

THIRD AMENDATORY DESIGN SERVICES AGREEMENT

This **THIRD AMENDATORY DESIGN SERVICES AGREEMENT** is made between the **CITY AND COUNTY OF DENVER**, a municipal corporation of the State of Colorado (the “City”) and **RS&H, INC.**, a Florida corporation whose address is 10748 Deerwood Park Boulevard South, Suite 300, Jacksonville, Florida 32256 (the “Design Consultant” or “Consultant”), jointly (“the Parties”).

WITNESSETH:

A. The Parties entered into a Design Services Agreement dated July 23, 2019, an Amendatory Agreement dated April 1, 2021, and a Second Amendatory Design Services Agreement dated December 10, 2021 (collectively, the “Agreement”) to furnish professional design services for the Project as set forth in the Agreement.

B. The Parties wish to amend the Agreement to amend the scope of work, amend the key personnel/rates, increase maximum contract amount in subsection 3.06, extend the term in subsection 4.01, and amend subsection 5.19-No Employment of Workers without Authorization.

NOW THEREFORE, in consideration of the premises and the Parties’ mutual covenants and obligations, the Parties agree as follows:

1. References to “...Exhibit A...” in the Agreement shall be amended to read: “...Exhibit A-3 with the exception to those partially completed Exhibit A tasks identified in Exhibit A-3...” as applicable. The scope of work listed in Exhibits A-1 and A-2 is not changed by the addition of **Exhibit A-3**, which is attached to this Third Amendatory Design Services Agreement and becomes part of the Agreement.”

2. References to “...Exhibit B...” in the Agreement shall be amended to read: “...Exhibit B and B-1...” as applicable. **Exhibit B-1**, is attached to this Third Amendatory Design Services Agreement and becomes part of the Agreement.”

3. Section 3 of the Agreement entitled **COMPENSATION, PAYMENT AND FUNDING**, subsection 3.06 “**Maximum Contract Amount.**” is hereby deleted in its entirety and replaced with:

“3.06 Maximum Contract Amount.

(a) It is understood and agreed by the Parties hereto that payment or reimbursement of all kinds to the Consultant, for all Work performed under this Agreement, shall not exceed a maximum of **EIGHT MILLION EIGHT HUNDRED SEVENTY-NINE THOUSAND NINE HUNDRED EIGHTY-EIGHT DOLLARS AND EIGHTEEN CENTS (\$8,879,988.18)**. In no event shall the maximum payment to the Consultant, for all work and services performed throughout the entire term of this Agreement exceed the contract maximum amount set forth above.”

4. Section 4 of the Agreement entitled “**TERM AND TERMINATION**”, subsection 4.01 “**TERM**” is hereby deleted in its entirety and replaced with:

“**4.01 Term.** The Agreement will commence on **May 20, 2019**, and expire on **December 31, 2028**, unless sooner terminated as provided in this Agreement.”

5. Section 5 of the Agreement entitled “**GENERAL PROVISIONS**”, subsection 5.19 “**NO EMPLOYMENT OF WORKERS WITHOUT AUTHORIZATION TO PERFORM WORK UNDER THE AGREEMENT:**” is hereby deleted in its entirety and replaced with:

“**5.19 [RESCINDED.]**”

6. As herein amended, the Agreement is affirmed and ratified in each and every particular.

7. This Third Amendatory Design Services Agreement will not be effective or binding on the City until it has been fully executed by all required signatories of the City and County of Denver, and if required by Charter, approved by the City Council.

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Contract Control Number: DOTI-202265812-03 (201948451-03)
Contractor Name: RS&H, 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:

DOTI-202265812-03 (201948451-03)

Contractor Name:

RS&H, Inc.

By: _____

Name: Rodney L. Bishop, Jr.
(please print)

Title: Executive Vice President
(please print)

ATTEST: [if required]

By: _____

Name: _____
(please print)

Title: _____
(please print)



Scope of Services
51st Avenue, 52nd Ave & Clarkson St Improvements
Construction Phase Services
October 26, 2022
Revised January 31, 2023

RS&H will provide construction phase design services for 51st Ave, 52nd Ave and Clarkson Street as detailed below. RS&H will provide services related to elements of the project which RS&H or our subconsultants designed.

The City of Denver will be responsible for all construction administration activities including inspections, documentation, quality assurance, review and approval of pay applications and coordination with the Contractor, property owners, and other agencies and departments within the City.

Note that billing rates utilized in this fee estimate are proposed billing rates as of January 1, 2025.

Specific construction components include the following:

- Roadway, sidewalk, curb & gutter and storm drain improvements within the following limits:
 - 51st Avenue from Logan St to Emerson St.
 - 52nd Avenue from Washington Street to Emerson St (south side only).
 - Clarkson Street from 51st Avenue to 52nd Avenue.
- Realignment of 51st Avenue at Washington Street to eliminate the two existing offset three-leg intersections and construct a new four-leg intersection along the existing eastern leg's alignment.
- A proposed traffic signal at the proposed four-leg intersection of 51st Avenue and Washington Street.

