

DESIGN SERVICES AGREEMENT

THIS AGREEMENT is entered into between the **CITY AND COUNTY OF DENVER** (the "City"), a municipal corporation of the State of Colorado, and **MULLER ENGINEERING COMPANY, INC.**, (the "Design Consultant" or "Consultant"), a Colorado Corporation whose address is 777 South Wadsworth Blvd., Suite 4-100 Lakewood, CO 80226.

SECTION 1 – ENGAGEMENT

1.01 Engagement. The City engages the Design Consultant to furnish professional design services for the Project as set forth in this Agreement. The Design 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 a Project Manager, for the purpose of issuing a written Notice to Proceed and for purposes of administering, coordinating and finally approving the work performed by the Design Consultant under this Agreement. The Project Manager shall be responsible for the day-to-day administration, coordination and approval of work performed by the Design 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 Design Consultant.

1.03 Independent Contractor. The Design Consultant is an independent contractor retained to perform professional or technical services for limited periods of time. Neither the Design 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 Design Consultant's Authority. The Design Consultant shall have no authority to act on behalf of the City other than as expressly provided in this Agreement. The Design 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 Design 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 D.R.M.C.

SECTION 2 – DESIGN CONSULTANT'S SERVICES

2.01 General. The Design Consultant shall provide professional design services for the Project in accordance with the terms and conditions of this Agreement. The Design 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 work performed by the Design 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 Work described in this Agreement.

(b) The Design 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 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 Design 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 Design Consultant shall prepare the plans, specifications and other materials for the Project 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 Design Consultant for the preparation of contract documents in a form other than that considered usual and customary by the Department of Transportation and Infrastructure. It shall be the responsibility of the Design 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 Design Consultant agrees to organize its Contract Documents for either construction technique and to coordinate the construction documents into selected bid packages, as appropriate. The City will notify the Design 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 Design Consultant under this Agreement, when submitted by the Design 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 engineering skills applicable to that phase of the project.

(i) The responsibilities and obligations of the Design 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 Design 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 Design Consultant or its subconsultants, without additional compensation.

2.03 Program and Budget.

(a) The Design 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 Design Consultant determine that The Project cannot be accomplished within the established budget, the Design 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 Design Consultant's or special consultant's fees or reimbursements or the cost of equipment installed by the City under separate contract, unless the Design Consultant is required by the City to prepare drawings and specifications for such equipment. The initial Project Construction Cost has been provided to the Design Consultant.

(c) The Design Consultant agrees to design the Project within the estimated Project Construction Cost for the Project. Should all responsive bids or proposal received for the Project work provided for in the design exceed such cost, the Design Consultant agrees to redesign the Project at no additional cost to City and, in a manner acceptable to the City.

2.04 Coordination and Cooperation.

(a) The Design 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, work sessions with the City's Department of Transportation and Infrastructure, 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 Design 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 Design Consultant or its subconsultants to perform the services required under this Agreement, as appropriate.

(b) The Design Consultant's services shall be diligently performed by the regular professional and technical staff of the Design Consultant. In the event the Design 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 consultants outside of the employ of the Design Consultant.

(c) The Design 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 to meet the requirements of the City. Such personnel and technicians shall be of the classifications referenced in **Exhibit B**,

or if needed, and approved by the project manager, *added to* 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, including changing or adding personnel or subconsultants if needed during the course of this Agreement, the Design 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, to effectuate this change or addition.

(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 Design Consultant's and the 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 Design Consultant or a subconsultant decides to replace any of its key professional personnel, the Design Consultant shall notify the Director in writing of the desired change. No such changes shall be made until replacement personnel are recommended by the Design 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 Design Consultant and give the Design Consultant the time which the Director considers reasonable to correct such performance. Thereafter, the Director may require the Design Consultant to reassign or replace such key personnel. If the Director notifies the Design Consultant that certain of its key personnel or a subconsultant should be replaced, Design 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.

(h) Neither the Design 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 a project to which they may be assigned, and the Design 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 for the particular consultant or subconsultant.

(i) Actions taken by the City under this Article shall not relieve the Design Consultant of its responsibility for contractual or professional deficiencies, errors or omissions.

(j) The Design 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, together with complete resumes and other information describing their ability to perform the tasks which may be assigned. Such additional personnel must be recommended by the Design Consultant and approved by the Director before they are assigned to a specific project.

(k) The Director shall respond to the Design 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 his designated representative does not respond within that time, the changes shall be deemed to be approved.

2.06 Basic Services – General.

(a) These services shall be diligently performed by the regular professional and technical staff of the Design Consultant. In the event the Design 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 consultants outside of the employ of the Design Consultant.

(b) Prior to designating an outside professional to perform work or services under this Agreement, the Design 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 Design 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 each Project for each phase.

(e) The Design Consultant shall obtain written authorization from the City before proceeding with each phase.

(f) Nothing in this Agreement shall be construed as placing any obligation on the City to proceed with any phase beyond the latest phase authorized in writing by City.

(g) The responsibilities and obligations of the Design 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 tasks which must be performed on each Project have been separated into phases. As applicable for the Project, the Design Consultant shall satisfactorily complete all work necessary to complete each phase as specifically set out in **Exhibit A**.

2.08 Additional Services.

(a) If the Design 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 Design Consultant's control, and if such services (1) are pre-approved in writing; (2) will not cause the total compensation payable to the Design Consultant to exceed the Maximum Contract Amount; and (3) are not occasioned by any neglect, breach or default of the Design Consultant, then the Design Consultant will be reimbursed its pre-approved cost for performance of such service(s).

(b) Before providing any such services, the Design Consultant first shall file with the City, and secure the City's written approval of, a complete description of the proposed

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 Design Consultant that the maximum cost of such services will not cause the total amount payable to the Design 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 Design Consultant if the maximum cost of such 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 Design 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 Design Consultant for other necessary outside services, such as structural, mechanical or electrical engineering performed by independent consultants; and

(3) The Design Consultant's actual reproduction cost for drawings.

(d) The Design 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 Design 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 Design Consultant shall obtain all necessary surveying, tests and reports to properly design and administer the construction of each project, including, but not limited to, soils and hazardous materials testing. The Design Consultant shall be responsible for the accuracy, adequacy and content of such tests, surveying and reports.

(b) The Design 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 Design 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 Design 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 Design Consultant shall require all surveying, engineering and testing entities it selects to carry and maintain 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 Design 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 Design 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 Design Consultant shall observe the presence of asbestos or hazardous waste material on any project site during its performance of services under this Agreement, the Design Consultant shall notify the City in writing immediately.

(g) Payment to the Design 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, Denver Revised Municipal Code (“D.R.M.C.”), designated as §§ 28-31 to 28-40 and 28-51 to 28-90 (the “MWBE Ordinance”) and any Rules or Regulations promulgated pursuant thereto. The Consultant has committed to a contract goal for MWBE participation for this Agreement of **24%**.

(b) Under § 28-68 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 MWBE participation upon which this Agreement was awarded, unless the City initiates a material alteration to the scope of work affecting MWBEs performing on this Agreement through contract amendment, or other contract modifications, or as otherwise described in § 28-70 D.R.M.C. The Consultant acknowledges that:

(1) If directed by DSBO, the Consultant is required to develop and comply with a Utilization Plan in accordance with § 28-63 D.R.M.C. Along with the Utilization Plan requirements, the Consultant must establish and maintain records and submit regular reports, as directed by DSBO, which will allow the City to assess progress in complying with the Utilization Plan and achieving the MWBE participation goal. The Utilization Plan is subject to modification by DSBO.

(2) If 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 § 28-70, 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.

- (3) If amendments or other contract modifications are issued under the contract that include an increase in the scope of work of this Agreement, which increases the dollar value of the contract, whether or not such change is within the scope of work designated for performance by an MWBE at the time of contract award, such amendments or modifications shall be immediately submitted to DSBO for notification purposes.
- (4) Those amendments or other modifications that involve a changed scope of work that cannot be performed by existing project subconsultants are subject to the original goal. The Consultant shall satisfy the goal with respect to such changed scope of work by soliciting new MWBEs in accordance with § 28-70, D.R.M.C. The Consultant must also satisfy the requirements under §§ 28-64 and 28-73, D.R.M.C., with regard to changes in scope or participation. The Consultant shall supply to the DSBO Director all required documentation described in §§ 28-64, 25-70, and 28-73 D.R.M.C., with respect to the modified dollar value or work under the contract.
- (5) For contracts of one million dollars (\$1,000,000.00) and over, the Consultant is required to comply with § 28-72, D.R.M.C., as applicable, regarding prompt payment to MWBEs. Payment to MWBE subcontractors shall be made by no later than thirty-five (35) days after receipt of an MWBE subcontractor invoice.
- (6) Failure to comply with these provisions may subject the Consultant to sanctions set forth in § 28-76 of the MWBE Ordinance.
- (7) Should any questions arise regarding DSBO requirements, the Consultant should consult the MWBE Ordinance or may contact the Project's designated DSBO representative at (720) 913-1999.

SECTION 3 – COMPENSATION, PAYMENT, AND FUNDING

The City shall compensate the Design 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 Design Consultant, as full compensation for its basic services rendered hereunder, a fee not to exceed **EIGHT HUNDRED AND FOURTEEN THOUSAND SEVEN HUNDRED TWENTY FOUR DOLLARS AND ZERO CENTS (\$814,724.00)**, in accordance with the billing rates and project budget stated 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 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 A**, or approved in writing by the City as reasonably related to or necessary for the Design Consultant's services, all other expenses shall be included in the Design Consultant's fee and will not be reimbursed hereunder. The maximum amount to be paid for all reimbursable expenses under this Agreement is **TWO HUNDRED SEVENTY SIX DOLLARS AND ZERO CENTS (\$276.00)** unless an additional amount is approved by the Director or his 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 Design Consultant's maximum fee amount accordingly.

3.03 Additional Services. If written pre-approval is acquired from the Project manager, and additional services are performed by the Design Consultant, the City agrees to pay the Design 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 **ONE HUNDRED FIFTY-FIVE THOUSAND DOLLARS AND ZERO CENTS (\$155,000.00)**.

3.04 Invoicing and Payment. The City will make monthly progress payments for all services performed under this Agreement based upon the Design 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 Design Consultant's own personnel, billings from subcontractors, and all other information necessary to assess the Design 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 Design 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 Design 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 Design 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 **NINE HUNDRED SEVENTY THOUSAND DOLLARS AND ZERO CENTS (\$970,000.00)** (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 Design Consultant beyond that specifically described in **Exhibit A**. Any services performed beyond those set forth therein are performed at Design 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 Design Consultant understands and agrees that the provision of any services by the Design Consultant, which would cause the total amount payable to the Design Consultant to exceed the amount of previously appropriated and encumbered funds, is strictly prohibited. In the event the continuation of services by the Design Consultant would cause the amount payable to the Design Consultant to exceed such amounts, the Design Consultant agrees to give to the Project Director 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 Design

Consultant agrees to stop providing services until such time as additional funds are appropriated and encumbered for the purposes of the Agreement and amounts which remain available for payment to the Design Consultant.

SECTION 4 – TERM AND TERMINATION

4.01 Term.

The Agreement will commence upon execution and expires on **September 2, 2022**, unless sooner terminated upon final completion of the Project.

4.02 Termination.

(a) Nothing herein shall be construed as giving the Design 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 Design Consultant's services become unsatisfactory, in the sole discretion of the Director. The City shall have the sole discretion to permit the Design 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 Design 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 Design Consultant shall be liable to City for all reasonable cost in excess of what the City would have paid the Design 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 Design Consultant, which notice shall state the date of cancellation and termination.

(e) If the Design Consultant's services are terminated, postponed or revised, or if the Design 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 Design Consultant shall be paid only for the portion of work or services which 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 work completed or partially completed shall be delivered by the Design 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 Design 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 Design Consultant, if applicable.

SECTION 5 – GENERAL PROVISIONS

5.01 City’s Responsibilities.

(a) The City shall provide available information regarding its requirements for each project, including related budgetary information, and shall cooperate fully with the Design Consultant at all times. However, the City does not guarantee the accuracy of any such information and assumes no liability therefore. The Design Consultant shall notify City in writing of any information or requirements provided by the City which the Design 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 Contract Documents, it shall give prompt notice thereof to Design Consultant.

5.02 Ownership of Documents.

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 Design 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 executed or not. The Design Consultant shall identify and disclose, as requested, all such Documents to the City. Any reuse or modification of the documents without the prior written consent of the Consultant shall be at the sole risk of the City.

(a) 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 Design 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.

(b) The Design 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.

(c) The Design 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.

(d) The Design 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 Design 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 Design 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 Design 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 Design Consultant's Records. Records of the Design Consultant's direct personnel, consultant and reimbursable expenses pertaining to this Project and records of accounts between the City and the Design Consultant shall be kept on a generally recognized accounting basis. The Design Consultant agrees that any duly authorized representative of the City, including the City Auditor, shall, until the expiration of three (3) years after the final payment under this Agreement, have access to and the right to examine any books, documents, papers and records of the Design Consultant, involving transactions related to this Agreement.

5.05 Assignment and Subcontracting. The City is not obligated or liable under this Agreement to any party other than the Design Consultant named herein. The Design 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 Design 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 Design 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 Design 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 Agreement, 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: 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. 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. 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 require 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, 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. 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: Consultant may not commence services or work relating to the Agreement prior to placement of coverages required under this Agreement. Consultant certifies that the certificate of insurance attached as **Exhibit B**, 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 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 policies and endorsements.

(c) Additional Insureds: For Commercial General Liability, Auto Liability and Excess Liability/Umbrella (if required), Consultant and Subconsultant'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, Consultant's insurer shall waive subrogation rights against the City.

(e) Subcontractors and Subconsultants: All subcontractors and subconsultants (including independent Consultants, 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. 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. Consultant agrees to provide proof of insurance for all such subcontractors and subconsultants upon request by the City.

(e) Workers' Compensation and Employer's Liability Insurance: 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.

(f) Commercial General Liability: Consultant shall maintain a Commercial General Liability insurance policy with minimum limits of \$1,000,000 for each bodily injury and property damage occurrence, \$2,000,000 products and completed operations aggregate (if applicable), and \$2,000,000 policy aggregate.

(g) Automobile Liability: Consultant shall maintain Automobile Liability with minimum limits of \$1,000,000 combined single limit applicable to all owned, hired and non-owned vehicles used in performing services under this Agreement.

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) Consultant's obligation to defend and indemnify may be determined after Consultant's liability or fault has been determined by adjudication, alternative dispute resolution, or otherwise resolved by mutual agreement between the parties. Consultant's duty to defend and indemnify City shall relate back to the time written notice of the Claim is first provided to City regardless of whether suit has been filed and even if Consultant is not named as a Defendant.

(c) Consultant will defend any and all Claims which may be brought or threatened against City and will pay on behalf of 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 City shall be in addition to any other legal remedies available to City and shall not be considered 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 \$150,000 per person, \$600,000 per occurrence) 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/Budget
Exhibit B	Key Personnel /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 Design 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 Charter and Revised Municipal Code of the City and County of Denver, and the ordinances, regulations and Executive Orders enacted or promulgated pursuant to the Charter and Code, including any amendments. The Charter and Revised Municipal Code of the City and County of Denver, 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 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 Design Consultant further agrees not to hire or contract for services with any employee or officer of the City which would be in violation of the Revised Municipal Code Chapter 2, Article IV, Code of Ethics or Denver City Charter provisions 1.2.9 and 1.2.12.

(b) The Design 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 Design 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 Design Consultant by placing the Design Consultant's own interests, or the interests of any party with whom the Design 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 Design Consultant written notice which describes the conflict. The Design 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 Design 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 Design 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 Design Consultant, time is of the essence.

5.16 Taxes, Charges and Penalties. The City and County of Denver 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.

5.17 Proprietary or Confidential Information.

(a) City Information: The Design Consultant acknowledges and accepts that, in performance of its work under the terms of this Agreement, the Design Consultant may have access to Proprietary Data 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 Design Consultant agrees that all information provided or otherwise disclosed by the City to the Design Consultant be held in confidence and used only in the performance of its obligations under this Agreement. The Design Consultant shall exercise the same standard of care to protect such information as a reasonably prudent Design Consultant would 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 Design Consultant by the City. Such Proprietary Data may be in hardcopy, printed, digital or electronic format.

(b) Design 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 Design Consultant of such request in order to give the Design 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 Design Consultant agrees to intervene in such lawsuit to protect and assert its claims of privilege and against disclosure of such material or waive the same. The Design 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 Design Consultant's intervention to protect and assert its claim of privilege against disclosure under this Article 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 Design 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. Violation of these provisions or refusal to cooperate with implementation of the policy can result in the City's barring the Design 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 (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 Design 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.* 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 Design 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 Design 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 Design 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. Design 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 Design Consultant represents and warrants that he has been fully authorized by Consultant to execute this Agreement on behalf of Design Consultant and to validly and legally bind Design 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 Design Consultant or the person signing the Agreement 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, Dept. 608
Denver, Colorado 80202

to the Design Consultant: Muller Engineering Company, Inc.
777 South Wadsworth Blvd., Suite 4-100
Lakewood, CO 80226

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. Design 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.

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Contract Control Number:
Contractor Name:

DOTI-202158427-00
MULLER ENGINEERING COMPANY, INC.

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-202158427-00
MULLER ENGINEERING COMPANY, INC.

By:  _____

Name: A. Gray Clark
(please print)

Title: President
(please print)

ATTEST: [if required]

By: _____

Name: _____
(please print)

Title: _____
(please print)

Exhibit A



DENVER
THE MILE HIGH CITY

**DEPARTMENT OF
TRANSPORTATION AND
INFRASTRUCTURE**

SCOPE OF WORK

FOR

**WEST COLFAX PEDESTRIAN
AND TRANSIT
IMPROVEMENTS PROJECT**

Project No. GO2018 Bond 2020-001

Prepared by: Muller Engineering



Section 1 - Project Background and Overview

1.0 Project Background and Overview

1.1 Introduction & Goals

The goal of the project is to increase pedestrian safety of the corridor while also increasing transit efficiency. Constructing pedestrian safety improvements on West Colfax is in alignment Denver's Vision Zero goal of eliminating traffic deaths by 2030 West Colfax was identified by the Vision Zero Action Plan as a part of the Denver's High-Injury Network—corridors that have the highest percentage of fatal and injury crashes. West Colfax is also identified as a priority corridor in the Denver Moves Transit plan. Improving the street for pedestrians and transit users also supports the Mayor's Mobility Action Plan and Comprehensive Plan 2040, which aims to provide convenient and accessible mobility options that reduce the need for single-occupancy driving.

