/2020	EACH OCCURRENCE \$ 1,000,000
A	<input checked="" type="checkbox"/> CONTRACTUAL <input checked="" type="checkbox"/> PD & C/O & XCU			GLO 4641367 GLO 0139245	11/1/2019	11/1/2020	DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:							
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY	Y	Y	BAP 4641355 (AOS)	11/1/2019	11/1/2020	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ XXXXXXXX BODILY INJURY (Per accident) \$ XXXXXXXX PROPERTY DAMAGE (Per accident) \$ XXXXXXXX
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED: RETENTION \$			NOT APPLICABLE			EACH OCCURRENCE \$ XXXXXXXX AGGREGATE \$ XXXXXXXX
B A A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N <input checked="" type="checkbox"/> N	N/A	WC 4641353 (AOS) WC 4641354 (ID, MA, WI) WC 0139244	11/1/2019 11/1/2019 11/1/2019	11/1/2020 11/1/2020 11/1/2020	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
C	PROFESSIONAL LIABILITY	N	N	026030198	11/1/2019	11/1/2020	\$1,000,000 PER CLAIM \$1,000,000 ANNUAL AGGREGATE

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
 PROJECT NUMBER: 907608.0001; PROJECT NAME: DENVER SANITARY SEWER MASTER PLAN; PROJECT MANAGER: LABONDE, SHAWN; GENERAL LIABILITY AND AUTO LIABILITY ARE PRIMARY AND NON-CONTRIBUTORY. UPON AWARD OF CONTRACT, THE CITY AND COUNTY OF DENVER, ITS ELECTED AND APPOINTED OFFICIALS, EMPLOYEES AND VOLUNTEERS ARE INCLUDED AS ADDITIONAL INSURED. UPON AWARD OF CONTRACT, WAIVER OF SUBROGATION IN FAVOR OF THE ADDITIONAL INSURED.

CERTIFICATE HOLDER

CANCELLATION

16653566 CITY AND COUNTY OF DENVER DEPARTMENT OF TRANSPORTATION AND INFRASTRUCTURE 201 WEST COLFAX AVENUE DEPARTMENT 608 DENVER CO 80202	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
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