RS&H will assist the City during the construction period by performing the following:

A. Services During Construction (RS&H)

1. Attend one Pre-Construction meeting with City and Contractor. Attendance of the appropriate personnel will be coordinated with the City's Construction Project Manager (PM).
2. Review shop drawings and working drawings as requested by the City in accordance with subsection 105.02 of CDOT Standard Specification for Road and Bridge Construction.
3. Respond to RFIs, as requested.
4. The RS&H team will review material submittals for conformance with the construction contract documents, as requested.
5. RS&H will assist in the review of change order requests if requested by the PM.



6. RS&H will make limited periodic project site visits as requested by the City to observe construction activities and progress. Our fee includes one 4 hour visit every 2 months for a 15 month duration. When requested by the City, RS&H will provide written reports identifying activities in progress or actions taken while making periodic site observations during the construction period.
7. Make limited periodic project site visits as requested by the PM to resolve construction related issues. The effort includes one 2 hour visit every month for a 15 month duration.
8. Attend the Substantial Completion and Final Acceptance walks with the PM and the Contractor. Prepare a punch list from each of those walks to be submitted to the PM.

B. Construction Materials Testing Services (Geocal)

1. Provide sampling and testing of soils and aggregates as per the frequencies in the 2023 CDOT Field Materials Manual.
2. Provide sampling and testing of paving and site concretes as per the frequencies in the 2023 CDOT Field Materials Manual.
3. Provide sampling and testing of asphalt paving as per the frequencies in the 2023 CDOT Field Materials Manual.
4. Prepare the testing and materials documentation for inclusion in the project closeout documentation. Require documentation is to be consistent with that outlined in the 2023 CDOT Field Materials Manual and the latest version of the construction manual.

C. Additional Construction Phase Services

Up to \$30,000 is allocated for additional construction phase services to be used as directed by the City Project Manager. Additional service work will be agreed to by the Consultant and City project manager prior to this work being performed. RS&H's subconsultants, Pinyon and Clanton, will provide construction services as requested by the City or RS&H related to their area of expertise.

Construction Schedule

Based on schedule information available at this time, services under this task order are anticipated to begin in 2024. The construction period is anticipated to be 15 months. RS&H does not have control over the construction schedule and therefore, RS&H's schedule and fee is subject to change as directed by the City.

Exclusions

The following construction phase services are excluded:

1. Attendance of construction progress meetings.
2. Quality Verification testing will be provided by others.
3. As-built plans.



Expenses

All reimbursable expenses are subject to the review and approval of the City. It is anticipated that reimbursable expenses for construction services may include plan set reproduction, laboratory testing, testing equipment, or similar expenses such as special testing by outside laboratories and shipping that are requested and approved by the City as needed to perform specific services requested.

City and County of Denver, Department of Transportation & Infrastructure
51st Avenue, 52nd Ave & Clarkson St Improvements
Construction Phase Services Fee Estimate
January 31, 2023

	RS&H Cost	Subconsultant Cost	Expenses	Total Cost
Services During Construction	\$ 105,381.38	\$ 10,158.00	\$ -	\$ 115,539.38
Construction Materials Testing Services	\$ 2,528.24	\$ 185,482.50	\$ 9,668.25	\$ 197,678.99
Additional Construction Phase Services (as directed by CCD)	\$ 30,000.00	\$ -	\$ -	\$ 30,000.00
Total	\$ 137,909.62	\$ 195,640.50	\$ 9,668.25	\$ 343,218.37

City and County of Denver, Department of Transportation & Infrastructure
51st Avenue, 52nd Ave & Clarkson St Improvements
Construction Phase Services Fee Estimate
January 31, 2023

Work Activity	PM	Roadway				Drainage		Traffic	Admin		Total Design Hours						Total Cost
	Project Manager	PE 5	PE 4	PE 3	PE 2	PE 3	PE 2	PE 4	Admin III	Admin II		RS&H Cost	Lighting	Geotech	Enviromental	Expenses	
	\$ 346.42	\$ 346.42	\$ 316.03	\$ 234.59	\$ 210.28	\$ 234.59	\$ 210.28	\$ 316.03	\$ 182.33	\$ 127.63			Clanton	Geocal	Pinyon	(Lab testing, etc)	
	Lapsley	Talvitie	Duszak	Smith	Moreland	Duke/Yesia	Draper	Logsdon	Devine	McMartin							
Construction Phase Services																	
A Services During Construction																	
Management & Coordination (8 hr/month)	16		104								120	\$ 38,409.84					\$ 38,409.84
Contract Administration (Work Orders & Accounting)									8	8	16	\$ 2,479.68					\$ 2,479.68
Preconstruction Meeting			4								4	\$ 1,264.12					\$ 1,264.12
Shop Drawing Reviews		4	24	24		4	16	12			84	\$ 22,695.76					\$ 22,695.76
Answer RFIs		4	24	24		4	16	12			84	\$ 22,695.76	\$6,080.00		\$4,078.00		\$ 32,853.76
Construction observation (2 hr/month)			24	6							30	\$ 8,992.26					\$ 8,992.26
Attend the Substantial Completion and Final Acceptance walks & punchlist			20		12						32	\$ 8,843.96					\$ 8,843.96
																	\$ -
B Construction Materials Testing Services																	
Materials Testing (by Geocal)			8								8	\$ 2,528.24		\$185,482.50		\$9,668.25	\$ 197,678.99
C Additional Construction Phase Services (as directed by CCD)																	
Additional Services to be used as directed by the City Project manager												\$30,000.00					\$ 30,000.00
Total Task Hours	16	8	208	54	12	8	32	24	8	8	378						
Total Task Fee	\$ 5,543	\$ 2,771	\$ 65,734	\$ 12,668	\$ 2,523	\$ 1,877	\$ 6,729	\$ 7,585	\$ 1,459	\$ 1,021		\$ 137,909.62	\$6,080.00	\$185,482.50	\$4,078.00	\$9,668.25	\$ 343,218.37