Pedestrian improvements that will be designed and eventually constructed include medians, bulb-outs, signals, and marked crosswalks. Transit enhancements will include bulb-outs, bus by-pass lanes or queue jumps, and transit signal priority.

Pedestrian safety is one of the corridor's biggest issues that has challenged the City for decades and remains so. Denver's Vision Zero Action Plan (VZAP) identified West Colfax Ave as part of Denver's High-Injury Network (HIN), one of 27 corridors that experiences the highest rates of fatal and injury crashes in Denver. Since 2011, six pedestrians were killed in the corridor. VZAP recommends the following safety treatments to address streets like West Colfax:

- Encourage safe speeds through implementation of engineering countermeasures and context-sensitive speed limits.
- Implement geometric intersection treatments with proven safety benefits.
- Provide pedestrian crossing treatments consistent with Denver Moves: Trails and Pedestrians.
- Enhance street lighting to improve visibility.
- Implement signal and/or operational modifications that are proven to reduce serious crashes.
- Build the pedestrian network identified in Denver Moves: Pedestrians and Trails.
- Implement Denver Smart City technologies that deliver safe and accessible transportation for pedestrians, bicyclists, transit users, and emergency vehicles.

This Scope of Work outlines work to be completed by the Consultant to design roadway, traffic and pedestrian improvements to implement the recommended safety treatments and create a sustainable transportation corridor consistent with recent planning efforts and with consensus of adjacent neighborhoods and stakeholders.

The project consultant team is made up of the following firms:

Muller Engineering Company (Muller) - Project Management, Multimodal Transportation Design, Traffic Engineering, Environmental Support, Storm Drainage, Green Infrastructure, Final Plans and Specifications

Dig Studio (MWBE) - Landscape Architecture, Irrigation, Urban Design, Green Infrastructure.

OV Consulting (MWBE) - Public Engagement, Pedestrian/Transit Interface, Bicycle Facilities

Pinyon Environmental (MWBE) - Environmental Support

Clanton & Associates (MWBE) – Lighting

HCL Engineering & Surveying (MWBE) - Surveying, ROW, SUE

Geocal - Geotechnical Engineering, Pavement Design

1.2 Background

In 2017, Denver voters passed the Elevate Denver Bond, which dedicated \$937 million to enhance roads, sidewalks, parks, and cultural centers. Of this, \$431 million was set aside for transportation and mobility. This includes funds to build pedestrian safety improvements along Colfax. Funds were also set aside to enhance transit operations on West Colfax.

Prior to funding approval from the Elevate Denver Bond, the four-business improvement districts advocated for funds from the annual Capital Improvements Projects budget (CIP) to advance designs for safety improvements at key intersections along Colfax. \$500,000 was allocated in 2017, and Public Works lead the design process to develop a concept design for intersections between Sheridan and Yosemite. These intersections were prioritized based on safety need, crash history, and future land-use. A public process was used to inform a preferred alternative, from which preliminary engineering designs were developed.

Also, in 2016, RTD conducted an analysis to determine corridors that would benefit from transit improvements such as transit signal priority (TSP) to reduce bus delay. West Colfax was one of the corridors identified in the study, which recommended TSP, stop consolidation, and queue jumps or by-pass lanes. These enhancements can improve the transit experience for a corridor that receives over 6,000 daily riders.

This project will move the preliminary concepts into the next phase of design to address technical feasibility such as drainage challenges, utility conflicts, and signal networking.

1.3 Project Area

The Project area is defined approximately as West Colfax Ave. between Sheridan Blvd. at the western limit and Irving St. at the eastern limit. Project improvements will be contained within the north and south right-of-way limits of West Colfax Avenue, the east side curb ramps at Sheridan Boulevard, and the west side curb ramps at Irving Street. Design improvements will only be made at the bulb outs and ramps shown in the conceptual drawings provided by the City, see Exhibit A

1.4 Contract Administration

The contract for these services will be administered and managed by the City and County of Denver Department of Transportation and Infrastructure.

The project will be led by a DPW Project Manager but overseen by a Project Management Team (PMT) which will include representatives from Department of Transportation and Infrastructure (DOTI), and Denver Community Planning and Development (CPD). A Technical Guidance Team (TGT) will also be formed, comprised of technical staff from other City departments, including but not limited to Denver Economic Development & Opportunity (DEDO), Denver Department of Public Health & Environment (DDPHE), and Arts and Venues as well as RTD and CDOT staff.

The City and County of Denver Department of Transportation and Infrastructure will manage the contract. The City's overall Project Manager is:

Department of Transportation and
Infrastructure Project Manager: Lisa Hilt
201 W Colfax Ave, Dept. 608
Denver, CO 80202

1.5 Project Milestones and Proposed Schedule

As per Task 2.1: Work Plan and Schedule, the Consultant shall provide a detailed schedule based on an agreed upon approach and scope between the City and the Consultant. The schedule will be based on conversations with Denver staff following selection and shall be based on a 14-16 months 100% submittal. A draft schedule has been provided in Exhibit B of this document. The schedule will be adjusted based on project needs but the City desires that the 100% design be completed within 14-16 months of notice to proceed (expected in April/May of 2021) with 60% (CDOT FIR), 95% (CDOT FOR) and 100% milestones. The schedule shall incorporate appropriate review periods for City and third-party review (CDOT) durations.

1.6 Applicable Standards

The Consultant shall complete the following (design and engineering tasks) in compliance with the following relevant agency guidelines in addition to others potentially not mentioned here:

- [City and County of Denver Transportation Standards and Details](#)
- [City and County of Denver Traffic Signal, Sign, and Pavement Marking Standards](#)
- [RTD Bus Infrastructure Standard Drawings](#)
- [RTD Bus Infrastructure Design Guidelines and Criteria](#)
- CDOT Roadside Design Guide
- State Highway Access Code
- FHWA (if applicable)
- APTA
- NACTO
- AASHTO
- MUTCD
- United States Access Board

1.7 Deliverables Overview

Each of the following tasks describe the required deliverables. In addition to these deliverables, the Consultant will provide the City with all new GIS data, design, and technical support material developed for this project.

1.8 Resources and Additional Information

Denver Vision Zero Action Plan

<https://www.denvergov.org/content/dam/denvergov/Portals/705/documents/visionzero/Denver-Vision-Zero-Action-Plan.pdf>

Denver's Mobility Action Plan

https://www.denvergov.org/content/dam/denvergov/Portals/728/documents/Denver%27s%20Mobility%20Action%20Plan_7.7.pdf

2040 Comprehensive Plan

https://www.denvergov.org/content/dam/denvergov/Portals/Denverright/documents/comp-plan/Denver_Comprehensive_Plan_2040.pdf

RTD Transit Priority Analysis of Select Corridors, April 2018

<https://www.rtd-denver.com/sites/default/files/files/2018-06/RTD-priorityCorridors-42018.pdf>

RTD Network Analysis of Potential Improvements to Bus Speed, Delay and Access, March 2016
<https://www.rtd-denver.com/sites/default/files/files/2018-06/RTD-networkAnalysis-032016.pdf>

West Colfax Pedestrian Crossing & Transit Improvements
<https://citycountydenver-dev.adobecqms.net/content/denvergov/en/denver-department-of-public-works/projects/current/west-colfax.html>

Denver Moves Transit
<https://www.denvergov.org/content/dam/denvergov/Portals/Denveright/documents/transit/Denver-Moves-Transit-Plan-2019.pdf>

Section 2 - Project Management

2.0 Project Management

Muller will prepare a Project Management Plan for oversight and administrative tasks required to support overall project needs, external and internal committees/support teams, communication protocol, and materials and technical assistance. The Project Management Plan shall include at a minimum:

- Work Plan and Schedule (Muller)
- Communications Plan (including Committees and Teams, and a Public Engagement Plan) (Muller/OV/Dig)
- Quality Assurance/Quality Control Plan (Muller)

2.1 Work Plan and Schedule

Building from the proposed schedule in Task 1.5, Muller will create a schedule based on the scope requirements and milestones. The schedule may be refined during the project. The design team assumes 14-16 months to complete the final design package. Any impacts to the proposed schedule due to design refinements or changes in environmental clearance and permitting approach/analysis will be identified following environmental scoping with CDOT and RTD.

Muller will prepare a schedule that will include the following:

- All project activities and deliverables
- Meeting dates (e.g. Kickoff Meeting, Progress Meetings, Design Review Meetings, and Comment Resolution Meetings)
- Deliverable delivery dates and associated City (and partner agencies) review periods. Assume a 3-week City review period for each major submittal package
- Timeline outlining amount of time required to complete each task
- Outreach/engagement activities (e.g., open house meetings, public notices, public comment periods, etc.)
- Signature approval of CDOT NEPA-equivalent documents (assumed for purposes of this scope to be a single CDOT Form 128 clearance document approved by CDOT).
- Other steps required to complete the project including City and third-party reviews

2.2 Communication Plan

Muller will work with the project PM from Denver to prepare a communications plan that identifies key roles, triggers, and methods of communication. The communication plan shall outline an efficient procedure, timing, methods, and triggers to communicate project relevant information about issues, status, and decisions. The communication plan shall also specify the creation of an online hub (SharePoint) where information can be shared across agencies and corporations. This platform will be for various project files, the online platform for PI will be managed by City of Denver staff, with various documents being provided by the design team as described in section 3.0, but design communication websites can be hosted on Muller's SharePoint site. The plan shall include a list of team members and stakeholders, including committees and project teams, along with each person's phone, email, and office location. Communication methods shall be a combination of meetings, emails, phone calls, and conference calls

Muller will prepare minutes for all meetings via OneNote and will be tracked live for distribution after the meetings. Members of the team can be invited to see and participate in minutes live, or reference previous communications. For plan review meetings, the review and comment duration shall be recommended by Muller and approved by the City. Meeting minutes will be finalized within 3 business days following the review and comment period for these more critical meetings.

2.2.1 Committees and Project Teams

Muller and OV will work with the City to establish the Project teams and committees:

- **Stakeholder Committee(s):** Muller will work with the City to establish Stakeholder Committee(s) as part of the Project's outreach approach. These committee(s) will be developed based on the committee/tasks force memberships used in the RTD Transit Priority Analysis of Select Corridors Final Recommendations.
- **Transit Signal Priority Technical Staff:** Muller will work with the City's technical team including DOTI Traffic Operations staff, RTD and CDOT to work out technical details of the Transit Signal Priority (TSP) design elements.

2.2.2 Meetings (Kickoff and Coordination— public coordination and stakeholder meetings are defined in Task 3.0, Design Review Task 4.0)

Based on the various groups the following meetings and coordination is assumed to meet the expectations of the City.

- **Project Kick off meeting** (Assumed 2 hour meeting) – Attendees: Muller (PIC, PM, PE, Drainage PM, Environmental PM/PE) OV PM, Dig PIC, PM – 1 (one) meeting
- **City of Denver PM Coordination Meetings** (Assumed 1 hour meeting – Attendees: Muller (PM, PE) – Bi-weekly (32 meetings)
- **Team Coordination Meetings (Internal)** (Assumed ½ hour meeting – Attendees: Muller (PM, PE, Drainage PM, OV PM, Dig PM) – Bi-weekly (32) meetings
- **Transit Signal Priority Meetings with DOTI, RTD and CDOT (Assume 1 hour/meeting) -Attendees: Muller (PM, ITS Engineer, Traffic Signal Engineer) – 3 meetings**

2.3 Quality Assurance/Quality Control

Within one month from Notice to Proceed, the Muller will submit a Quality Management Plan for ensuring deliverables are void of technical and format related errors. The Quality Management Plan shall cover all quality assurance/quality control activities, which will be implemented for all work during this Project. The Quality Management Plan should include:

- Project description and goals
- Project scope of work
- Project team organizational chart
- Names and responsibilities of Project Manager, Quality Assurance Manager, and major discipline Task Manager
- Document control system description
- Description of plan checking process

2.4 City of Denver Oversight

The City of Denver is the managing and funding agency for this Project and will be reviewing and approving all task deliverables as described in this scope. The City project team, in collaboration with Muller, will coordinate with other DOTI projects, and other potential projects managed by other City agencies, and other jurisdiction's projects along West Colfax Avenue. Stakeholder coordination is included in Task 3.0.

2.5 Progress Reports and Invoicing

Muller will provide the City Project Manager with monthly progress reports and invoices.

Task 2.0 Deliverables

Anticipated deliverables for Task 2.0 are listed below.

- Project Management Plan
 - Work Plan and Schedule
 - Communications Plan
 - Committees and Teams
 - Quality Management Plan (Quality Assurance/Quality Control Plan)
- Meeting notes (digital- via OneNote)
- Progress reports and invoicing

Section 3 - Public Information

3.0 Public Information

Muller and OV will develop the Public Information Plan in coordination with City staff, outlining the process and approach in engaging agencies, stakeholders and the public during the Project.

3.1 Public Information Plan (OV)

OV will work with DOTI project manager and staff to develop a public outreach plan and strategy for the project aligned with the design process milestones and inclusive of meetings, coordination, and informational tasks throughout the process. The plan will include an approach to coordinate with the DOTI communications team and OCBE to respond to the unique characteristics of the residents, businesses, and transit users in the corridor.

3.2 Outreach Materials (OV)

OV will create and provide project materials (outreach materials) to the City of Denver for posting to the already established project website. Updates to the website are anticipated to occur at project design milestones and preceding and following Stakeholder and Public meetings. The City Pro consultant will coordinate with the City Project Manager, DOTI Communications team and Communication Staff to disseminate announcements.

OV will prepare graphics and materials associated with outreach throughout the project, incorporating messaging and requirements of Elevate Denver Bond funded projects. OV will develop templates or layout for the following outreach materials and will provide Spanish translation and print:

- Mailers
- Website
- Emails
- Public event boards/flyers/yard signs

3.3 Virtual Public Meetings (Muller/OV/Dig)

Due to COVID-19 restrictions, virtual public meetings are anticipated through Q3 of 2021 using Zoom or Microsoft Teams platforms. OV will manage the meeting platform and logistics to engage the community, present proposed or alternative designs, and gather feedback. Two (2) public meetings are anticipated at one at 60% (CDOT FIR) design and another at 95% (CDOT FOR) website update in materials.

- Meeting Notification: OV will work with the City and other area projects to notify stakeholders and the public of upcoming meetings or **Virtual Public Meetings** (Assumed 2 hour/meeting – Attendees: Muller (PM, PE, OV PM, – (2) meetings

3.4 Stakeholder Working Group (OV)

OV will work with DOTI staff and PMT members to finalize membership of the stakeholder working group which will represent community, business and organization interests in the study area. The SWG will inform project alternatives and ensure buy-in as the project progresses. Three SWG meetings are anticipated to occur in alignment with the design process (Muller will not participate in these meetings) milestones including 1. Project Kickoff, 2. 60% (CDOT FIR) Plans and 3. 95% (CDOT FOR) Plans

Potential stakeholders may include:

- West Colfax BID
- Denver Streets Partnership
- West Colfax Association of Neighbors (WeCAN)
- United West Denver
- Westridge Homes
- West Denver Renaissance Collaborative
- Transportation Management Authority
- Denver Housing Authority
- NEST Neighborhood Equity & Stabilizing Team Meeting Documentation/Minutes
- Sloan's Lake Citizens Group
- Sloan's Lake Neighborhood Association
- Villa Park Neighborhood Association
- Denver Public Schools
- Colfax Elementary
- Lake International Middle School
- Confluence Ministries

- Local Corridor Businesses
- RTD
- City of Lakewood

3.5 One-on-One Meetings and Corridor Business Outreach (Virtual or In-person) (OV)

OV and Muller will conduct one-on-one meetings to address changes in access control or impacts to businesses along the corridor to ensure business integration with the design process. These meetings are expected to begin after the 60% (CDOT FIR).

One-on-one Meetings (Assumed 1 hour/meeting – Attendees: (Muller PE, OV PM and planner) – (10) meetings

Task 3.0 Deliverables

- Public Involvement Plan OV
- Website content and periodic updates OV
- Outreach materials in English and Spanish including website information, mailers, email, flyers OV
- Two Public Meetings (anticipated online)
- Public meeting notes within 3 business days (Muller)
- Plan and Section Graphic Boards for Public Meetings (Dig - Virtual Meetings, 3 boards per meeting)
- Public outreach presentation and additional graphics, One corridor graphic for public outreach, plan view (Dig)
- Two 3-D views of the corridor for visualization of the improvements (Dig)
- Communication templates, which may include, but are not limited to:
 - Letterheads
 - Exhibits
 - Mailers
 - Website
 - Emails
 - Public even boards/flyers/yard signs

Section 4 - Environmental Evaluation and Clearance

4.0 Environmental Evaluation and Clearance

This project is located within the State Highway 40 right-of-way. The improvements are anticipated to qualify as a Programmatic Categorical Exclusion (CatEx) using CDOT Form 128, as neither significant impacts to environmental resources or substantial controversy are anticipated to result from the project.

4.1 Environmental Project Management and Coordination

Muller will work with the City, CDOT, FHWA, and the project team to identify the type of documentation and levels of approval required for each resource. Pinyon will provide technical documentation and will support Muller Environmental personnel with resource specific documentation for project environmental clearances. A City, CDOT, and project team meeting will be held to satisfy the CDOT Environmental Scoping process required under CDOT NEPA clearance. Muller staff will work as liaison between the City, CDOT, and the Muller design team to provide efficient design coordination and communicate environmental requirements for project approvals through the CDOT local agency process. Muller assumes attendance of Muller Environmental personnel and/or Pinyon Environmental personnel at the following meetings (see Task 5.0):

- CDOT Environmental Scoping Meeting (Muller; Pinyon)
- 60% (CDOT FIR) (Muller; Pinyon)
- 95% (CDOT FOR) (Muller; Pinyon)

4.2 CatEx Environmental Clearance Summary Memo (Muller)

Muller will provide a summary memo of all technical documentation completed for resources considered during the project design. The summary memo will provide CDOT and FHWA an efficient way to determine that all resource assessment was conducted and completed in accordance with the CDOT NEPA manual, and that the project can be cleared with signature of the Form 128.