January 31, 2023

Dave Duszak

RS&H

4582 South Ulster St, Suite 1100

Denver, CO 80237

720-586-6674 | David.Duszak@rsandh.com

Re: Washington Street – post design services
Lighting and Electrical Design Consulting Proposal
Clanton Project #22022

Clanton and Associates proposes to undertake the lighting and electrical consulting for the Washington Street improvements in Denver, CO.

Design Work Total Fee (labor only): \$ 6,080

The scope of work includes:

1. Washington Street improvements between 47th Avenue and 52nd Avenue
2. Traffic signal electrical infrastructure for the new meter pedestals at 47th and 50th
3. Electrical infrastructure for railroad meter pedestal

Assumptions:

1. New streetlights will be owned and maintained by Xcel Energy
 - a. Continuous LED streetlights will be installed along the street
2. New pedestrian lights will be owned and maintained by Xcel Energy
3. New traffic signal infrastructure will be owned and maintained by CCD
4. Specifications will be issued in CDOT format
5. Electrical secondary infrastructure between power supply and signal for railroad crossing signals and streetlights.

Fees are billed hourly not to exceed the contract amount without prior approval. Invoicing will occur monthly based on hours worked. Design services shall include the following:

Construction Observation

- Up to two (2) team meetings by teleconferences (2 hours total)
- Review lighting equipment submittals (up to two (2) reviews included)
- Review electrical equipment submittals (up to two (2) reviews included)
- Respond to RFIs (up to eight (8) hours)
- Up to one (1) final site visit(s) to punch out project (up to eight (8) hours)
- Punch List

This scope of work is based upon normal project progress and within the time schedule agreed upon, without major redesign or change order work. Additional fees will be required if project timing is extended or project is put on hold and restarted at later date. If the project timing exceeds one year, additional services rates may increase.

EXHIBIT A-3

Washington Street – post design services
RS&H

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The scope is based on documents and conversations on 3/7/22, 3/9/22, 4/13/22, 4/28/22, 5/12/22, 9/16/2022, and 1/20/2023.

Not included in this scope of work but is available for extra services:

- Additional site visits or meetings
- Additional submittals
- Plan revisions
- As-builts
- Xcel Work order form, BCL applications, and/or meter address applications
- Value engineering

Specific exclusions from this scope are as follows:

- Structural engineering
- Equipment procurement
- Commissioning
- Survey control map or Right-of-Way plans
- Subsurface Utility Engineering
- Communication wiring to Traffic Signals

Client will supply Clanton and Associates with review materials and backgrounds in AutoCAD or Micro Station format. Reimbursable expenses shall include printing costs or overnight delivery associated with the project and shall be charged in addition to the compensation for professional services. Payment for services is expected within 30 days of invoice unless other arrangements are made in writing.

Additional services shall be charged per the rates approved in the contract.

Work hour breakdown

Employee	Annie Kuczkowski	Brandon Renouf	David Schmitt
Title	Associate	Senior Designer I	Engineer I
Rate	\$260	\$185	\$160
Hours	15	4	9
Total	\$3,900	\$740	\$1,440

Work shall commence upon receipt of a signed copy of this agreement. This agreement is valid for 60 days.



CLANTON & ASSOCIATES

01/31/2023

DATE

RS&H

DATE

EXHIBIT A-3



Table 1
Cost Estimate 2nd Rate Sheet for
Construction Testing and Documentation Services
51st Ave., Clarkson St. & 52nd Ave.
City and County Denver

Personnel	Unit	Rate	Quantity	Amount
Principal In Charge	Hour	\$ 257.25		\$ -
Senior Project Manager	Hour	\$ 207.90		\$ -
Construction Manager	Hour	\$ 199.50		\$ -
Project Engineer	Hour	\$ 131.25		\$ -
Staff Engineer	Hour	\$ 105.00		\$ -
Geologist	Hour	\$ 105.00		\$ -
Operations Manager	Hour	\$ 194.25	40	\$ 7,770.00
Laboratory Manager	Hour	\$ 105.00		\$ -
Senior Construction Inspector	Hour	\$ 131.25	130	\$ 17,062.50
Construction Inspector	Hour	\$ 110.25		\$ -
Senior Materials Technician	Hour	\$ 99.75		\$ -
Materials Technician	Hour	\$ 89.25	1,800	\$ 160,650.00
subtotal:				\$ 185,482.50
Direct Costs				
Proctor	Each	\$ 131.25	5	\$ 656.25
Gradation	Each	\$ 68.25	5	\$ 341.25
Atterberg	Each	\$ 68.25	5	\$ 341.25
Micro Devals	Each	\$ 199.50	2	\$ 399.00
Direct Shear	Each	\$ 446.25	0	\$ -
Asphalt Content	Each	\$ 115.50	6	\$ 693.00
Max Theoretical Value (Rice)	Each	\$ 89.25	6	\$ 535.50
Thickness Cores	Each	\$ 31.50	20	\$ 630.00
Hveem/Stability	Each	\$ 126.00	2	\$ 252.00
Voids/VMA	Each	\$ 341.25	2	\$ 682.50
R-value	Each	\$ 498.75	1	\$ 498.75
LA Abrasion	Each	\$ 288.75	1	\$ 288.75
Asphalt Content Calibration	Each	\$ 525.00	2	\$ 1,050.00
Concrete Cylinders (set of 6)	Each	\$ 33.00	100	\$ 3,300.00
subtotal:				\$ 9,668.25
Estimated Total Cost:				\$ 195,150.75

This estimate is based on the anticipated day count and the quantities found within the 60% project documents. We have also assumed that the contractor will perform coring on the HMA for thickness/density verifications. Actual invoiced amount will be a function of contractors' efficiency and the total will be more or less than the estimated total shown. This anticipated duration of this project is expected to be 15 months. Services will be charged portal to portal from our office in Centennial and the unit rates identified include vehicle mileage, standard tools and equipment. These rates suitable for overtime services as well. Other civil inspections and tests requested and not identified in this proposal can be provided upon request. The above quoted rates are from our proposed 2022 rates for the Washington Street contract.



Corporate Headquarters
3222 South Vance Street, Suite 200, Lakewood, CO 80227
T: 303.980.5200 F: 303.980.0089
www.pinyon-env.com

January 25, 2023

Dave Duszak, PE
RS&H
4582 South Ulster Street, Suite 1100
Denver, CO 80237

Via email: David.Duszak@rsandh.com

Subject: Proposal to Provide Environmental Support during Construction Phase, 51st and Clarkson Street Project, Denver, Colorado

Dear Mr. Duszak:

Pinyon Environmental, Inc. (Pinyon), is pleased to present this proposal to support RS&H and the City and County of Denver (CCD) to provide environmental support during the construction phase with regards to the improvements to 51st Avenue and Clarkson Street. These services are specifically related to limited support related to Requests for Information and limited coordination.

Pinyon estimates the cost to complete this project, in accordance with the outlined services, will be **\$4,078** (Table I, Summary of Estimated Costs). Pinyon will invoice on a time and materials basis, in accordance with the attached schedule of unit rates.

To authorize the outlined scope of services, please issue a subcontract for review. Should you have any questions or require additional information, please do not hesitate to contact me at (303) 980-5200 or via email at partington@pinyon-env.com. Thank you for considering Pinyon for your environmental consulting needs.

Sincerely,

PINYON ENVIRONMENTAL, INC.

A handwritten signature in blue ink that reads "Brian R. Partington". The signature is fluid and cursive, with a large loop at the end of the last name.

Brian Partington
Principal

Cc: file



TABLE I – SUMMARY OF ESTIMATED COSTS

Task I - Project Management				
Description	Quantity	Unit	Rate	Extension
Labor Rates				
Senior Engineer/Scientist	16.0	hours	\$242.00	\$3,872.00
Project Assistant	2.0	hours	\$103.00	\$206.00
Task Subtotal				\$4,078.00

Title/	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.	\$265
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 environmental science.	\$242
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.	\$215
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.	\$184
Project Specialist	Reports to Regulatory and Oversight Agencies, Preparation of Permits, GIS Library Development and Data Analysis, Technical Review of Documents	\$ 153
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	\$132
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	\$113
Staff I Technician	Groundwater Sampling, Sampling During UST Removals, Surveyor's Assistant	\$91
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.	\$118
Project Assistant	Maintain Field Equipment, Data Management	\$103
Word Processing, Clerical	Word Processing, Clerical	\$81

Scope of Services
Washington Street Improvements, 47th Avenue to 52nd Avenue
Preliminary Design, Final Design, Post-Design & Construction Phase Services
October 26, 2022
Revised January 24, 2023

Project Description

The scope of this project consists of performing preliminary and final design, including right-of-way plans, for the construction of a roadway and multimodal improvements along Washington St, from 47th Ave to 52nd Ave in the City and County of Denver (CCD). This scope also includes post-design services, construction phase services and real estate services.

Note that two sets of billing rates are included in this proposal:

1. Billing rates utilized in the preliminary and final engineering fee estimate are proposed to be utilized through December 31, 2024.
2. Billing rates utilized in the post-design and construction phase services estimate are proposed to be utilized from January 1, 2025 through December 31, 2028.

In 2019, RS&H submitted an original scope of services for three (3) tasks of professional planning, outreach and engineering services along the Washington St corridor. Task 2, Phase 1a of the original scope of services included preliminary design (30%) for improvements between 47th Ave and 52nd Ave. RS&H received Notice to Proceed for the original scope of services in August 2019. In December 2019, the CCD Department of Transportation & Infrastructure (DOTI) directed the RS&H to suspend all design work on Task 2 until further notice while they evaluated funding alternatives. Field survey and subsurface utility engineering (up to QL-B) continued beyond December 2019 and was ultimately completed.

The scope in the original contract included only three (3) tasks and allowed for a future Amendment to progress the Washington St design from preliminary to final. The scope of services contained in this proposal replaces, in its entirety, all remaining work in the original scope of services dated February 12, 2019 and will progress the design to final. The City PM and the Consultant have agreed that the Consultant team will utilize all completed work and any partially completed work performed from the original 2019 scope of services to the extent feasible.