4.3 Environmental Resource Data Collection and Analysis

Collect data and analyze project impacts for the following environmental resources:

4.3.1 Historic Resources (Pinyon)

Colfax Avenue extending through the City of Denver includes a number of older and potentially historic resources. The highway itself has historic associations and was considered historically significant as part of the 2016 CDOT Historic Highway Study and may contain remnants of the Denver Tramway trolley tracks embedded in its pavement. Based on the nature of anticipated impacts to the historic environment, Pinyon will engage in early coordination with CDOT, FHWA, Historic Denver and the State Historic Preservation Office (SHPO) to propose a two-tier Area of Potential Effects (APE). The first tier will include Colfax Avenue and its right of way (ROW) as well as any properties affected by ROW or easement acquisition. The second tier will include the first parcel adjacent to the ROW on either side of the highway not subject to ROW or easement acquisition. Historic deliverables and meetings include:

- Eligibility and Effects Letter
- Corridor Survey Report
- Survey Map Book
- Attendance by Pinyon, and Muller Environmental and Project Management personnel at up to two historic meetings with the CDOT Region Historian, and up to one comment resolution meeting

4.3.2 Aesthetics (Pinyon – VIA)

Pinyon will complete a Visual Impact Assessment (VIA) questionnaire to determine the level of assessment required. The level of assessment will be confirmed by CDOT prior to Pinyon performing a VIA for the project area in compliance with FHWA guidelines. An effort to characterize Project Information and Visual Attributes will include:

- Review elements of the Proposed Project and describe noticeable changes to the project setting
- Conduct field observation and photographic inventory
- Characterize Visual Context including desktop research and reconnaissance
- VIA Questionnaire

If needed, Pinyon will then collaborate with CDOT R1 staff and landscape architects, review visual requirements, and document project location to prepare the VIA Scoping Questionnaire and supporting documentation. The information used in the Visual Resource Scoping Documentation will determine the level of effort for the VIA Memorandum. It is

unlikely that additional supporting documentation will be required. Deliverables and meetings for the Visual Impacts Task will include:

- Brief Memo
- Attendance by Pinyon, and Muller Environmental and Project Manager at one CDOT coordination meetings

4.3.3 Hazardous Materials (**Pinyon**)

Pinyon will coordinate early with CDOT's hazardous materials specialist to confirm the site reconnaissance approach. It is anticipated that hazardous materials documentation will require a Form 881 and Initial Site Assessment (ISA) Report. CDOT or DOTI will obtain agency database search results. The focus of the ISA will be areas where ground disturbances are anticipated. Asbestos and lead paint samples will be conducted along the roadway. The ISA will help determine if further site investigation is required. Deliverables will include:

- ISA
- Form 881
- Five Asbestos sample results
- 10 lead-based pain results

4.3.4 Noise (**Pinyon**)

The proposed improvements meet the criteria that classify the proposed action of a Type III project, which will not trigger the need for a detailed noise analysis. Pinyon will draft a memorandum or email to document that the project meets the criteria for a Type III project. Pinyon will prepare a Type III Memo to file as NEPA documentation. Deliverables will include:

- Type III Noise Memo

4.3.5 Biological Resources (**Muller**)

Prepare a Biological Resources memo; however, resources are anticipated to be minimal. Muller will review aerial imagery and other publicly available spatial data to confirm the absence of biological resources. A brief site visit is included. Deliverables will include:

- Biological resources memo (No BRR necessary)

4.3.6 Section 4(f) Non-historic/6(f) (**Muller**)

Improvements are within ROW, so impacts to recreational Section 4(f) non-historic and Section 6(f) properties are not anticipated. Muller will review the project corridor to identify the presence/absence of Section 4(f) non-historic and Section 6(f) properties and will prepare a map to depict these properties, if needed. Deliverables will include (if necessary):

- Map of any Section 4(f) non-historic/Section 6(f) properties
- Brief memo determining no impacts to Section 4(f) non-historic and Section 6(f) properties, if present

4.3.7 Environmental Justice (**Muller**)

Muller will utilize the FHWA screening tool to document low income and minority populations along and adjacent to the project corridor. It is not anticipated that the project will have a detrimental effect on EJ populations along the corridor. Deliverables will include:

- A brief memo summarizing the EJ review and types and locations of EJ populations.
- Table summarizing census data.

4.4 Environmental Construction Document Support

Muller will support the design team to ensure design and environmental notes depict resource requirements and protection in accordance with CDOT requirements. The task will assume ongoing coordination between Muller Environmental and Design team, and may include coordination between Muller Environmental personnel, the City, and CDOT.

Environmental Task Assumptions

- A Section 106 finding of *no adverse effect*/Section 4(f) de minimis will be determined by SHPO.
- Work will remain within existing right of way, and therefore limited historic survey is included.
- Historic survey will not require permission to enter.
- Project and agency meetings will be conducted on a virtual conference platform.
- A brief memo will be required as a result of the findings of the VIA questionnaire.
- No soil or water testing is anticipated to be required
- Meetings will be conducted virtually

Task 4.0 Deliverables

See individual lists above

Section 5 - Engineering Design

5.0 Engineering Design

Muller will prepare engineering design (Preliminary/Interim (60% - CDOT FIR), Pre-final (95% - CDOT FOR), and Final (100%) packages for the authorized prioritized project areas to match the available project funding. Design plan submittals shall meet City and State requirements for each submittal and shall include the following scope items:

5.1 Data Collection and Studies

5.1.1 Topography and ROW (HCL) and Subsurface Utility Engineering (Encompass)

Mapping (HCL)

Mapping will be based on the areas shown in Exhibit C.

- HCL will prepare aerial mapping within the entire project limits: **West Side of Sheridan to East Side of Irving and fifty (50) feet North and South at each intersection from curb return.**
- Topographic survey will be prepared within project limits shown in exhibit C. The survey will include break lines, above-ground topographic features, buildings, curbs and gutters, surface treatments, trees and substantial vegetation.
- Historic trolley tracks and brick-lined sewers will be mapped based on existing City data. HCL will not conduct a field reconnaissance. All records will be provided by the City and Client.

- HCL will prepare a survey control map within the project limits. The survey control map will depict all the primary City horizontal control monuments that are near the project.
- The coordinate system for this project will be based on the City's low distortion projection (CCD Local). A coordinate table will be prepared for all the depicted monuments. The map will be prepared in accordance with the Colorado Revised Statutes the City's guidelines for the survey control diagram and will additionally include a list of all maps or documents considered in preparing the survey. The list will reference the recording, depositing, or identification information of each document. Additionally, this map will include a documentation legend of all monuments describing the physical characteristics of the monument.
- The recovery and/or reestablishment of range points and monuments is excluded from the scope of work.

Existing Right-of-Way (HCL)

- HCL will research all relevant repositories and obtain recorded or existing mapping including but not limited to Subdivision Plats, Official City Resurveys, Land Survey Plats, Improvement Survey Plats, Right- of-Way Plans, Private Survey Notes, Range Point/Line Documents, and monumentation.
- HCL will collect accurate locations on all found monumentation controlling or supporting the location of the adjacent right-of-way or boundary lines for the subject properties. Documentation will include all the monuments within the area of influence of the right-of-way line or subject properties sufficient to support the survey procedure being utilized to determine the rights-of-way or subject properties.
- Right-of-Way of Colfax will be prepared within the project limits.
- ROW plans and ownership maps are shown in section 6 as an additional service.

Subsurface Utility Engineering (Encompass)

Subsurface Utility Engineering (SUE) will be based on the areas shown in Exhibit C.

Permitting/ Right-of-Entry/ Airspace Authorization

Encompass Services, LLC (ES) anticipates acquiring a right-of-way permit from the City and County of Denver along with CDOT Special Use permit prior to commencing the field survey. Furthermore, the project extents are located within Class-G Airspace and ES does not anticipate the requirement for airspace authorization.

It is anticipated that all survey work will be conducted within the existing public rights-of-way eliminating the need for right-of-entry from adjacent landowners. If right of entry is required, Encompass and Muller assume that the City of Denver will coordinate access approvals.

Utility Research

ES will perform a SUE investigation for the areas shown in exhibit C. ES will begin this process by contacting the Utility Notification Center of Colorado (UNCC) also known as Colorado 811 and submit a subsurface utility engineering ticket for utility locates during the preliminary stages of the project. ES will procure all available information, mapping, as-builts, and schematics relative to the existing utilities within the project limits and follow up directly with both tier 1 and tier 2 utility providers if responses are deemed inadequate, inaccurate and or incomplete.

All data acquired will be utilized to accurately locate and mark the utilities on the ground for subsequent survey and later be appended to both the final CAD deliverable and PE certified utility plan set.

Quality Level-B Utility Locates

ES will locate and mark all subsurface utilities pending adequate responses from utility providers and satisfactory completion of utility research.

ES will attempt to meet or exceed ASCE 38-02 Quality Level-B (QL-B) utility locates per Colorado Senate Bill 18-167 by determining the existence and approximate horizontal location for all dry and wet utilities within the SUE extents.

Existing Utility Configurations Requiring Traffic Control for QL-B Designation

ES further anticipates the necessity for traffic control to safely achieve ASCE38-02 QL-B designation for the tele-com. line, gas line, water line, and sanitary/ storm sewer configurations located within the SUE extents.

Utility Data Collection/ Subsequent Mapping

During this phase, ES will perform a comprehensive subsurface utility survey/ investigation within the SUE extents acquiring the horizontal location of all utilities identified during the research stage and subsequently marked to include all visible utility surface appurtenances e.g. manholes, valves, hydrants, meters, pull boxes, pedestals, signal poles, light poles, etc.

The previously marked locations will be acquired from the surface utilizing terrestrial survey and/ or remote survey methods/ drone technology where applicable and executed in compliance with ASCE 38-02 standards. ES anticipates using remote sensing data acquisition methods via drone technology in lieu of traditional ground survey. Remote sensing keeps field personnel safe, improves efficiency and reduces project costs associated to traffic control.

Additional vertical information e.g. pipe invert elevations, direction, size and material will be collected for all sanitary and storm sewer features located within the SUE extents where accessible and readily identifiable from the surface. Invert elevations and dimensions of all vaults, boxes and or subsurface compartments will be measured from the manhole and or entry lid within the roadway from the surface where accessible.

The SUE extents will include adjacent offsite manholes in which the attached subsurface pipes intersect and/ or are included within the original survey and mapping extents. All determinable attributes such as size, material type, age, condition, ownership etc. will be collected and annotated within the final CAD deliverable and PE certified utility plan set.

Base Mapping

At the completion of the project, ES will provide one digital copy of the final MicroStation (.dgn) or CAD (.dwg) drawing completed in accordance with Muller Engineering Company Standards, City and County of Denver Standards, CDOT Standards along with ASCE 38-02 Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data. The drawing file will contain line work, points, and TMOSS codes for all collected/ surveyed utility features including proper designation along with supporting text and annotation for all features.

PE Certified SUE Existing Utility Plan Set

ES will prepare and provide one (1) PE certified SUE existing utility plan set conforming to Senate Bill 18-167 requirements and ASCE38-02 Standards. Subsurface utility mapping will be based on record information provided by the utility owner to include all associated attributes as defined by the ASCE 38-02 Standards including but not limited to: quality level, utility type, ownership, size, material, number of conduits, etc. Our P.E. certified utility plan set will also include a full notes/report section addressing, documenting, providing recommendations and

summarizing all findings in reference to the SUE investigation. The notes/ report section of the plans will contain referenced callouts to the plan view throughout the plan set to provide a clear and concise picture of all known utilities and their associated quality level. Tabulation of facility owners and their contact information will be included in the notes/ report section.

Task 5.1.1 Deliverables

- Survey control map (pdf), draft for review (two draft submittals are assumed)
- Survey control map (pdf), final signed and sealed
- AutoCAD (dwg) files containing all survey and mapping data
- Color aerial photography for entire project limits, at a resolution appropriate for 1"=50' scale drawings
- Digital terrain model (dtm) for project limits (1' contours)
- AutoCAD (dwg) files containing all right-of-way information
- Stamped SUE plans
- Digital files including SUE linework as described above.

Assumptions/Exclusions:

- The fee includes an assumed no (0) test holes. An additional service has been provided for 40 test holes.
- Any survey/ROW markers that are to be damaged or removed during construction will be reset as part of the construction contract. No markers are anticipated to be impacted during design and therefore no cost will be associated with this work.
- Location of private waterline, private sanitary sewer line, and private gas line lateral services are excluded from this work.
- Utility locates for untraceable utilities without access e.g. irrigation systems, traffic signal loop detection systems, septic systems, private services, underground storage tanks, etc. are excluded
- Pipe invert elevations, direction, size and material that are inaccessible from the surface are excluded
- Right-of-entry letters and access coordination to private property

5.1.2 Geotechnical Engineering/Pavement Design (Geocal)

- Geocal will conduct field sampling of existing pavement and subgrade from three (3) boring locations along the project corridor to determine existing pavement thickness, soil types, and test for water soluble sulfates. Our fees have been estimated based on the conceptual plans provided by Muller Engineering via email on January 6, 2021. If the design changes before we are given Notice to Proceed (NTP), we should be notified and requested to revise our cost estimate. Upon receiving NTP, we will coordinate our proposed boring locations with Muller Engineering to ensure all required information will be captured. As the design currently exists, our field investigation will consist of the following: Predrilling Operations: We will apply for all necessary permits, which at this point we assume only includes Colorado Department of Transportation (CDOT) and the City & County of Denver (CCD). We also have assumed that any permitting fees will be waived. If they are not, the cost will be billed to the project "At Cost". Upon receiving the permits, a field geologist will stake the approved boring locations and provide our drilling subcontractors with a proposed boring map for use in calling in utility locates. Boring locations will be determined by Muller with advisement from Geocal.
- Drilling Operation: After utilities have been cleared, a Geocal field geologist and our drillers will mobilize to the site to commence sample collection. We will first extract cores of the pavement and samples of any aggregate base course, as well as measure the thickness of each. Afterwards, borings will be drilled with a 6-inch Outer-Diameter Solid-Stem Auger in order to produce ample bulk samples. The three (3) borings will be drilled to approximately 5 feet deep. Samples of soils and bedrock (if encountered) will be collected from each boring at approximately 5-foot intervals using either Split Spoon or Modified California Barrel samplers following procedures similar to those described in

ASTM. After drilling and sampling is completed, borings will be backfilled with flow-fill in accordance with CDOT requirements then compacted with the weight of the rig. Borings will be capped with cold patch asphalt to match the thickness of the existing pavement or a minimum of 9 inches, in accordance with CDOT requirements.

- **Traffic Control:** All borings will be drilled within the Colfax Ave roadway. Traffic control operations will include single lane closures. Due to the distribution of borings, we anticipate set up and take down of traffic control before and after each boring.
- **Groundwater Measurements:** No wells were requested for this operation. If applicable, Geocal will denote depths that groundwater was encountered during drilling and measure levels immediately after drilling.
- **Lab Testing:** Samples collected from the borings will be returned to our ASTM-accredited laboratory for testing. Lab tests will include classifications (gradations, liquid/plastic limits) and water-soluble sulfates.

Provide recommendations for the pavement thicknesses.

- **Geotechnical Reporting:** We understand full-depth reconstruction and mill-and-overlay are excluded from this project. Only patching may be required. Patches are not engineered structures so they will not require a pavement design. Geocal's data report will be written to summarize our findings from the field investigation and results from laboratory tests. Reports will also include figures showing final boring locations, boring logs, photographs of pavement cores showing thickness and pavement conditions, and laboratory test results. Typically, a draft data report will be ready for review within 8 to 10 weeks of NTP, depending on permitting, driller availability, weather, and utility clearances. After comments are received and implemented, we will provide a stamped, signed & sealed Final Report.

Exclusions: The following items have been excluded from this scope and fee. Unless otherwise stated, these items can be added to our scope for an additional cost.

- Recommendations for signal pole foundations.
- Geotechnical recommendations.
- Drafting of geology sheets.
- Considerations and designs for Full-depth reconstruction, Mill & Overlay of pavements, Falling Weight Deflectometer testing.
- Drums and costs of disposal at Denver Arapahoe Disposal Site (DADS).
- Groundwater monitoring wells.
- Pavement patch mix designs. Patches do not require pavement design. Per CDOT, patch pavement sections should match the existing pavement sections. Typically, CDOT Maintenance has a mix design for patching.

Assumptions: Our scope and cost estimate are based on the following assumptions:

- Only applicable permitting entities for this project are CDOT and CCD. Any associated permitting fees will be waived by CCD.
- CDOT and CCD will allow unrestricted daylight hours operations on all public roads. If night work is required, we should be contacted to revise our cost estimate as the project will incur additional cost.
- Environmental oversight of drilling operations is not necessary, nor are any groundwater wells for environmental testing purposes.

- If requested, percolation testing and all associated work would be in a separate mobilization from the base scope. If combined with the base scope and completed in concurrence with each other, there may be some cost savings.

5.1.3 Traffic Engineering and Transit Signal Priority (Muller)

Traffic Engineering

Traffic Engineering tasks consist of inventorying and studying the existing corridor for areas where improvements are needed. The following tasks will be included in this work:

- Inventory all existing traffic control devices, communications and technology infrastructure and coordinate with DOTI staff to determine any needs to make improvements to existing. Items to be inventoried include existing traffic signs, pavement markings (via aerial imagery), traffic signal equipment, ITS infrastructure, communications pull boxes and fiber, and traffic signal cabinet equipment.
- Incorporate existing traffic control devices and ITS/Communications devices into CAD base drawing sheets. Traffic signal plan sheets (1"=30' scale) will be prepared for the following signalized intersections and associated signal improvements:
 - W. Colfax Ave and Sheridan Blvd – SE Corner push buttons and TSP.
 - W. Colfax Ave and Wolff St – NW and NE Corner push buttons and TSP.
 - W. Colfax Ave and Vrain St – New Traffic Signal and TSP.
 - W. Colfax Ave and Tennyson St – NW and NE corner push buttons, NW corner communication pull box and TSP.
 - W. Colfax Ave and Raleigh St – NW and NE corner push buttons, NE corner communication pull box and TSP.
 - W. Colfax Ave and Perry St – SW and SE corner push buttons and Bike Boxes.
 - W. Colfax and Newton St – Install new hybrid beacon (HAWK) signal
 - W. Colfax Ave and Meade St – Remove traffic signal.
 - W. Colfax and Lowell St – Install new traffic signal (not TSP location)
 - W. Colfax Ave and Knox Ct St – NW, SW and SE push buttons and NE corner communication pull box.
 - W. Colfax Ave and Irving St – NW and SW corner push buttons, NE corner communication pull box and bicycle detection.
- Tabulate quantities for traffic signal upgrades identified in item above. Coordinate placement of pedestrian push button post assemblies with pedestrian curb ramp layout to meet ADA requirements. Tabulate quantities for 60% (CDOT FIR) and 95% (CDOT FOR) plan submittals. Signal plans will include general notes, itemized quantity tabulation, existing traffic signal layout and proposed signal plans. Existing signal mast arm poles, signal heads, detection, conduit, pull boxes and cabinets will remain as is unless otherwise noted above.