The following is breakout which tasks completed as part of the original scope dated February 12, 2019. Please refer to worksheet titled "Preliminary Design Tasks Budget Tracking" for detailed information. The letters denoted below (A., E., etc) are tied to this worksheet.

- **Task 1 – General Project Management**
 - Tasks completed prior to suspension of work:
 - B. Kick-off Meeting
 - B. Project Leadership Team (PLT) Meeting (1 meeting)
 - B. Technical Advisory Group (TAG) Meetings (2 meetings)

C. Preliminary Schedule

- **Phase 1a - Washington St North, 47th Ave to City Limit**
 - 16% complete prior to suspension of work.
 - Tasks completed prior to suspension of work:
 - A. Stakeholder and Public Outreach (Public Involvement Plan, Community Working Group Meeting Graphics and Website Content)
 - B. Field Surveys
 - C. Existing Utility Locates
 - D. Multimodal, Roadway and Traffic Design (Conceptual horizontal alignment and typical section refinement)
 - J. Environmental Studies and Considerations (Environmental Constraints memo and Historic Constraints memo)
 - P. Risk Register
- **Phase 1b - 51st & 48th Ave, East of Washington St**
 - 20% complete prior to suspension of work.
 - Tasks completed level prior to suspension of work:
 - A. Stakeholder and Public Outreach (Public Involvement Plan, Community Working Group Meeting Graphics and Website Content)
 - B. Field Surveys
 - C. Existing Utility Locates
 - D. Multimodal, Roadway and Traffic Design (48th Ave conceptual realignment technical memo and exhibit)
 - D. Multimodal, Roadway and Traffic Design (51st Ave conceptual realignment technical memo and exhibit)
 - J. Environmental Studies and Considerations (Environmental Constraints memo and Historic Constraints memo)
 - P. Risk Register
- **Phase 2 - Washington St South, Platte River to 47th Ave**
 - 17% complete prior to suspension of work.
 - Tasks completed prior to suspension of work:
 - A. Stakeholder and Public Outreach (Public Involvement Plan, Community Working Group Meeting Graphics and Website Content)
 - B. Field Surveys
 - C. Existing Utility Locates
 - D. Multimodal, Roadway and Traffic Design (I-70 and Washington St conceptual exhibit)
 - J. Environmental Studies and Considerations (Environmental Constraints memo and Historic Constraints memo)
 - P. Risk Register

- **Task 3 - Washington St Bridge & Globeville Pedestrian Bridge Concept Design**
 - All tasks were completed to 100% level prior to suspension of work.

Note that this proposal will be included in Contract Amendment #3. Contract Amendment #3 will not replace Amendment #1 or Amendment #2.

In September 2021, RS&H submitted a new scope of service for advanced design work while DOTI continued to evaluate funding options. This scope included preliminary railroad design and queuing analysis for the BNSF crossing just north of 47th Ave, advanced utility coordination and an existing storm drain evaluation. As of January 2023, this work is ongoing. **This current scope of services will supplement, but not supersede, the Advanced Design scope of services dated September 30, 2021.**

In December 2021, CCD received a Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant from the Federal Highway Administration (FHWA) for improvements to Washington Street between 47th and 52nd Avenues. These funds, along with supplemental local CCD funds, will be used for construction and will be awarded to CCD directly from FHWA. Design funds will come from local non-FHWA grant funds.

With receipt of federally sourced funds, a National Environmental Policy Act (NEPA) evaluation and clearance is required. The level of study required for FHWA NEPA clearance is assumed to be a non-programmatic Categorical Exclusion (CatEx). Although NEPA work is scoped under a separate proposal, this scope's schedule is dependent on NEPA clearance. Refer to the Schedule section of this proposal for additional details.

Project Components

DOTI has previously completed several planning studies including the 2014 Globeville Neighborhood Plan and the 2018 Washington Street Study. At a scoping meeting on February 28, 2022, DOTI recognized the importance of all previous planning efforts and community engagement. It was also emphasized that the project design must meet the design criteria as outlined in the RAISE grant application. RS&H will utilize this grant application as the foremost basis of design while also balancing the vision from the previous studies.

Specific project components include the following:

- **Roadway and multimodal improvements - Washington St from 47th Ave to 52nd Ave**
Construction of roadway and multimodal improvements along Washington St from 47th Ave to 52nd Ave. The proposed cross-section will consist of two 11-foot travel lanes, an 11-foot left-turn lane, 8-foot on-street parking, curb & gutter, 8-foot amenity zones and a 10-foot multimodal path. On-street parking will only be provided in locations that are generally indicative of future street-oriented uses and parcel sizes that would benefit from on-street parking. These locations will be confirmed by DOTI during design. The amenity zone may be omitted at select locations to minimize impacts to existing buildings or other features. These reduced cross-section areas will be identified during the NEPA evaluation and be implemented at DOTI's direction.
- **Traffic signals at the Washington St & 47th Ave and the Washington St at 50th Ave intersections**
Reconstruction of the existing traffic signals at the Washington St & 47th Ave intersection and

the Washington St at 50th Ave intersection. Additionally, the proposed signal at the Washington St & 51st Ave intersection, which is currently at 60% design and will be constructed prior to the Washington St project, will be evaluated to ensure it functions properly given the proposed Washington St alignment and cross section. The 51st Ave signal was designed with a widened cross-section and shifted alignment in mind, however specific design information for Washington St was not yet developed and therefore some alterations will be required.