Transit Signal Priority (TSP)

Transit Signal Priority (TSP) The initial task will be to collect field information that can be used to conduct an initial assessment of the changes necessary at the signalized intersections implementing TSP. This is expected to include:

- **Transit Signal Priority Technical Staff:** Muller will work with the City's technical team including DOTI Traffic Operations staff, RTD and CDOT to work out technical details of the Transit Signal Priority (TSP) design elements. Muller Traffic/ITS staff will hold up to three meetings with DOTI Traffic Ops staff, RTD and CDOT staff to work

- out technical details of the Transit Signal Priority (TSP) design elements. Muller will prepare meeting agenda and meeting minutes.
- Conduct an inventory of the City's current traffic control systems at each signalized intersection where TSP will be implemented such as:
 - Controller cabinet
 - Controller hardware
 - Controller firmware
 - Communications infrastructure
 - Controller cabinet layouts to determine available mounting space and electrical power for TSP-related hardware, including cable management
 - Supported detection inputs
 - Confirm preemption/priority hierarchy
 - TSP data collection and reporting capabilities of the TransSuite system
 - Field constraints for installation of equipment such as availability of cellular communications and interference of GPS signals
 - This task is expected to include coordination with the City and possibly the vendor of the controller hardware/firmware.
 - Prepare a design architecture for the TSP system. This is expected to include the network schema for the five (5) signalized intersections and related roadside equipment. This is expected to include:
 - Hardened IP-based contact closure system
 - Hardened cellular modems
 - Cellular and GPS antennas
 - Surge Protective Devices (SPD)
 - Outdoor-rated cabling and connectors
 - Hardened power supplies
 - The designs will include all necessary details for the installation of TSP equipment, such as mounting and installation details. Designs will need to be coordinated with RTD GIS personnel for the development of geofence check-in and check-out locations for TSP requests and departures at each signalized intersection.
 - As required by CDOT prepare an Operations and Safety Memorandum (O&SM) to assess the operational and safety impacts to the corridor associated with the implementation of TSP. Existing AM and PM peak hour turning movement counts from the previous Concept Study will be used of the analysis. The analysis will be prepared using Synchro and CDOT Crash Data diagnostic tools. Level-of-service will be calculated for each signalized intersection from Sheridan Boulevard through Irving Street. The results of the operations analysis will also be used for the environmental Air Quality analysis.
 - Controller bench testing may need to be performed to ensure that RTD's TSP system works with the City's controllers. At one time, the City utilized Econolite Cobalt controllers, but is in the process of transitioning to Intelight X3 controllers so testing must be carried out if this will be the first TSP implementation with X3 controllers. Controller bench testing will need to be performed at the City's Roslyn Traffic Signal Shop facility by DOTI staff.

Assumptions and Exceptions:

- In accordance with the RTD document titled *Transit Priority Analysis of Selected Corridors*, Final Recommendations, dated April 2018, the detection system for TSP will

utilize cellular technology using the current GPS-based CAD/AVL system on RTD buses. As a result, no other detection technologies are being considered as part of this Scope of Work.

- It is presumed that RTD has outfitted all of their Route 16 buses with CAD/AVL infrastructure as well as cellular communication gateways and modems so an inventory of the RTD bus fleet is not include as part of this Scope of Work.
- Traffic counts are excluded from the scope. Turning movement count data from the Concept Study will be utilized for the Traffic Study task.

5.2 Preliminary/Interim Design, Submittal, Specs and Review Meetings – 60% (CDOT-FIR)

This project will be based off of the Conceptual plans provided by City of Denver during the RFQ phase, Exhibit A. Based on conversations with the City of Denver PM, we will not be making any improvements to the cross section of Colfax, the only improvements will be to those intersection ramps/bulb outs and proposed median improvements shown in the conceptual plans. Any modifications to additional ramps, roadway elements or intersection designs not shown in the conceptual plans, Exhibit A, will require additional fee and scoping.

5.2.1 Hydrology/Hydraulic Engineering (Muller)

This work will consist of reviewing City existing hydrology reports and research of the corridor to develop a baseline report and understanding of the existing drainage issues. The tasks required for this task are:

- Review drainage basins and existing reports and studies from Denver. It is assumed that these will be used for the needs of the project. New basin hydrology will not be done as part of the project, and if required, it will be an additional service for the City.
- Site Visits – one visit planned for the project.
- Site analysis (layout & feasibility)
- It is anticipated that minimal drainage improvements will be required on this project, the design team will prepare a report and plan packages based on assuming that the drainage improvements will be shown on the roadway plan sheets and not needed to have a stand alone drainage plan set. All storm sewer and inlet relocations will be performed in kind to existing storm sewer and inlet infrastructure. Hydrologic study/evaluation is not included.
- The design team will plan for one profile sheet with two profiles for the entire project.
- Prepare 60 (FIR)% draft drainage report.
- During 60 (FIR)% design and tabs are not anticipated.
- Respond to 30% drainage related ERA comments.

5.2.2 Utility Coordination (Muller)

- Using the SUE data collected from HCL, Muller will prepare project designs that endeavor to avoid or minimize utility conflicts.
- Adjust design to avoid the conflict if possible or develop a relocation plan.
- Meet with utility representatives to confirm utility locations and to collaborate on any potential utility relocations.
- Review major utilities with the City to determine if any impacts should be relocated prior to construction. It is not anticipated that relocation of the existing street lighting will be required on the project. If this is determined, then the City will coordinate that work with Xcel. Design of these relocated facilities are not anticipated. If major design for utilities is needed then Muller will work with the City to add additional fee for this effort.

- Coordinate with Denver staff to identify locations for relocations needed. Denver staff will coordinate directly with the utility companies for any and all relocation needs. Muller will assist in preparing the utility agreements.
- Invite utility company representatives to participate in the project review meetings to confirm relocation plans, as required.

5.2.3 Landscaping Design (Dig)

The Dig Studio team, in coordination with the Design Team, will further develop the City's conceptual design (provided in the RFQ) for the landscape and pedestrian elements throughout the corridor. Dig Studio will work with the City, Design Team, Stakeholders, and Community to understand the needs and desires for the corridor to arrive at the ideal solution. The discussion will include exploration of the following potential design elements for West Colfax:

- Pedestrian safety aesthetics
- Planting design, and median wall/planter aesthetics.

5.2.3 Deliverables:

- Plan and Section Graphic Boards for Public Meetings (Assumed up to 3 meetings, 3 boards per meeting)
- Site Design Plan in CAD for West Colfax corridor to submit to City for ERA review
- Initial Cost Estimate
- Initial Plant Palette
- Initial Planting Details

5.2.4 Roadway Design (Muller)

The following tasks will be performed as part of the preliminary/interim design 60% (CDOT – FIR) phases.

- Create design criteria for the project and review with City of Denver and CDOT for acceptance.
- Prepare 60% (CDOT FOR) design plans for improvements along West Colfax Ave. 60% (CDOT FIR) Design Plans anticipated to include:
 - Title Sheet
 - Summary of Approximate Quantities
 - Typical Sections and Notes
 - Roadway Plans Including Intersections and Pavement Markings
 - Roadway Profiles
 - Curb Return Profiles
 - Intersection/bulb out Details (horizontal layout only)
 - Traffic Signal/Transit Signal Priority Plans
 - Construction Phasing Plans (excludes construction traffic control devices)
- Traffic sign plans. It is assumed that most existing traffic signs will remain in place unless they conflict with the concept of operations. Existing traffic signs will be reviewed for compatibility with the new design and will be designated as existing to remain, existing to be reset or existing to be removed. Proposed traffic signs will be shown and their relationship to existing traffic signs will be reviewed to determine any necessary modifications. Wayfinding signage is not included in the scope of work. Signing and striping plan sheets will be developed at 1:40 scale. (OV)
- Compile plans from subconsultants and assemble into a complete set.
- Prepare 60% specs (table of contents only)
- Prepare Opinion of Probable Construction Cost.

- Distribute plan set to project participants for review 2 weeks prior to 60% Design Review Meeting.
- 60% ERA Design Review Meeting/CDOT FIR Review meeting. This meeting is anticipated to be held virtually and will include team members from Muller (PIC, PM, PE, Drainage PM, Environmental PM, Traffic PM), OV and Geocal. It is anticipated that CDOT will join Denver along with their staff for a combined FIR/DOTI review meeting. Separate meetings will require an additional fee.

Revisions to 60% plans based on ERA/CDOT reviews will be completed during 95% design. DOTI will submit final 60% Design Review comments to design team within 2 weeks of review meeting.

5.3 Pre-Final Design, Submittal, Specs and Review Meeting – 95% (CDOT-FOR)

5.3.1 Hydrology/Hydraulic Engineering (Muller)

The tasks required for this task are:

- Update data and information in accordance with decisions/comments made during the 60% (FIR) review process.
- It is anticipated that minimal drainage improvements will be required on this project, the design team will prepare a report and plan packages based on assuming that the drainage improvements will be shown on the roadway plan sheets and not prepare a standalone drainage plan set. All storm sewer and inlet relocations will be performed in kind to existing storm sewer and inlet infrastructure. Hydrologic study/evaluation is not included.
- The design team will plan for one profile sheet with stacked profiles (two windows) for the entire project.
- Finalize storm sewer profiles and details.
- Prepare quantity tabulations.
- Prepare FOR-level specifications.
- Prepare 95% final drainage report.
- Make final recommendations for pipe material based on CDOT Pipe Material Selection Policy guidelines. Document recommendations in a letter with supporting design information.
- HGLs will not be shown on the profiles, if this work is required then Muller will work with the City to add additional fee for this effort.

5.3.2 Utility Coordination (Muller)

- Muller will work with CDOT staff to clear the utility impacts and prepare the utility specification.
- Muller will show all minor adjustments to valves and manholes on the roadway plan sheets.
- Create utility notification letters

Assumptions:

- No major utility relocations are assumed. City of Denver does not wish to relocate OH power, or streetlights. Therefore, minimal relocations are assumed at this stage in design. Minor adjustments will be noted on the roadway plan sheets and spelled out in the specification package. It is anticipated that design for relocations will not be performed by the consultant team.

5.3.3 Roadway Design (Muller)

The following tasks will be performed as part of the Pre-Final 95% (CDOT FOR) phases.

- Prepare and provide final roadway design plans incorporating input from CCD department reviews, ERA Review, CDOT and other outside entities.

- Prepare final roadway details and designs. This will include horizontal layouts adjustments and vertical design for intersection bulb outs or raised medians.
- Prepare 95% design plans for improvements along West Colfax Ave. 60% Design Plans anticipated to include:
 - Title Sheet
 - Summary of Approximate Quantities
 - Typical Sections and Notes
 - Earthwork Summary
 - Tabulations
 - Removal Plans
 - Roadway Plans (bulb outs and medians designs will be shown on these sheets, these sheets will also include minor utility adjustments)
 - Intersection/Ramp Details
 - Roadway Profiles (only where needed – roadway CL on Colfax will not be changing)
 - Curb Return Profiles
 - Miscellaneous Detail Sheets
 - SUE Plans
 - Drainage Sheets/Details
 - SWMP Notes and Plans
 - Traffic Signal/Transit Signal Priority Plans, Notes, and Tabulations
 - Signing and Striping Plans, Notes and Tabulations
 - Construction Phasing Plans, Notes and Tabulations (excludes construction traffic control devices)
 - Cross Sections
- Prepare final tabulations and specifications. Combine all sub-consultant and other disciplines specifications into one package. The majority of section 100 (CDOT spec book) will be replaced with City of Denver's Yellow Book. City of Denver PM will provide an example of specs to use from the 100s section. All other sections of the specification package will be based on CDOT's 2019 Standard Specifications.
- Traffic Engineering
 - Prepare final traffic signal plans and specifications.
 - Prepare Permanent Signing and Pavement Marking Plans (OV). It is assumed that most existing traffic signs will remain in place unless they conflict with the concept of operations. Existing traffic signs will be reviewed for compatibility with the new design and will be designated as existing to remain, existing to be reset or existing to be removed. Proposed traffic signs will be shown and their relationship to existing traffic signs will be reviewed to determine any necessary modifications. Wayfinding signage is not assumed to be included in this task. Signing and striping plan sheets will be developed at 1:40 scale.
 - Prepare design plans and project special provisions for the TSP field system at each designated intersection along with opinions of probably construction costs.
- Construction Phasing Plans
 - Address comments from 60% Plan review and update quantities. Traffic control devices (construction signs, channelizing devices, barricades, message panels, etc.) will not be shown on the plans but will be tabulated based on CDOT's 2019 Standard Plans and input from DOTI staff. Prepare construction traffic control specification.

- Compile plans from subconsultants and assemble into a complete set.
- Prepare Opinion of Probable Construction Cost
- Distribute plan set to project participants for review 2 weeks prior to 95% Design Review Meeting.
- 95% ERA Design Review Meeting/CDOT FOR Review meeting. This meeting is anticipated to be held virtually and will include team members from Muller (PIC, PM, PE, Drainage PM, Environmental PM, Traffic PM), OV and Geocal. It is anticipated that CDOT will join Denver along with their staff for a combined FOR/DOTI review meeting. Separate meetings will require an additional fee.

Revisions to 95% plans based on ERA/CDOT reviews will be completed during 100% design. DOTI will submit final 95% Design Review comments to design team within 2 weeks of review meeting. Major design changes will not be made at this level of design. Wholesale changes to project design will require an additional fee.

5.4 Final Design, Submittal, Specs and Review Meeting – 100% (CDOT-AD)

5.4.1 Address Comments from 95% Review for Final Spec/Plan Package and 100% Review Meeting

The tasks required for this task are:

- Update data and information in accordance with decisions/comments made during the 95% (FOR) design review process (from ERA and CDOT).
- Finalize and stamp the drainage report.
- Submit 100% Plan and spec package to CCD for final review and approval for construction. DOTI will have 2 weeks for review and to submit comments to design team.
- Compile plans from subconsultants and assemble into a complete set.
- Prepare Opinion of Probable Construction Cost (100%).
- Distribute plan set to project participants for review 2 weeks prior to 100% Design Review Meeting.
- 100% ERA Design Review Meeting. This meeting is anticipated to be held virtually and will include team members from Muller (PIC, PM, PE,) and OV.

5.4.2 Construction Drawings/AD Set

The following tasks will be needed for the final construction drawings and specifications:

- Revise Plans and Special Provisions based on 100% ERA Design Review Comments. Major design changes will not be made at this level of design. Wholesale changes to project design will require an additional fee.
- Provide the electronic copies and files as required by the CCD /PM.
- Construction plans, specifications, and cost estimate
- Calculations and worksheets
- Final Reports
- Project Meeting Minutes (exported from OneNote)
- Utility Clearance Package
- Utility Agreements and SUE Plans (SUE Plans included in Bid Package)
- Environmental Documentation (CDOT Form 128 Completed)
- Record Plan Sets and Specifications will be provided digitally.

Assumptions and Exclusions:

- No bid support services will be necessary from the design team

- No construction support services are part of this work
- Utility letters will be signed and created by the City of Denver, with support from Muller as described above.
- No design support for utility relocations will be provided as part of the project. That coordination of utilities that are impacted will be provided by the City of Denver.
- Muller will only provide a 60% (CDOT FIR), 95% (CDOT FOR) and 100% (CDOT AD) submittal package as described above. There will be no conceptual or 30% submittals provided to the City of Denver as part of this project.

Section 6 – Additional Services

6.0 Additional Services

Based on conversations with the Denver PM we have proposed several options for the City to consider adding to the design services. The City has a max budget of \$155,00 for additional services and the total of all services below exceeds this amount, therefore not all services can be completed within the project budget for additional services. Since not all services are anticipated this \$155,000 budget will be executed at direction of the City if and when one or several of the items below are needed and the total value of this section is not-to-exceed \$155,000.

6.1 Additional Testholes

The base fee has 0 testholes. If the City deems necessary testholes can be performed. The provided fee will allow for 50-60 testholes. The fee for this task is approximate, once the actual pothole locations are defined then the official estimate will be provided. However, this task is not to exceed \$60,000 as shown in the fee.

6.2 Air Quality (Pinyon)

The project is located within the Denver front-range ozone non-attainment area as well as the carbon monoxide maintenance area for Denver-Boulder. With the anticipated intersection changes, including new signalization, an air quality evaluation including CO hot-spot analysis at two intersections is projected. Prior to completing the air-quality analysis, the traffic study would be evaluated for the level of service (LOS) of both current and future conditions. If the LOS is D or lower, project level conformity will require hot-spot analysis. Results of the analyses will be presented in an air quality technical report to satisfy requirements in the Colorado Air Quality Project Level Analysis Guidance (AQ-PLAG) document. Pinyon will coordinate with Muller, and with the CDPHE air-quality specialists and/or CDOT air-quality specialists, to confirm approach, what data/variables to use, and which assumptions to make prior to completing the model analysis. The following data will be required for input into the CAL3QHC model:

- MOVES emissions factors (from CDPHE);
- Traffic data (e.g. Synchro report from Transit Signal Priority Traffic Study) and roadway geometry for the concept alternatives (by Muller); and
- Background pollutant concentrations and persistence factor for the project area (from CDPHE).

Deliverables:

- Air Quality Technical Report
- Attendance by Pinyon, and Muller Environmental and Project Management at one coordination meeting

6.3 Visual Site Assessment – Brief Memo (Pinyon)

If required as part of this project Pinyon will provide a visual site assessment memorandum.

6.4 Paleontology (Pinyon)

Denver contains several formations that contain potential paleontological resources. There is some potential that CDOT would require assessment for this resource should work exceed depths of 12-inches. Based on an assumption of this requirement, a paleontologist will review the geologic units and complete a literature search to assess the probability of encountering paleontological resources. However, it is anticipated that no resources will occur within the project corridor.