- **Signal at Washington St & 48th Ave**

The intersection of Washington St & 48th Ave has been identified as potentially warranting a signal in the future. Design of a signal at this location is not included in this scope of services, however the design team will consider future signal equipment to the extent feasible.

- **BNSF railroad crossing just north of 47th Ave**

Improvements to the BNSF railroad crossing just north of 47th Ave to include multimodal facilities across the tracks and upgraded “active” grade crossing equipment. RS&H will coordinate with BNSF and the Public Utilities Commission (PUC) to identify required upgrades. Given the proximity to the adjacent traffic signals at 47th Ave and 50th Ave, a railroad queue cutter signal will likely be required. The design team is already performing 30% design and a traffic study for this crossing under the previously submitted “Advanced Design” scope of services.

- **Coordinate with the separate 48th Ave Stormwater Outfall project**

Implementation of design elements as coordinated with the separate 48th Ave Stormwater Outfall project being designed by a different Consultant. This project proposes to convey stormwater beginning from west of Washington St, to beneath Washington St and ultimately outfalling at the S Platte River. This project will realign the east leg of 48th Ave to the north to line-up with Elgin Place. It is anticipated that the 48th Ave project will be constructed prior to the Washington St project. The Washington St project will continue to coordinate with the 48th Ave project closely so that elements of both projects can be integrated into each other as needed to create a seamless design. Based on coordination with the 48th Ave design team, it is anticipated that Washington St will utilize the 48th Ave project’s stormwater facilities to the maximum extent feasible.

Project Team

RS&H will manage the project and will lead roadway, multimodal, drainage and traffic engineering design tasks. Our team consists of the following firms:

Firm Name	Role
RS&H	Project Manager and Engineering Lead
105 West, Inc.	Right of Way & Supplemental Survey
CIG	Public Meetings
Clanton and Associates	Lighting Design
CLA (CliftonLarsonAllen LLP)	Maintenance District
Geocal	Geotechnical Services
H.C. Peck & Associates, Inc.	Real Estate Services

Hydrosystems-KDI, Inc.	Irrigation Design
Inherent Character, LLC	Wayfinding Sign Design
Livable Cities Studio	Urban Design & Streetscape
OV Consulting	Public Outreach and Bicycle & Pedestrian Facilities Design
Pinyon Environmental, Inc.	Environmental Services
RailPros	Railroad Coordination
Utility Mapping Services, Inc.	Subsurface Utility Engineering

Scope of Work

Our team will provide the following professional design and engineering services to assist the DOTI in completing the project.

This scope is organized under the following major tasks:

Task 1: General Project Management

Task 2: Public Meetings and Outreach

Task 3: Preliminary Design (30%)

Task 4: 60% Design and Right of Way Plans

Task 5: 90% Design

Task 6: Ad Plans (100%)

Task 7: Real Estate Services

Task 8: Additional Design Services as Directed by the City

Task 9: Post-Design Services (between Ad Plans and Bid Opening only)

Task 10: Construction Phase Services

Task 11: Additional Construction Phase Services as Directed by the City

The Professional design services required for this project generally includes the following:

- Project management and scheduling
- Supplemental field surveys
- Right of Way
- Supplemental utility research, identification, and coordination, including test holes
- Roadway, multimodal and traffic design
- Geotechnical investigations and pavement design
- Environmental studies. These are separate efforts not required for the NEPA evaluation.
- Drainage/Water Quality design
- Urban Design and Wayfinding
- Irrigation Design

- Lighting Design
- Maintenance District Evaluation
- Risk Register
- Railroad queue cutter signal design. Coordination with BNSF and Public Utilities Commission
- Cost estimating
- Denver Public Works Engineering, Regulatory, and Analytics (PWERA) Preparation, Process, and Submittal.

Task 1: General Project Management**A. Project Management**

RS&H will provide consultant project management services to include design team coordination, subconsultant coordination, monthly invoices, general project management and the below items.

- Project Assistance: RS&H will aid the City in responding to comments or inquiries.

Quality Plan: RS&H will follow our Quality Assurance/Quality Control (QA/QC) process for all deliverables.

B. Meetings

The Consultant team for the below meetings will include key personnel from RS&H. Other team members will be included on an as-needed basis depending on topics being discussed.

- Kick off Meeting: The Consultant will hold one kick off meeting upon NTP with the City staff and project team to review the scope of work, schedule and budget for the project.
- General Meetings: Consultant will attend and/or conduct up to 24 project meetings with departmental representatives to discuss issues and make decisions on critical aspects of the project. Prepare and distribute meeting minutes and action items for all project meetings.
- Technical Advisory Meetings: The project team will meet up to 12 times over the project duration with staff specialists from DOTI, RTD and other stakeholder agencies to review technical elements including proposed approach methods, analysis, and mitigation for specific elements of the project such as bikes, traffic, railroad, etc. These meetings will be scheduled intermittently throughout the project as necessary.
- Bi-Weekly Project Management Meetings: RS&H will meet with the DOTI project manager every two weeks to review project progress, critical issues and plan next steps. The frequency of these meetings can be adjusted as needed. These meetings will occur for the duration.