Deliverables will include:

- A brief memo indicating the absence of paleontological resources within the project corridor.

6.5 ROW Plans and Ownership Maps

If the City requires ROW plans and Ownership Maps then those will be provided as an additional service.

Deliverables will include:

- Existing Right-of-Way Plan and Ownership Map (pdf) draft for review (two draft submittals are assumed)
- Existing Right-of-Way Plan and Ownership Map (pdf) final signed and sealed

6.6 60% (CDOT-FIR) / 95% (CDOT-FOR) / 100% Landscaping Design and Green Infrastructure

Design for Landscaping and Green Infrastructure will only be taken to the 30% design level. If the City chooses to move forward with these design elements then the below additional services will be required.

6.6.1 Landscaping Design (Dig)

60% (CDOT – FIR) Landscaping Design

Dig Studio will coordinate with the Design Team to prepare 60% Design Drawings for review by City and County of Denver. 60% Design Document plans will define the character and essential materials and details of the project.

Design Development Drawings will include:

- Site Layout Plan/Materials Plan: Provide 60% Design level layout for pedestrian hardscape and planting areas.
- Planting Plan: Provide 60% design level layout for planting areas, identifying plant locations and species.
- Irrigation Plan: Sleeve locations/sizes and connection to water sources will be provided on 60% Design level Irrigation Plans.
- Construction Details: Design Development level construction details for softscape elements.

Deliverables:

- One corridor graphic for public outreach, plan view
- Two 3-D views of the corridor for visualization of the improvements
- One 60% Design Document drawing set, including layout, materials, and planting plan, for West Colfax corridor to submit to City and County of Denver for ERA review and CDOT for review (concurrently).
- Cost Estimate by Roadway Station
- Planting Details

95% (CDOT – FOR) Landscaping Design

Upon City and County of Denver review and approval of the 60% design documents, the Dig Studio team will develop drawings and related technical specifications to construct the work included in the scope. The drawings shall be prepared as working drawings and technical specifications that conform to applicable codes and regulations of governmental bodies having

jurisdiction over the work.

In developing working drawings and technical specification, Dig Studio shall make our best efforts to coordinate our services with those of other consultants and to maintain a construction budget in accordance with that established by the City and County of Denver.

Construction Documents will include:

- Layout & Material Plans: Provide detailed, dimensioned material layout for scope areas.
- Planting/Hardscape Plan: Locate and specify hardscape and plant materials. Include plant schedule for planting areas that follows the acceptable tree palette by the City and County of Denver.
- Irrigation Plan: Hydrosystems/KDI will provide full irrigation layouts plans, including overall mainline, connections to the streetscape irrigation system, sleeving and spray head locations. Identify hydro zones and prepare water demand spreadsheet. Includes coordination with Civil Engineer.
- Vertical Grading Plan: Provide detailed spot elevations for vertical elements within the project relative to the horizontal grading completed by the Civil Engineer. Coordinate with Civil Engineer on aspects of grading and connections to storm drain system. Final elevations of drains and continuity with existing FFEs are to be determined by the Civil Engineer.
- Details: Provide construction details for softscape and irrigation elements with scope of work.
- Specifications: Provide CDOT format specification for landscape and irrigation within scope of work.

Deliverables:

- 95% Site/Landscape Construction Document drawings for final review by City and County of Denver as well as CDOT
- 95% Cost Estimate by Roadway Station and Specification Section
- 95% Technical Specifications
- One corridor graphic for public outreach, plan view
- Two updated 3-D views of the corridor for visualization purposes
- Responses to 60% review ERA comments

100% Landscaping Design (Dig)

Upon City and County of Denver review and approval of the 95% design documents, the Dig Studio team will finalize the drawings and related technical specifications to construct the work in our scope. The drawings shall be prepared as working drawings and technical specifications that conform to applicable codes and regulations of governmental bodies having jurisdiction over the work.

In developing working drawings and technical specification, Dig Studio shall make our best efforts to coordinate our services with those of other consultants and to maintain a construction budget in accordance with that established by the City and County of Denver.

Construction Documents will include:

- Layout & Material Plans: Provide detailed, dimensioned material layout for scope areas.
- Planting/Hardscape Plan: Locate and specify all hardscape and plant materials. Include plant schedule for planting areas that follows the acceptable tree palette by the City and County of Denver.

- Irrigation Plan: Hydro systems/KDI will provide full irrigation layouts plans, including overall mainline, connections to the streetscape irrigation system, sleeving and spray head locations. Identify hydro zones and prepare water demand spreadsheet. Includes coordination with Civil Engineer.
- Vertical Grading Plan: Provide detailed spot elevations for vertical elements within the project relative to the horizontal grading completed by the Civil Engineer. Coordinate with Civil Engineer on aspects of grading and connections to storm drain system. Final elevations of drains and continuity with existing FFEs are to be determined by the Civil Engineer.
- Details: Provide construction details for softscape and irrigation elements with scope of work.
- Specifications: Provide specification for landscape and irrigation within scope of work.

Assumptions:

- “Landscape” items are defined as tree and planter layout, soil preparation, plantings and irrigation.
- “Hardscape” items are defined as pedestrian paving zone types with material palette, steps, walls, fixed planters, site furnishing and site lighting fixtures.
- Location, materials and finishes of pedestrian pavements occur from back of curb to edge of right-of-way and pedestrian crossing in the street.
- Engineering of pavement structures, curbs, walls, sidewalks, green infrastructure, or subgrade systems are by others.
- “Site furniture/furnishings” includes planters and pots, benches, trash receptacles and other site amenities
- Dig Studio shall review and adhere to relevant regulatory requirements for the site.
- Structural Engineering will not be required for the landscape scope of work.
- Dig Studio shall provide vertical spot elevations for vertical elements within our scope of work.
- Sub-surface drainage and connections to storm and sanitary sewer shall be by others. Sizing of surface drainage structures such as area drains, and trench drains shall be provided by project Civil Engineer.
- Dig Studio will provide Irrigation Design drawings by Hydro systems/KDI to be coordinated with project MEP and Civil Engineers.
- Value engineering beyond +/-10% of the site construction budget established at 30% Design phase may require an additional services fee proposal.
- The Scope and fee do not include any Bidding and Negotiation or Construction Observation services for this project.

Deliverables:

- Final Site/Landscape Construction Document drawings for submission to the City and County of Denver
- Final Cost Estimate by Roadway Station and Specification Section
- Final Technical Specifications
- Final plan graphic of corridor
- Final 3-D views of corridor
- Responses to 95% landscape related ERA comments

6.6.2 Green Infrastructure Design (Muller)

60% (CDOT – FIR) Water Quality/Green Infrastructure (Muller)

If requested by the City Muller will design the preliminary WQ/GI improvements as defined and agreed upon from concept.

- Prepare water quality treatment text, calculations, and basin maps to be incorporated into drainage study. It is assumed that only 10 locations for green infrastructure improvements will be needed for the site. If more bulb outs/medians are added to the project then those locations will require an additional fee.
- Prepare preliminary (60%) water quality treatment/green infrastructure construction plans. (up to 10 locations)
- Prepare 60% draft drainage/WQ/GI report.
- During 60% design, tabs and specs are not anticipated.

95% (CDOT – FOR) Water Quality/Green Infrastructure (Muller)

Building off of the feedback from 60% interim design Muller will design the preliminary WQ/GI improvements as defined and agreed upon from concept.

- Update data and information in accordance with decisions/comments provided during the 60% (FIR) review process.
- Prepare final (95%) water quality treatment/green infrastructure construction plans (up to 10 locations)
- Prepare final water quality treatment/green infrastructure construction plans (up to 10 locations).
- Prepare final water quality treatment text, calculations, and basin maps to be incorporated into final drainage report as mentioned above (up to 10 locations).
- Finalize Permanent Water Quality design to meet CCD, CDOT and MS-4 requirements.
- Create CDOT style storm water management plan and erosion control plans. It is assumed that only one SWMP/Erosion set will be required, amendments or changes needed for Denver processes shall be at an additional fee.

6.6.3 Percolation Testing

In order to verify if the soils are suitable for infiltrating water quantity at the proposed bulb out locations Geocal will perform the percolation testing of the existing ground. Percolation testing may be required at planned locations for Green Infrastructure features such as street-side stormwater planters, which have an assumed depth of 36-inches. Testing would require additional borings. Five (5) borings would be drilled to 4 feet deep for percolation testing. At three (3) of those locations, we would drill a 10-foot boring adjacent to the percolation test hole in order to collect soil samples and provide information on the substrata. In total, eight (8) borings would be drilled. Traffic control will be required for all field operations for the percolation tests and associated borings. Collected soil samples would be returned to our lab for classification testing. Results from field tests and lab tests, as well as figures showing boring locations will be provided in a geotechnical data report. We have assumed this work would be in a separate mobilization from our base scope.

Attachment 1
Conceptual Attachments/Work Limits

COLFAX BETWEEN SHERIDAN AND YATES

Proposed Designs

1 of 10



DENVER
THE MILE HIGH CITY

EXISTING



PROPOSED



COLFAX BETWEEN YATES AND WOLFF

Proposed Designs

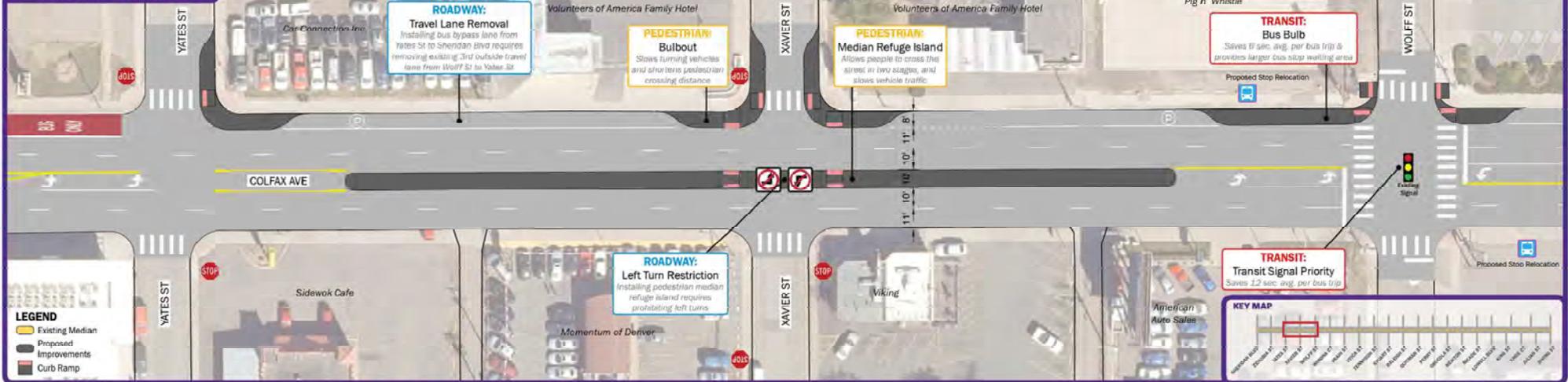


EXISTING



- LEGEND**
- Pedestrian Fatality 2011-2019
 - Pedestrian Injury 2011-2019

PROPOSED



- LEGEND**
- Existing Median
 - Proposed Improvements
 - Curb Ramp



COLFAX BETWEEN VRAIN AND TENNYN

Proposed Designs

4 of 10



DENVER
THE MILE HIGH CITY

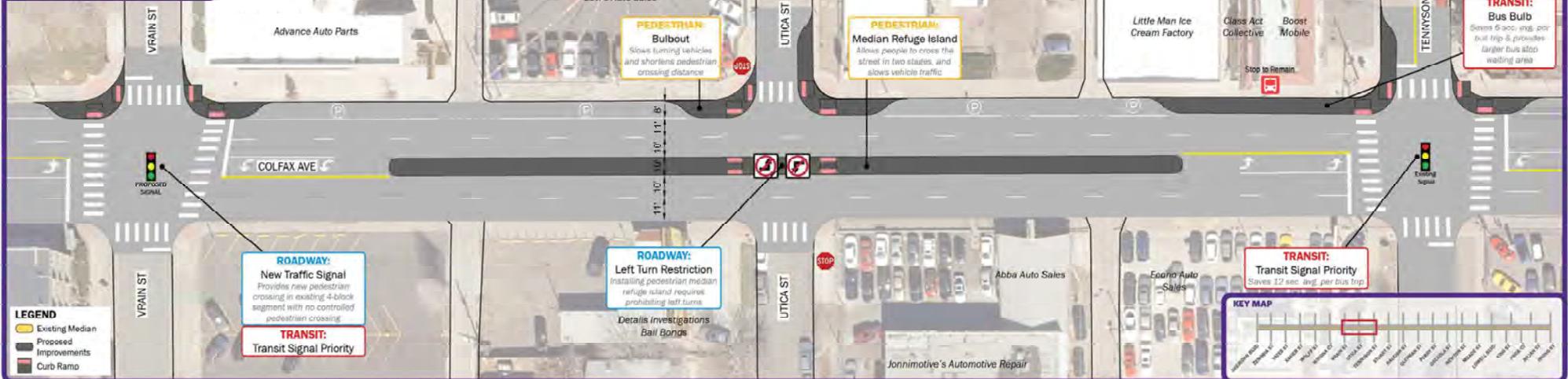
EXISTING



LEGEND

- Pedestrian Fatality 2011-2019
- Pedestrian Injury 2011-2019

PROPOSED



LEGEND

- Existing Median
- Proposed Improvements
- Curb Ramp

ROADWAY:
New Traffic Signal
Provides new pedestrian crossing in existing 4-block segment with no controlled pedestrian crossing.

TRANSIT:
Transit Signal Priority

ROADWAY:
Left Turn Restriction
Installing pedestrian median refuge island requires prohibiting left turns.

PEDESTRIAN:
Bulbout
Slows turning vehicles and shortens pedestrian crossing distance.

PEDESTRIAN:
Median Refuge Island
Allows people to cross the street in two stages, and slows vehicle traffic.

TRANSIT:
Bus Bulb
Slows 6-sec. and provides larger bus stop waiting area.

TRANSIT:
Transit Signal Priority
Saves 12 sec. avg. per bus trip.



COLFAX BETWEEN TENNYSON AND RALEIGH

Proposed Designs

5 of 10

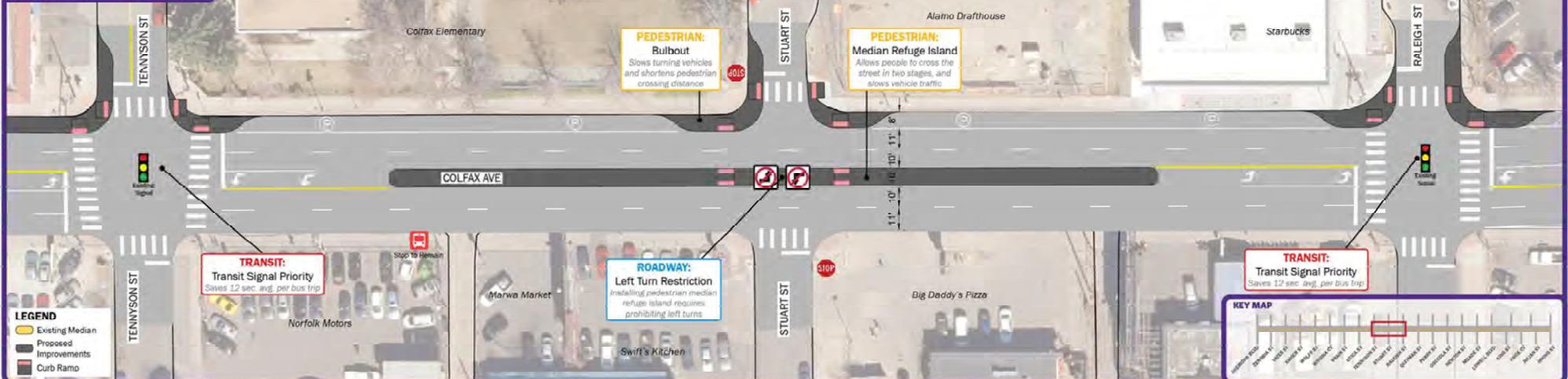


DENVER
THE MILE HIGH CITY

EXISTING



PROPOSED



COLFAX BETWEEN RALEIGH AND PERRY

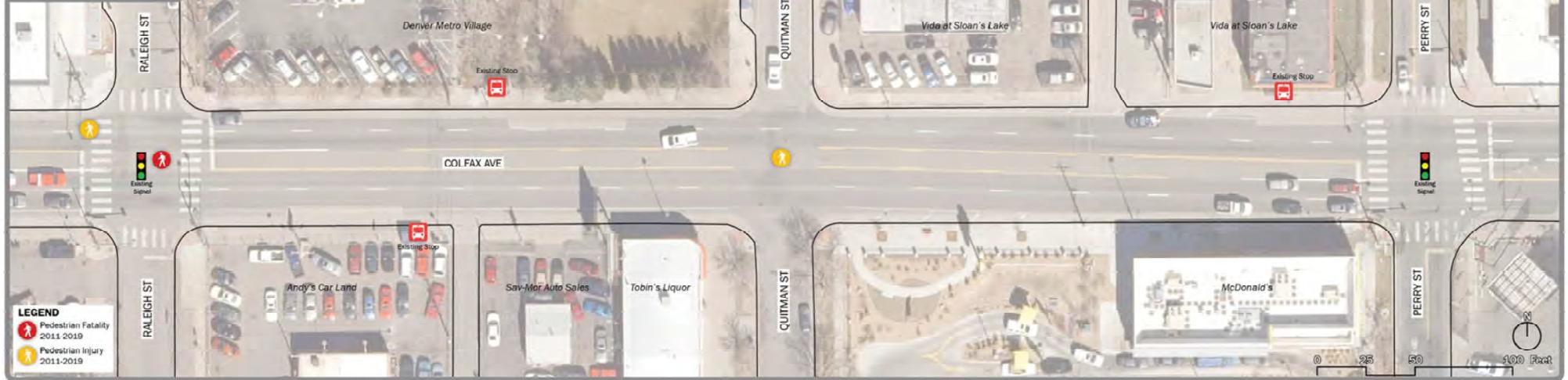
Proposed Designs

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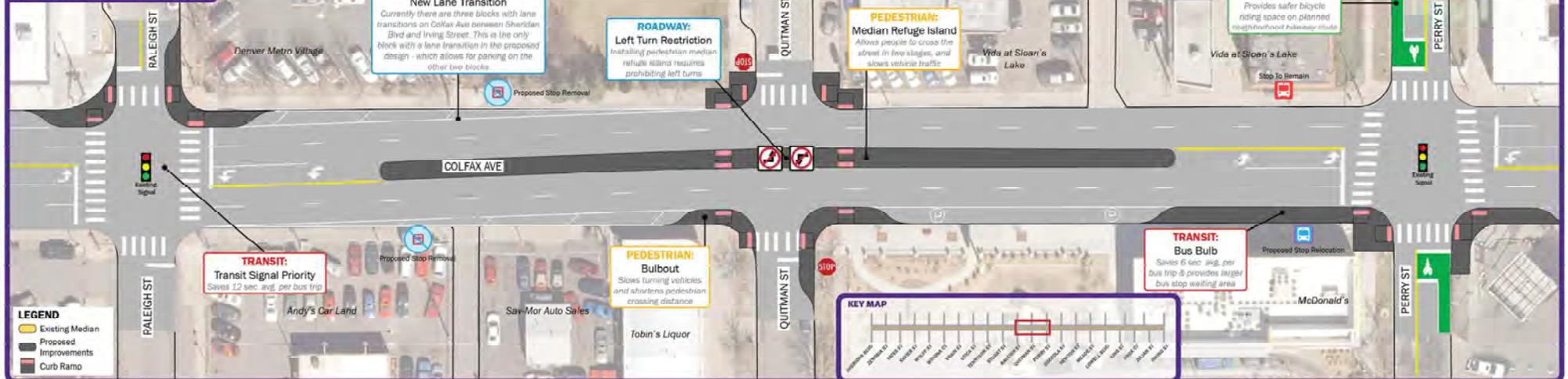