C. Risk Register

RS&H will review the existing Elevate Washington Risk Register and maintain and update the register for the many risks that may affect the budget and/or schedule of this project. These risks include, but are not limited to, NEPA clearance, Right-of-Way procurement, environmental conditions, utility conflicts, and coordination with adjacent projects. The consultant will review and update the Risk Register monthly with the project manager and project team, and the consultant will assist with strategies to minimize/mitigate risks as they become apparent.

D. Schedule

Based on recent meetings that DOTI has held with FHWA, it is RS&H's understanding the

schedule will need to be accelerated to meet RAISE Grant requirements. RS&H is committed to accelerating design as quickly as possible to meet the Grant requirements and will work with DOTI to adjust our schedule to the extent possible. RS&H will work with DOTI to identify critical path work items such as utility coordination (Xcel, Denver Water, etc), BNSF railroad coordination and ROW to accelerate these processes to the extent feasible. Although RS&H will prioritize these critical path items, outside agencies have their own processes and schedules which are outside of RS&H's control and could impact RS&H's ability to complete the work as scheduled.

The Washington St project design is proposed to be completed over an approximate 20-month period. Approximate timelines for each major task are below. RS&H has developed a Critical Path Schedule using Microsoft Project that reflects major tasks. A schedule has been provided to the DOTI PM. Up to 4 updates will be provided at major milestones.

- NEPA Evaluation (under separate scope): 12 months
- 30% Design: 5 months upon receiving NTP and in conjunction with the NEPA evaluation.
- ROW: Based on conversations with DOTI, it is anticipated that ROW plans will begin immediately after 30% design.
- Supplemental Survey & SUE (QL-B/C): 3 months beginning after 30% design and in conjunction with 60% design.
- 60% Design: 5 months. It is anticipated that 60% design will be in conjunction with the NEPA evaluation.
- SUE (QL-A): 2 months beginning upon completion of 60% design and in conjunction with 90% design
- 90% Design: 5 months
- 100% Design: 3 months

Task 2: Public Meeting and Outreach

OV Consulting will lead the Public Outreach effort with support from RS&H.

CIG will lead the Public Meeting effort with support from RS&H

OV Consulting will lead the Maintenance District Investigation and Assessment effort with support from RS&H and Livable Cities Studio

Since the initial project NTP in September 2019, the project team has conducted robust public engagement that built upon the foundation of the 2018 Washington Street Study. It is expected that the project team and CCD will continue this substantial and meaningful process. Community involvement has been the single most important and heeded component of the past efforts, and continuation of these efforts will continue as the project progresses through design.

A. Public meeting

The Washington Street team will participate in three (3) Washington Area public meetings managed by Denver's Office of Community & Business Engagement (OCBE).

- The first meeting will occur during 30% design and re-introduce the project to the community and provide opportunity for input on design decisions.

- The second meeting will also occur during 30% to illustrate integration of community comment received at the first meeting and to finalize design decisions.
- The third meeting will occur during 60% design to review the final design and discuss next steps.

Meetings may be online or in person depending on OCBE policy at the time of the meetings. Presentation slides or boards will be developed by RS&H and OCBE. All meeting materials and all public information materials will be in English and Spanish, although all written translations and meeting interpretation will be provided by OCBE.

Meeting notification for area stakeholders, RNO's and Council office will be managed by OCBE through the existing Community Advisory Group. As needed in conjunction with these meetings, CIG will support OCBE by developing and/or distributing materials to market the public meetings.

CIG will provide the following services for these meetings:

- Coordinating with the OCBE team on meeting logistics prior to the meeting (in person or virtual).
- Assisting OCBE with developing informational flyers, postcards, email notices, website content or social media posts as needed.
- Distributing flyers to adjacent properties along the corridor.
- Coordinating with Garden Place Elementary to distribute meeting flyers.
- Providing staff support during the meeting to document input and key takeaways related to Washington Final Design.
- Drafting a meeting summary report of comments offered during the public meetings.
- Assisting OCBE's engagement specialist as needed.

This scope excludes the following work:

- Translation services. All translation services will be provided by OCBE.

B. Community Working Group (CWG)

RS&H will attend up to five (5) Community Working Group (CWG) meetings to gain insight into community interests and concerns as design progresses. RS&H will develop PowerPoint slides as requested by the City to provide updates on the project's design and schedule.

C. Adjacent Project Coordination

RS&H, in conjunction with OCBE, will coordinate with ongoing projects in the area, including but not limited to the 48th Ave Stormwater Outfall project and National Western Center (NWC) as it continues to develop their site plans and placemaking efforts.

D. Property Owner & Business Outreach

OV Consulting & RS&H will work with the project team to organize and execute a business and property owner outreach effort and integrate business and property owner needs with the design effort. All communication will support the finalization of design of the corridor, future access and operational needs and consideration of a potential special district. The following tasks are included:

- **Communication Plan**

Develop Communication Plan for Property Owner and Business Outreach. OV Consulting will work with RS&H and CIG to confirm a Communications Plan that lays out the communication strategy, key messages, roles, responsibilities and communication protocol, and identification of communication methods and tools related to property owner and business outreach along the corridor.