DENVER
THE MILE HIGH CITY

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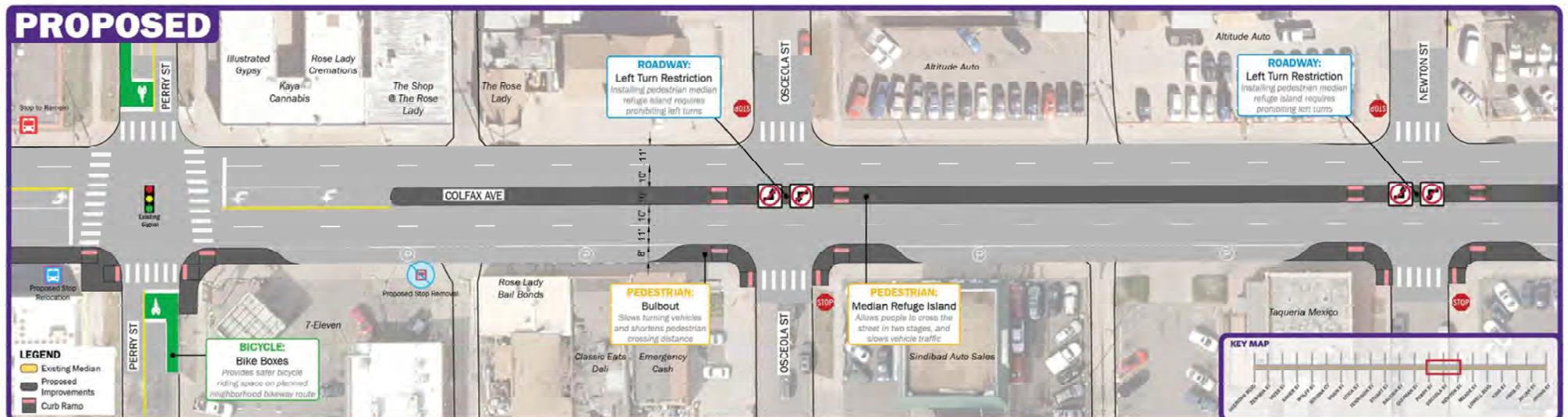


PROPOSED



COLFAX BETWEEN PERRY AND NEWTON

Proposed Designs



COLFAX BETWEEN NEWTON AND LOWELL

Proposed Designs

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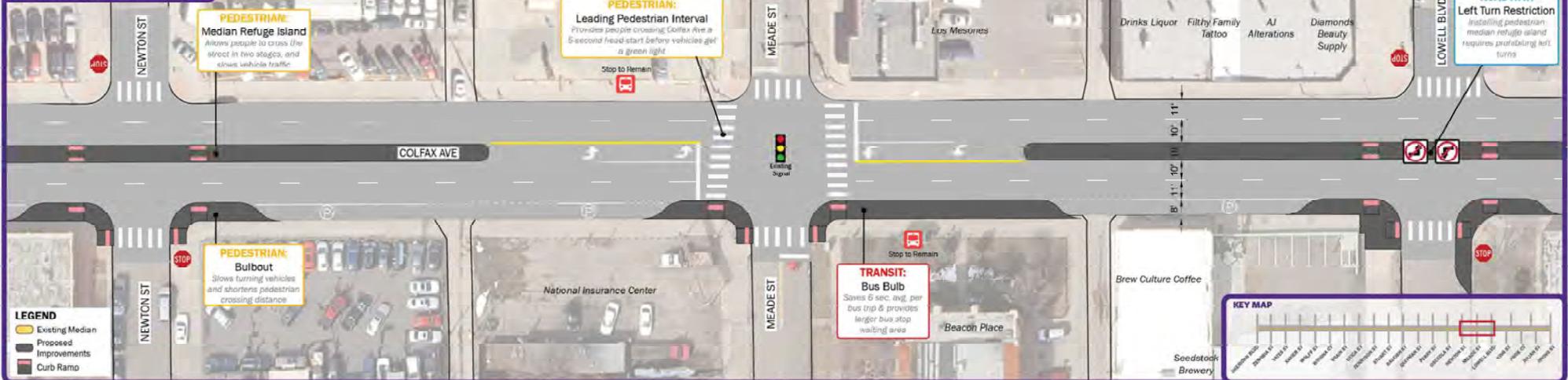


DENVER
THE MILE HIGH CITY

EXISTING



PROPOSED



COLFAX BETWEEN LOWELL AND KNOX

Proposed Designs

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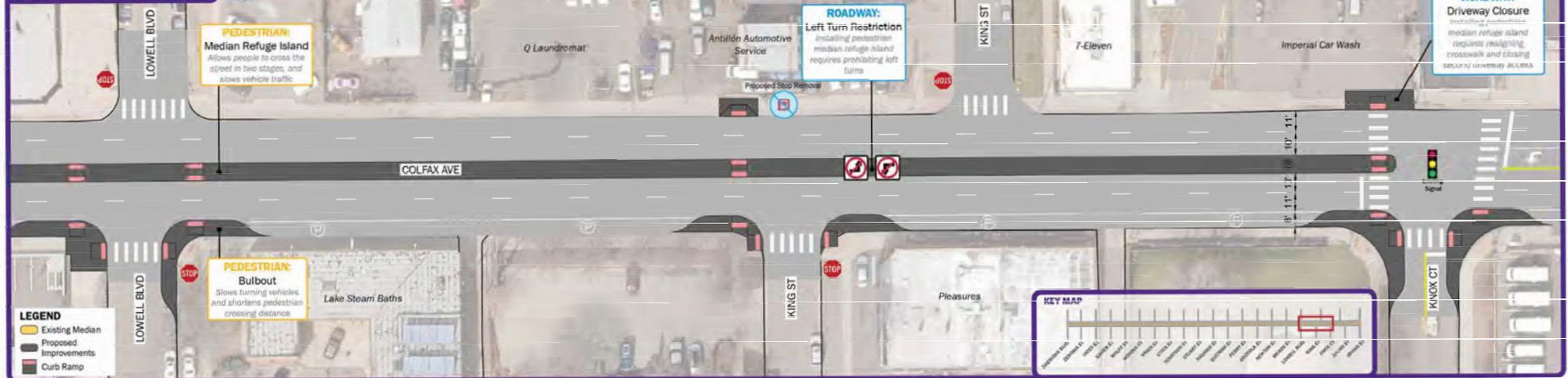


DENVER
THE MILE HIGH CITY

EXISTING



PROPOSED



COLFAX BETWEEN KNOX AND IRVING

Proposed Designs

10 of 10

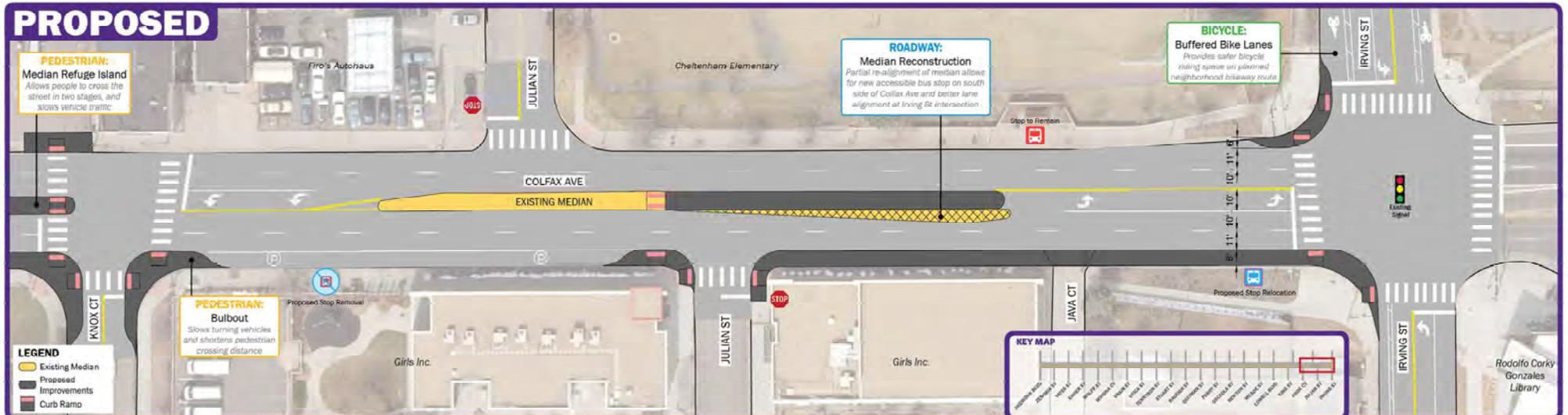


DENVER
THE MILE HIGH CITY

EXISTING



PROPOSED



Attachment 2
Draft Project Schedule

West Colfax Pedestrian and Transit Improvement Project
DD 1/6/2021

Task Name	Duration	Start	Finish	2020				2021				2022				2023				2024			
				Q1	Q2	Q3	Q4																
West Colfax Milestones	831d	04/16/21	06/24/24																				
Design NTP Issued	0	04/16/21	04/16/21																				
NEPA Clearance	0	04/29/22	04/29/22																				
Engineering Design Drawing Package Complete	0	06/02/22	06/02/22																				
Final Completion	0	06/24/24	06/24/24																				
Engineering Design Services Procurement	270d	04/06/20	04/16/21																				
Design Ad Date	0	09/02/20	09/02/20																				
Design Procurement	193d	04/06/20	12/30/20																				
Contract Negotiations	22d	12/31/20	01/29/21																				
Mayor/Council Process	40d	02/01/21	03/26/21																				
Final Contract Signatures	15d	03/29/21	04/16/21																				
Issue NTP	0	04/16/21	04/16/21																				
Project Management, Administrative Tasks and Agency Coordination	820d	04/19/21	06/07/24																				
Project Management incl. PMP, QA/QC, schedule, and budget control	815d	04/19/21	05/31/24																				
Administrative Tasks, incl. meeting agendas/notes, monthly progress/invoices	820d	04/19/21	06/07/24																				
Agency Coordination/Technical Advisory Committee Meetings (quarterly)	820d	04/19/21	06/07/24																				
Public Information/Engagement	831d	04/19/21	06/24/24																				
Public Involvement Plan	25d	04/19/21	05/21/21																				
Stakeholder Coordination (quarterly)	800d	06/01/21	06/24/24																				
Public Involvement and Comment (quarterly)	800d	06/01/21	06/24/24																				
Environmental/NEPA	240d	05/31/21	04/29/22																				
Environmental/NEPA Review (Complete Form 128)	150d	05/31/21	12/24/21																				
Submit Form 128 for CDOT Review	0	12/24/21	12/24/21																				
CDOT Review	90d	12/27/21	04/29/22																				
Categorical Exclusion Certification	0	04/29/22	04/29/22																				
Engineering Design	294d	04/19/21	06/02/22																				
Basis of Design Report	24d	04/19/21	05/20/21																				
Survey Control, Aerial Mapping and Field Survey	45d	04/19/21	06/18/21																				
Right of Way Mapping	61d	05/21/21	08/13/21																				
Utility Coordination	106d	05/21/21	10/15/21																				
Engineering Design - Civil Drawing Package - 50' scale	270d	05/21/21	06/02/22																				
Drainage Study and Report	85d	06/21/21	10/15/21																				
Identify approvals and permits needed from local, State and Federal agencies	45d	10/18/21	12/17/21																				

Attachment 3
Survey Limits

Attachment 3 - Survey and SUE Work Limits

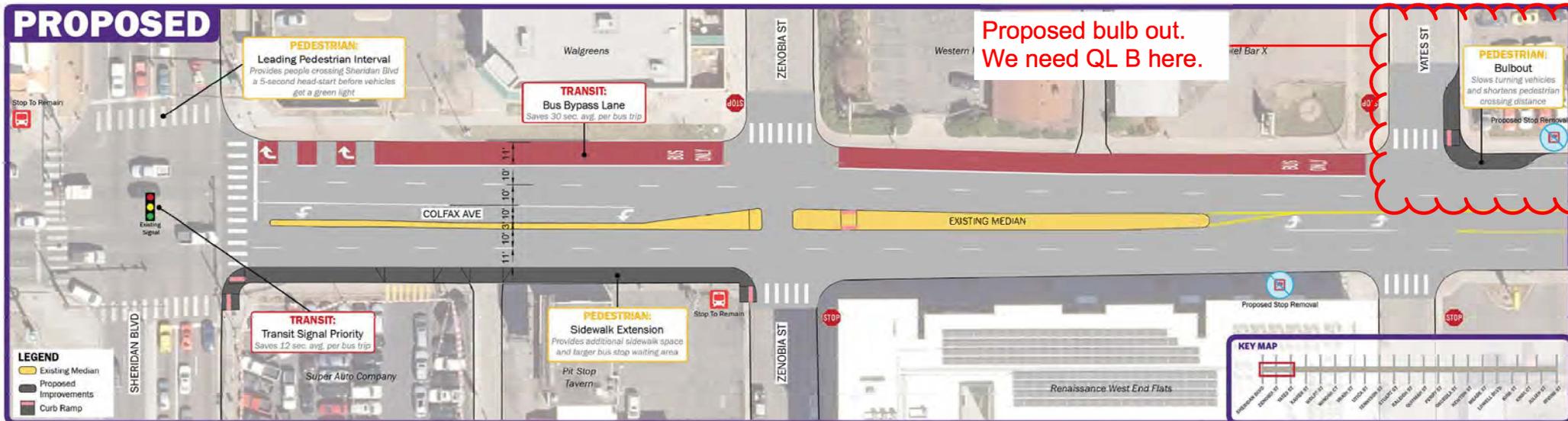
COLFAX BETWEEN SHERIDAN AND YATES

1 of 10



DENVER
THE MILE HIGH CITY

Proposed Designs



COLFAX BETWEEN YATES AND WOLFF

Proposed Designs



EXISTING



Proposed bulb out.
We need QL B here.

Proposed bulb out.
We need QL B here.

PROPOSED



Proposed bulb out.
We need QL B here.

PEDESTRIAN Bulbout
Slows turning vehicles and creates pedestrian crossing distance

PEDESTRIAN Median Refuge Island
Allows people to cross the street in two stages and slows vehicle traffic

ROADWAY: Left Turn Restriction
Installing pedestrian median refuge island requires prohibiting left turns

Proposed median.
We need QL B here.

TRANSIT: Bus Bulb
Saves 12 sec. per bus trip. Moves larger bus stop waiting area

TRANSIT: Transit Signal Priority
Saves 12 sec. avg. per bus trip



- LEGEND**
- Existing Median
 - Proposed Improvements
 - Curb Ramp

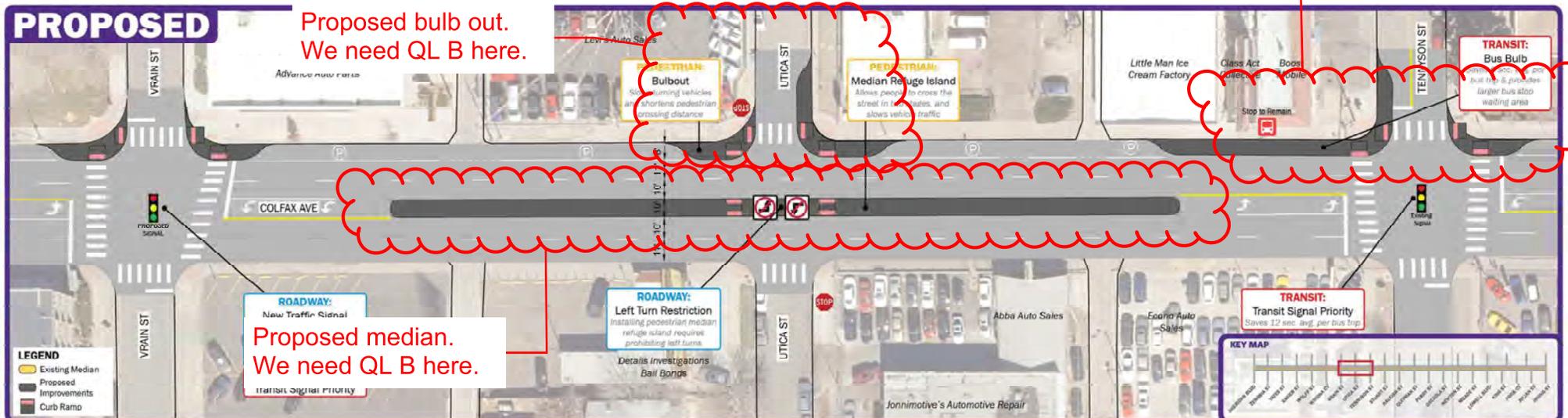
COLFAX BETWEEN VRAIN AND TENNYSON



Proposed Designs



Proposed bulb out.
We need QL B here.



Proposed bulb out.
We need QL B here.

Proposed median.
We need QL B here.

TRANSIT:
Bus Bulb
Bus bulb provides larger bus stop waiting area

TRANSIT:
Transit Signal Priority
Saves 12 sec. avg. per bus trip



COLFAX BETWEEN TENNYSON AND RALEIGH

Proposed Designs

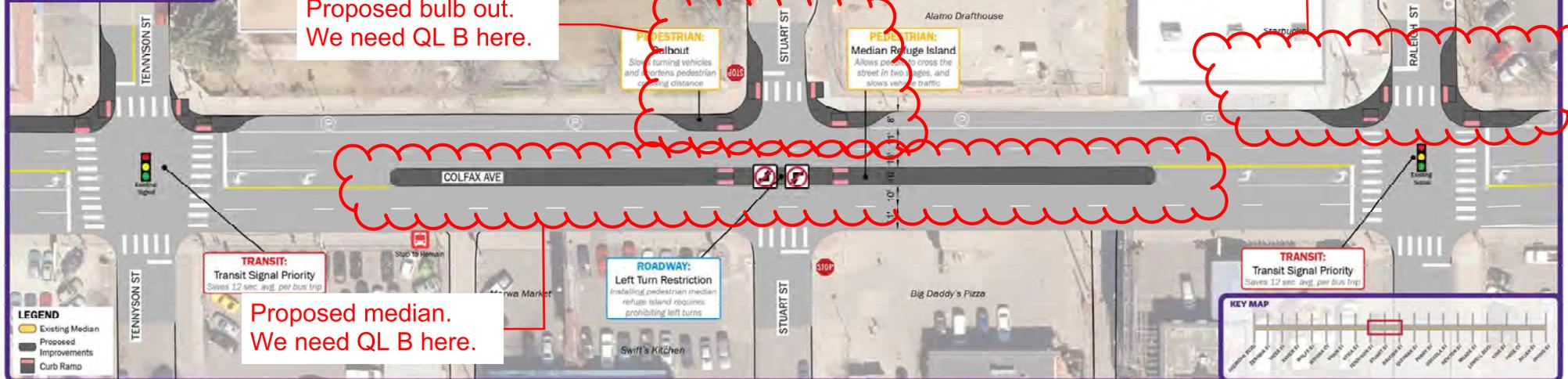


EXISTING



Proposed bulb out.
We need QL B here.

PROPOSED



Proposed bulb out.
We need QL B here.

TRANSIT:
Transit Signal Priority
Saves 12 sec. avg. per bus trip

Proposed median.
We need QL B here.

PEDESTRIAN:
Bulbout
Slows turning vehicles and shortens pedestrian crossing distance

PEDESTRIAN:
Median Refuge Island
Allows pedestrian to cross the street in two stages, and slows vehicle traffic

ROADWAY:
Left Turn Restriction
Prohibiting pedestrian median refuge island requires prohibiting left turns

TRANSIT:
Transit Signal Priority
Saves 12 sec. avg. per bus trip



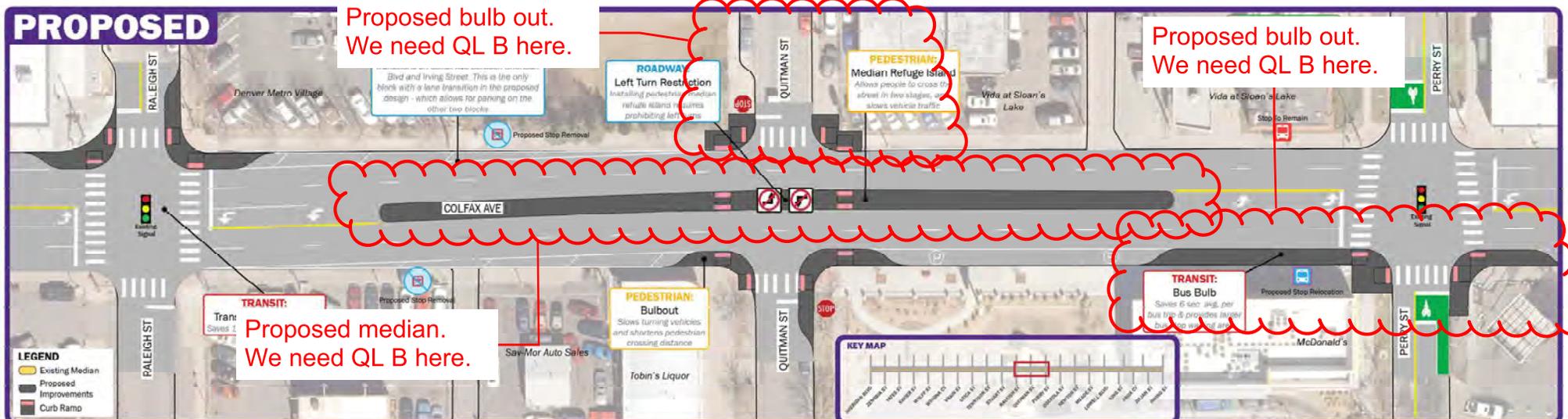
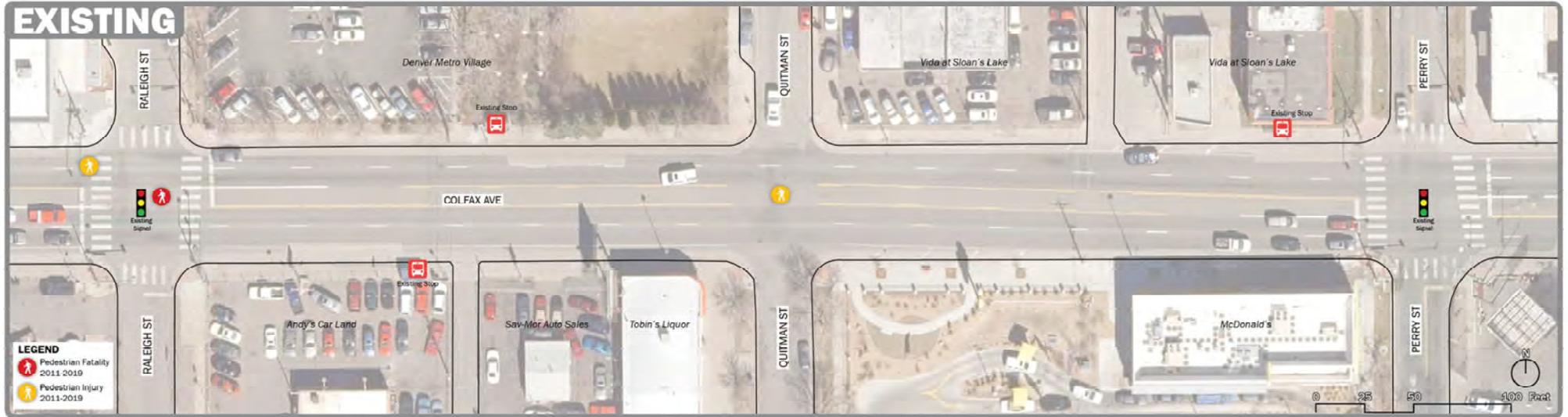
COLFAX BETWEEN RALEIGH AND PERRY

Proposed Designs

6 of 10

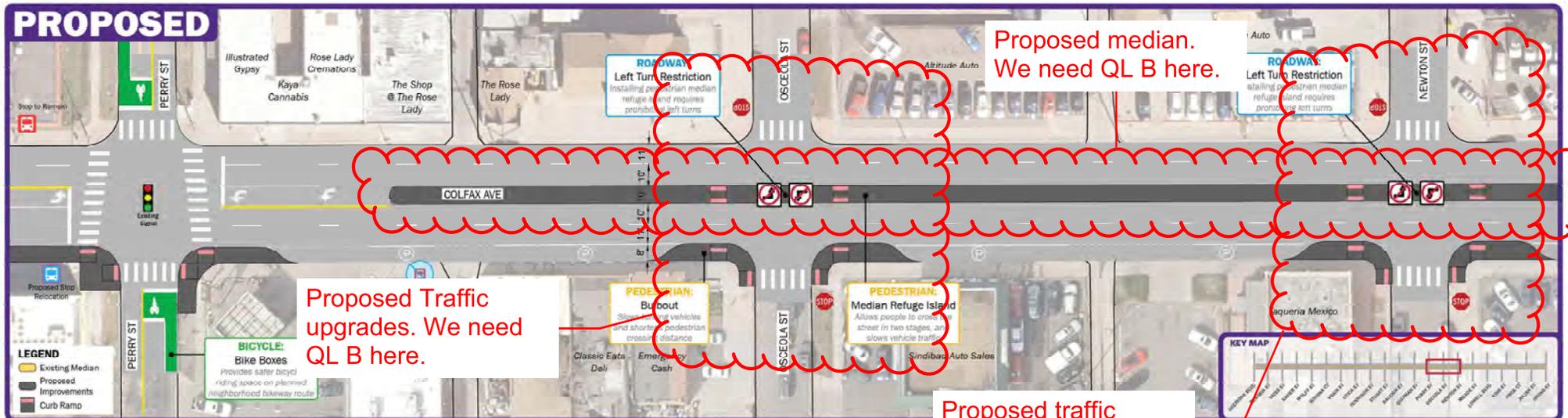


DENVER
THE MILE HIGH CITY



COLFAX BETWEEN PERRY AND NEWTON

Proposed Designs



Proposed median.
We need QL B here.

Proposed Traffic
upgrades. We need
QL B here.

Proposed traffic
signal. We need QL
B here.

COLFAX BETWEEN NEWTON AND LOWELL

Proposed Designs

8 of 10

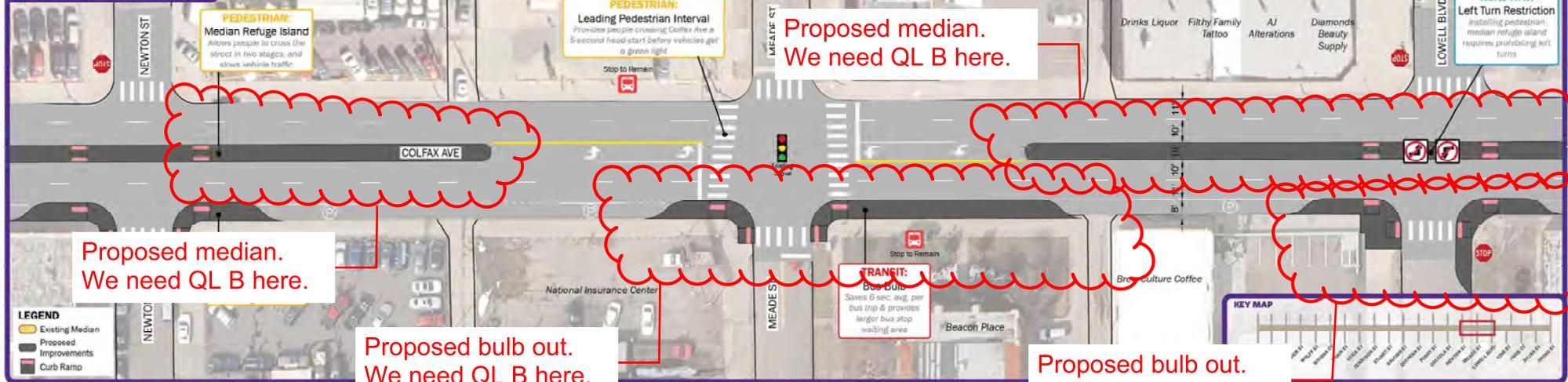


DENVER
THE MILE HIGH CITY

EXISTING



PROPOSED



Proposed median.
We need QL B here.

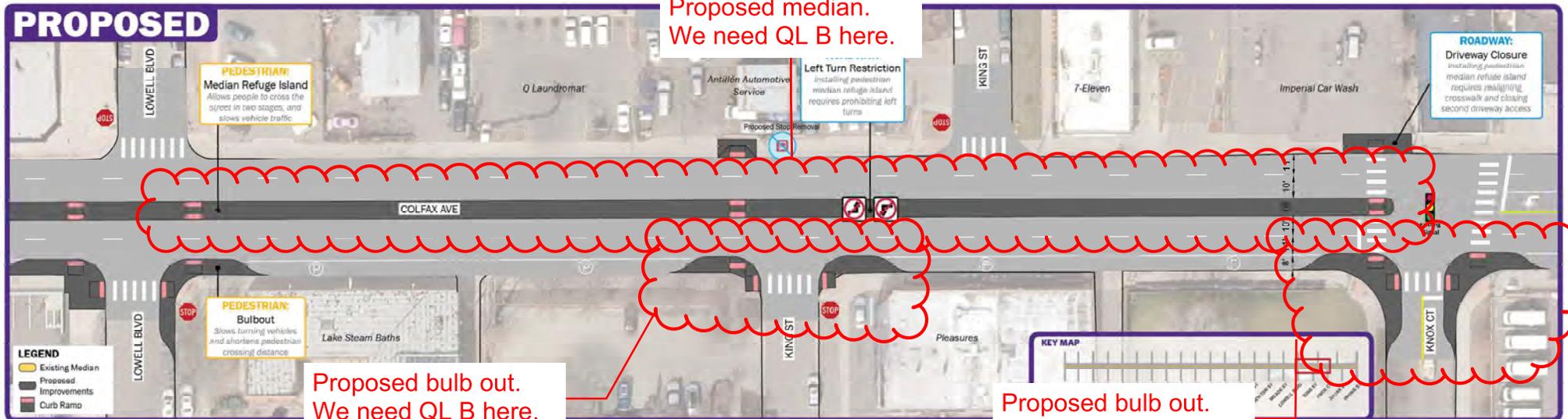
Proposed bulb out.
We need QL B here.

Proposed median.
We need QL B here.

Proposed bulb out.
We need QL B here.

COLFAX BETWEEN LOWELL AND KNOX

Proposed Designs



COLFAX BETWEEN KNOX AND IRVING

Proposed Designs

10 of 10



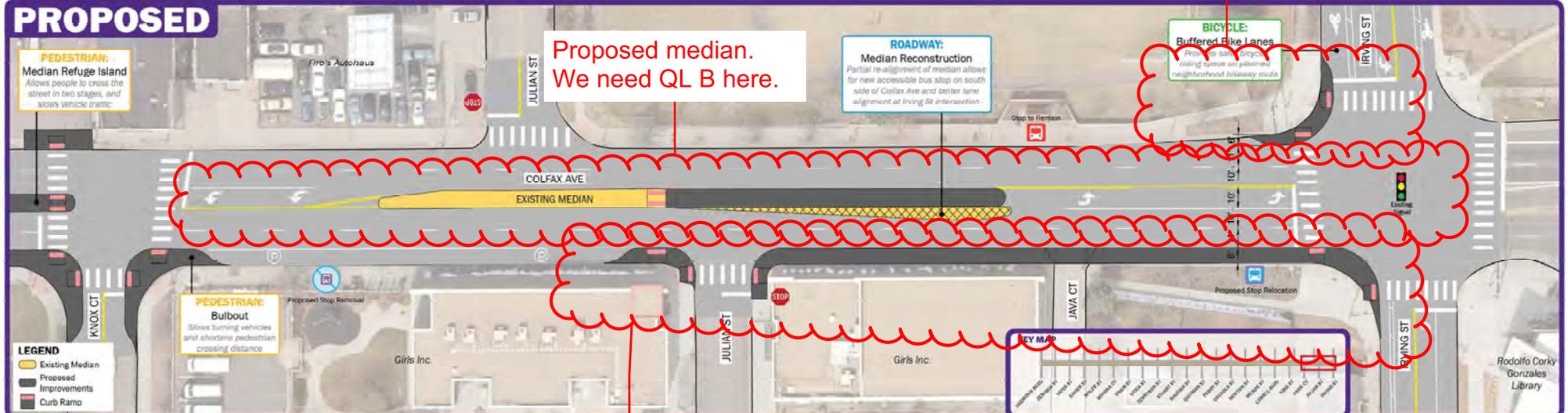
DENVER
THE MILE HIGH CITY

EXISTING



Proposed bulb out.
We need QL B here.

PROPOSED



Proposed median.
We need QL B here.

Proposed bulb out.
We need QL B here.

Attachment 4
Work Hours/Fee

EXHIBIT B
ATTACHMENT 1
CONSULTANT TEAM MEMBERS

PRIME CONSULTANT: Muller Engineering Company, Inc. (page 1 of 2)

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 (i.e. Project Manager). Provide additional sheets as necessary.

Title/Classification	Responsibilities	Rate/Hr.
Principal Engineer 3	Project principal-in-charge and provides project direction, technical advice and QA/QC oversight.	\$224
Principal Engineer 2	Plans, designs and directs civil engineering projects and is specifically responsible for contract administration, project budgets & schedules.	\$214
Principal Engineer 1	Plans, designs and directs civil engineering projects and is specifically responsible for contract administration, project budgets & schedules.	\$205
Sr. Project Manager 9	Plans, designs and directs civil engineering projects, reports and construction schedules as well as directing and supervising other engineer's activities.	\$214
Sr. Project Engineer/Manager 8	Plans, designs and directs civil engineering projects, reports and construction schedules as well as directing and supervising other engineer's activities.	\$205
Sr. Project Engineer/Manager 7	Plans, designs and directs civil engineering projects and reports as well as directing technicians to convert designs to working drawings.	\$194
Sr. Project Engineer/Manager 6	Plans, designs and directs civil engineering projects and reports as well as directing technicians to convert designs to working drawings.	\$178
Environmental Planning Manager	Plans & directs multidisciplinary teams for environmental planning projects and reports applying knowledge of regulatory and policy guidelines as well as directing/supervising others.	\$186
Construction Manager 5	Oversees construction related services for the construction phase of civil engineering projects.	\$152
Project Engineer 5	Uses computer engineering and design software to assist in the preparation of engineering and design documents.	\$161
Project Engineer 4	Uses computer engineering and design software to assist in the preparation of engineering and design documents.	\$143
Design Engineer 3	Engineering intern providing development-level engineering work using standard techniques and procedures.	\$130
Design Engineer 2	Engineering intern providing development-level engineering work using standard techniques and procedures.	\$118
Design Engineer 1	New graduate engineer intern providing beginning level of engineering work using standard techniques and practices.	\$106
Environmental Planner 2	Performs advanced aspects of environmental planning assignments applying knowledge of environmental planning principles and practices.	\$143
Environmental Planner 1	Performs routine aspects of environmental planning assignments applying knowledge of environmental planning principles and practices.	\$106
CAD Manager	Manages projects to assure conformance to client and engineering requirements. Provides technical advice, supervision and coordination to operators and designers.	\$150

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.05. The City will not compensate the Consultant for expenses such as postage, mileage, parking, or telephone costs. Reproduction and travel costs, 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.

EXHIBIT B
ATTACHMENT 1
CONSULTANT TEAM MEMBERS

PRIME CONSULTANT: Muller Engineering Company, Inc. (page 2 of 2)

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 (i.e. Project Manager). Provide additional sheets as necessary.

Title/Classification	Responsibilities	Rate/Hr.
Sr. Designer 3	Develops plans and prepares drawings, design and model requirements from conceptual information through construction documentation.	\$144
Sr. Designer 2	Establishes design criteria and performs engineering calculations for designs.	\$135
Designer 1	Provides technical engineering support for designing, planning and execution of projects.	\$126
GIS Specialist 2	Provides GIS data support services for civil engineering projects.	\$126
GIS Specialist 1	Provides GIS data support services for civil engineering projects.	\$106
CADD Operator 4	Provides drafting and plan reproduction services for engineers during the planning, design and construction of civil engineering projects.	\$117
CADD Operator 3	Provides drafting and plan reproduction services for engineers during the planning, design and construction of civil engineering projects.	\$106
CADD Operator 2	Provides drafting and plan reproduction services for engineers during the planning, design and construction of civil engineering projects.	\$95
CADD Operator 1	Provides drafting and plan reproduction services for engineers during the planning, design and construction of civil engineering projects.	\$85
Project Accountant	Directs and is responsible for accounting practices, maintenance of fiscal records and the preparation of financial reports.	\$124
Project Coordinator	Provides project-specific support services.	\$99
Administrative Support	Provides a wide variety of administrative and staff support services.	\$87
Intern	College student in an engineering discipline who assists with project assignments under the direction of engineering professional.	\$66

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.05. The City will not compensate the Consultant for expenses such as postage, mileage, parking, or telephone costs. Reproduction and travel costs, 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.

EXHIBIT B
REIMBURSABLE EXPENSES

Prime Consultant: Muller Engineering Company, Inc.

(Consultant may copy this page or modify it to conform to the services being offered.)

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 cost for sub consultants not local to the project. Travel shall be pre-approved by the City PM.

The Consultant will be required to submit a complete list of pricing reimbursable items.

Actual Costs

<u>Item</u>	<u>Charge Rate</u>
Copies (8 1/2 x 11")	\$ <u>0.10</u> / each
Copies (8 1/2 x 14")	\$ <u>0.10</u> / each
Red-line copies	\$ <u>0.30</u> / S.F.
Reproducibles	\$ <u>2.00</u> / page

EXHIBIT B
SUB-CONSULTANT TEAM MEMBERS

Firm Name: Clanton & Associates

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

Title/Classification	Responsibilities	Rate/Hr.
Chief Executive Officer	Visioning, Project Approach, Quality Control	\$ 295
President	Contracts, Staffing, Project Oversight, Professional Engineer, Quality Control	\$ 280
Principal	Contracts, Staffing, Project Oversight, Professional Engineer, Quality Control	\$ 215
Associate	Contracts, Staffing, Project Oversight, Professional Engineer, Quality Control	\$ 200
Senior Engineer II	Project Management, Electrical Engineering, Quality Control	\$ 190
Senior Engineer I	Project Management, Electrical Engineering, Quality Control	\$ 155
Engineer II	Lighting Design, Electrical Engineering, Project Support	\$ 135
Engineer I	Lighting Design, Electrical Engineering, Project Support	\$ 120
Senior Designer II	Project Management, Lighting Design, Quality Control	\$ 180
Senior Designer I	Project Management, Lighting Design, Quality Control	\$ 145
Designer II	Lighting Design, Project Support	\$ 125
Designer I	Lighting Design, Project Support	\$ 115
Intern	Lighting Design, Electrical Engineering, Project Support	\$ 90
Production Manager	CADD Production, Deliverables Management, Quality Control	\$ 175
Senior CADD Technician	CADD Production	\$ 120
CADD Technician	CADD Production	\$ 90
Marketing Manager	Marketing, Proposal Development, Contract Review	\$ 85
Office Manager	Invoicing, Office Administration	\$ 85

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.5.

The City will not compensate the Consultant for expenses such as postage, mileage, parking, or telephone costs. Reproduction and travel costs, 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.

EXHIBIT B
REIMBURSABLE EXPENSES

Sub-Consultant: Clanton & Associates

(Consultant may copy this page or modify it to conform to the services being offered.)

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

3. Actual cost of reproduction of drawings and specifications, requested by the city.
4. Travel cost for sub consultants not local to the project. Travel shall be pre-approved by the City PM.

The Consultant will be required to submit a complete list of pricing reimbursable items.

Actual Costs

<u>Item</u>	<u>Charge Rate</u>
Copies (8 1/2 x 11")	\$ <u>na</u> / each
Copies (8 1/2 x 14")	\$ <u>na</u> / each
Red-line copies	\$ <u>na</u> / S.F.
Reproducibles	\$ <u>na</u> / page

EXHIBIT B
REIMBURSABLE EXPENSES

Sub-Consultant: Dig Studio

(Consultant may copy this page or modify it to conform to the services being offered.)

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

3. Actual cost of reproduction of drawings and specifications, requested by the city.
4. Travel cost for sub consultants not local to the project. Travel shall be pre-approved by the City PM.

The Consultant will be required to submit a complete list of pricing reimbursable items.

Actual Costs

<u>Item</u>	<u>Charge Rate</u>
Copies (8 1/2 x 11")	\$ <u> .05 </u> / each
Copies (8 1/2 x 14")	\$ <u> .50 </u> / each
Red-line copies	\$ <u> 1.50 </u> / S.F.
Reproducibles	\$ <u> 15.00 </u> / page
Copies (8 1/2 x 11" - Color	\$ <u> .50 </u> / each

EXHIBIT B

SUB-CONSULTANT TEAM MEMBERS

Firm Name: GeocalList **ALL** potential firm personnel titles/classifications that may be utilized under the Agreement, and their respective hourly rate. Do not list names of personnel, only titles (i.e. Project Manager).

Title/Classification	Responsibilities	Rate/Hr.
Principal-In-Charge/Project Manager	Oversees contract execution and management, client interaction, overall quality management and document control, ensures systems and processes are in-place, commits resources, negotiates and signs agreements. Provides high-level expertise and oversees specific task orders that involve technical expertise in geotechnical engineering.	\$ 210.00
Senior Project Manager	Manages geotechnical engineering projects for budget and technical content, helps author reports with design recommendations, provides technical guidance for staff, and interacts with the client for clarifications or additions to the scope of work.	\$ 180.00
Construction Manager	Construction engineer that provides plan reviews, analysis and approval of drawings, design engineering review, resident engineer, reviews plans and documents prepared by others, reviews construction schedule and pay requests.	\$ 160.00
Project Engineer	Technical position to provide analyses and report preparation for pavements, structures, programming of lab tests, interpretation of results and providing recommendations to the client on design and construction issues related to geotechnical and materials engineering. Assists with cross-hole sonic logging, other sonic echo tests, PDA results, and other technical procedures to ensure quality. Registered PE to oversee construction inspection and materials testing.	\$ 120.00
Staff Engineer	Evaluates site characteristics, with respect to design and construction, identifies geohazards and mitigation procedures, assists with site subsurface investigations, laboratory analyses, engineering analyses, and report preparation.	\$ 90.00
Geologist	Conducts site subsurface investigations including staking borings, permitting, arranging drilling and traffic control subcontractors, logging borings, researching site geology, sampling soils, bedrock and groundwater, and assists with report preparation.	\$ 85.00
Operations Manager for Construction Services	Oversees construction quality services including inspections, materials testing, local agency documentation, checking resource allocation, calibration and field management.	\$ 130.00
Laboratory Manager	Oversees laboratory operations including AASHTO quality management, equipment calibration, training & records, and application of ASTM and AASHTO procedures for materials testing in the lab.	\$ 95.00
Construction Inspector	Provides onsite observations for traffic control, erosion control, material quantities, conformance with project design and specifications, and review of field test results, generally non-structural.	\$ 85.00
Senior Construction Inspector	Provides inspection of more complicated structures, batch plant inspections, pre-cast and post-tensioning inspections, masonry and grout placement, fire proofing, caisson and pile installations, mostly structural.	\$ 100.00
Materials Technician	Provides construction quality assurance testing, typically for soils, concrete, and asphalt, but could include masonry prisms, grout, mortar, or other construction materials. Works with the contractor to determine testing needs and schedule of activity.	\$ 75.00
Senior Materials Technician/Technician Supervisor	Provides review of quality assurance testing for soils, concrete, asphalt, and other materials, interfaces with client and aids in troubleshooting material issues, interprets test results for client. Schedules personnel, maintains resource allocation and assists with calibrations.	\$ 85.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 2.7751

The City will not compensate the Consultant for expenses such as postage, mileage, parking, or telephone costs. Reproduction and travel costs, 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.

EXHIBIT B
REIMBURSABLE EXPENSES

Sub-Consultant: Geocal

(Consultant may copy this page or modify it to conform to the services being offered.)

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

3. Actual cost of reproduction of drawings and specifications, requested by the city.
4. Travel cost for sub consultants not local to the project. Travel shall be pre-approved by the City PM.

The Consultant will be required to submit a complete list of pricing reimbursable items.

GEOCAL DOES NOT CHARGE FOR REIMBURSABLE EXPENSES.

Actual Costs

<u>Item</u>	<u>Charge Rate</u>
Copies (8 1/2 x 11")	\$ _____ / each
Copies (8 1/2 x 14")	\$ _____ / each
Red-line copies	\$ _____ / S.F.
Reproducibles	\$ _____ / page

EXHIBIT B
SUB-CONSULTANT TEAM MEMBERS

Firm Name: HCL Engineering & Surveying

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

Title/Classification	Responsibilities	Rate/Hr.
Principal	Available to review projects or answer questions	\$225.00
Survey Manager	Manage overall survey project and team	\$160.00
Senior Project Surveyor	Supervise and perform office and/or field survey activities	\$130.00
Project Surveyor	Perform office and/or field survey activities	\$110.00
Senior CAD Technician	Supervise and develop CAD drawings	\$110.00
CAD Technician	Develop CAD drawings	\$ 90.00
Party Chief	Supervise field survey activities	\$135.00
Instrument Operator	Assist the party chief in obtaining accurate measurements	\$ 30.00
Utility Locator	Use instruments to locate utilities	\$135.00
Civil Manager	Manage civil team	\$160.00
Senior Project Engineer	Management and design responsibilities	\$135.00
Design Engineer II	Higher level design capabilities	\$110.00
Design Engineer I	Entry-level design	\$100.00
Technical Writer	Responsible for writing grants and reports	\$ 90.00
Administrative	Responsible for administrative tasks and reporting	\$ 50.00
Construction Manager	Manages any construction activities	\$125.00
Construction Inspector	Inspects construction activities and reports to const. mgr	\$100.00
Structural Manager	Manages structural projects	\$160.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 2.86 .

The City will not compensate the Consultant for expenses such as postage, mileage, parking, or telephone costs. Reproduction and travel costs, 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.

EXHIBIT B
REIMBURSABLE EXPENSES

Sub Consultant: HCL Engineering & Surveying

(Consultant may copy this page or modify it to conform to the services being offered.)

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

3. Actual cost of reproduction of drawings and specifications, requested by the city.
4. Travel cost for sub consultants not local to the project. Travel shall be pre-approved by the City PM.

The Consultant will be required to submit a complete list of pricing reimbursable items.

Actual Costs

<u>Item</u>	<u>Charge Rate</u>
Copies (8 1/2 x 11")	\$ <u>n/a</u> / each
Copies (8 1/2 x 14")	\$ <u>n/a</u> / each
Red-line copies	\$ <u>n/a</u> / S.F.
Reproducibles	\$ <u>n/a</u> / page

EXHIBIT B
SUB-CONSULTANT TEAM MEMBERS

Firm Name: OV Consulting

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

Title/Classification	Responsibilities	Rate/Hr.
Principal	Project Management, Transportation Management, Mobility Planning, Design, Strategic Outreach	\$175
Project Manager	Project Management, Transportation Planning, Transportation Engineering	\$160
Senior Engineer	Transportation Engineering	\$145
Engineer II	Transportation Engineering	\$130
Engineer I	Transportation Engineering	\$115
Senior Planner	Transportation Planning	\$140
Planner II	Transportation Planning	\$120
Planner I	Transportation Planning	\$110
GIS Analyst	GIS, Data review	\$90
Graphic Designer	Graphic design, meeting materials, web-based materials	\$90
CAD Technician	CAD Drafting	\$90
Clerical/Administrative	Word processing & administrative organization	\$70
Data Collection Technician	Collect field data	\$35
Intern	Varying support tasks	\$30

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 1.0.

The City will not compensate the Consultant for expenses such as postage, mileage, parking, or telephone costs. Reproduction and travel costs, 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.

EXHIBIT B

REIMBURSABLE EXPENSES

Sub-
~~Project~~ Consultant: OV Consulting

(Consultant may copy this page or modify it to conform to the services being offered.)

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

3. Actual cost of reproduction of drawings and specifications, requested by the city.
4. Travel cost for sub consultants not local to the project. Travel shall be pre-approved by the City PM.

The Consultant will be required to submit a complete list of pricing reimbursable items.

Actual Costs

<u>Item</u>	<u>Charge Rate</u>
Copies (8 1/2 x 11")	\$ 0.10 / each Black/white, \$0.85 each color
Copies (8 1/2 x 11") (11" x 17")	\$ 0.85 / each
Red line copies Large format plotter prints	\$ 5.00 / S.F.
Reproducibles	\$ _____ / page

EXHIBIT B

SUB-CONSULTANT TEAM MEMBERS

Firm Name: Pinyon Environmental, Inc

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

Title/ Classification	Responsibilities	Rate/Hr.
Principal Engineer/Scientist	Responsible for providing strategic direction, vision, and leadership. Performs senior-level QA/QC and conducts meetings and negotiations with regulatory and oversight agencies.	\$220
Senior Engineer/Scientist	Responsible for technical completeness and competency of all submissions and work performed, including performance of junior- and mid-level planners and scientists. Conduct and supervise professional and technical staff to complete studies focused on engineering, planning, NEPA evaluations, air quality, noise, biology, geology, chemistry and	\$201
Senior Project Manager	Project management, including coordination of multi-disciplinary teams, preparing responses to agency questions, and facilitates project meetings with client and regulators. Develops project requirements, site investigations, facility requirements development, budget and programming support, analyses and project execution.	\$179
Project Manager	Directs the gathering of data and prepares complex reporting and analysis. Oversight of technical products and development of detailed studies related to NEPA, air quality, noise, environmental justice, biology, geology, chemistry and environmental science.	\$153
Project Specialist	Reports to Regulatory and Oversight Agencies, Preparation of Permits, GIS Library Development and Data Analysis, Technical Review of Documents	\$ 127
Project Engineer/Scientist	Phase I ESA Site Visits/Reporting, Interpretation of Data, Collection of Non-Field Data, Development of Logs and Maps, Pilot Testing, Biological and Wetland Field Mapping, Preparation of Reports to Clients, GIS Data Collection/Processing/Presentation, Asbestos Designer/Air Monitoring Specialist/Project Manager, Technical Review of Documents	\$110
Staff II Engineer/Scientist	Soil Logging, Monitoring Well Installation Oversight, Water-Level Surveying, Slug Tests, Field Oversight, Lead Driller, Miscellaneous Field Services, Asbestos Building Inspector	\$94
Staff I Technician	Groundwater Sampling, Sampling During UST Removals, Surveyor's Assistant	\$76
Drafting (Graphics)	AutoCAD, floor plans, elevations, sections, scale drawings, layering and concept design for architects and engineers. Duties may include configuring and maintaining CADD libraries, engineering documentation management systems and CADD computer network systems.	\$98
Project Assistant	Maintain Field Equipment, Data Management	\$86
Word Processing, Clerical	Word Processing, Clerical	\$67

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.01

EXHIBIT B

The City will not compensate the Consultant for expenses such as postage, mileage, parking, or telephone costs. Reproduction and travel costs, 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.

All reimbursable expenses are subject to the review and approval of the City. The additional expenses of the Consultant reimbursable by the City shall include:

REIMBURSABLE EXPENSES

Sub Consultant: Pinyon Environmental, Inc.

(Consultant may copy this page or modify it to conform to the services being offered.)

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

3. Actual cost of reproduction of drawings and specifications, requested by the city.
4. Travel cost for sub consultants not local to the project. Travel shall be pre-approved by the City PM.

The Consultant will be required to submit a complete list of pricing reimbursable items.

Actual Costs

<u>Item</u>	<u>Charge Rate</u>
Copies (8 1/2 x 11")	\$ <u>na</u> / each
Copies (8 1/2 x 14")	\$ <u>na</u> / each
Red-line copies	\$ <u>na</u> / S.F.
Reproducibles	\$ <u>na</u> / page

DESCRIPTIONS (Continued from Page 1)

As required by written contract or written agreement, the following provisions apply subject to the policy terms, conditions, limitations and exclusions: The Certificate Holder and owner are included as Automatic Additional Insured's for ongoing and completed operations under General Liability; Designated Insured under Automobile Liability; and Additional Insured under Umbrella / Excess Liability but only with respect to liability arising out of the Named Insured's work performed on behalf of the certificate holder and owner. The General Liability, Automobile Liability, Umbrella/Excess insurance applies on a primary and non contributory basis. A Blanket Waiver of Subrogation applies for General Liability, Automobile Liability, Umbrella/Excess Liability and Workers Compensation. The Umbrella / Excess Liability policy provides excess coverage over the General Liability, Automobile Liability and Employers Liability.

Please note that Additional Insured status does not apply to Professional Liability or Workers' Compensation.

RE: Project: West Colfax Pedestrian and Transit Improvement Project.

Additional Insureds: The City and county of Denver, its elected and appointed officials, employees and volunteers.