- **Business and Property Owner Contact List and Parcel Mapping**

OV Consulting will create the Business and Property Owner contact list and parcel mapping relevant to Washington Street parcels and those potentially impacted by design, construction and a potential future maintenance district.

- **Monthly Communication with Business and Property Owners**

OV will manage the identification and coordination of strategic communication with property owners and businesses throughout the design process. General monthly updates or blast email notifications are anticipated through final design. Support of design team in updates to Washington Area Community Advisory Group (CAG) is also anticipated at key design milestones.

- **Strategic Business and Property Owner Meetings and Site Coordination**

The team will hold formal meeting opportunities or field visits to support design milestones with the 44 property owners along the corridor. Two rounds of individual or small group meetings and related documentation or follow up are anticipated to support 30%, 60% and 90% design objectives. This effort will be organized and led by OV and attended as needed by design team members. RS&H will develop exhibits focused on specific for property owners as needed. Up to 4 exhibits are assumed.

E. Maintenance District Investigation and Assessment

OV will work with the project team as well as key City staff to evaluate the structure, operations and feasibility of a future potential maintenance district along the corridor. The Maintenance District Evaluation will include the following steps:

- Communication with business/property owners will be needed to understand the goals and concerns of a potential district along the corridor. Three (3) corridor Property Owner meetings are anticipated during the evaluation; 1) initial investigation of concept, 2) district options and 3) evaluation and final recommendations. Where needed, the project team will meet with property owners to specifically discuss the district impacts and benefits, up to 15 individual meetings.
- Livable Cities Studio will prepare any necessary exhibits to explain the various streetscape elements to the community or other stakeholders. One exhibit will provide a summary matrix identifying who owns, operates, maintains, or replaces the various streetscape elements (furnishings, lights, wayfinding, etc.).
- Evaluation of these goals and concerns to assess related funding needs for capital projects, programming, operations or maintenance, or a combination of facets desired for the corridor.

- Determination of the assessment scenario including assessed value, lot or building square footage, linear front footage and future land use scenario for calculation of potential revenue stream. (This calculation is for purposes of evaluation and is not a financial forecast). Evaluation of potential appropriate organizational structures will include BID, GID, Maintenance Districts, Special Improvement District, etc.
- Draft Evaluation determining feasibility of the district, including district mechanism, programming and assessment.
- Internal and external communication to test the programming, planning and assessment draft plan with the larger community and develop Final Recommendations documentation. The team will coordinate with City departments to discuss Final Recommendations.

This scope excludes the following work:

- Legal work to create the maintenance district
- Financial modeling for the maintenance district
- Development of mechanisms to collect money for the maintenance district.
- Management of the maintenance district.

Task 3: Preliminary Design (30%)

This task includes 30% design of Washington St from 47th Ave to 52nd. Our team will address design of the proposed improvements in a comprehensive manner for the entire corridor. The design team will utilize the RAISE grant application as the basis of design along with balancing the vision from the 2018 Washington St Planning Study.

A. 30% Roadway and Multimodal Design

This task will be led by RS&H with collaboration and participation from Livable Cities Studio and OV Consulting.

The alignment depicted in the 2018 Washington Street Study provides a balance of creating the greatest benefit with the least impact based on the information that is currently available. To further refine this alignment, RS&H will identify up to four alternatives through the NEPA evaluation process (No Action, Proposed Action, and, if required, up to two additional alternatives) to assist in determining which of the alternatives would cause the least overall harm. All work related to alternative analysis is included under a separate scope for the NEPA evaluation.

With the preliminary design being informed by and advancing in conjunction the NEPA evaluation, work at this stage will aim to provide a solid base design while mitigating the risk of advancing work too far in advance of NEPA clearance. In this manner, RS&H can strike a balance between advancing design while maintaining flexibility if alignment changes are required. Design concepts will be advanced to define key corridor characteristics and multimodal connectivity interface. A plan view exhibit of the corridor will be developed that integrates knowledge of existing and planned multimodal facilities with roadway design elements and characteristics with the goal of gaining consensus on design direction for

advancing 30% design. A key design input is the design vehicle to be used at intersections to guide proper design. The project team will develop background information based on knowledge of area operations and travel patterns to help guide the design vehicle selection process along the corridor. The project team will develop a technical memo outlining vehicle types, travel patterns and vehicle types in the corridor.

The typical section of the alignment will be based on the recommended typical sections from Washington Street Study. The cross sections shown in the Study will be refined as the design process progresses. This task includes 30% design of roadway, including all affected cross streets and intersections.

Roadway and multimodal design tasks include:

- Design horizontal and vertical alignments of roadway and multimodal facilities in accordance with DOTI Transportation Standards and Details and all ADA compliance requirements.
- Gathering of sufficient information to accurately identify all pertinent horizontal and vertical elements for the purpose of preparing fully vetted and feasible roadway cross-sections which provide sufficient drainage and which meet City standards.
- Provide alignments and develop profiles, cross sections, geometrics, grading, toes of slope and pavement sections based on the above referenced requirements and geotechnical recommendations.
- Identify high-risk items affecting final alignment, including Right-of-Way impacts, environmental conditions, utility conflicts, stormwater improvements and coordination with adjacent projects
- Provide intersection design and signal improvements incorporating safety for pedestrians.

The project team, in conjunction with DOTI, will coordinate with the 48th Ave Stormwater Outfall project. Other adjacent projects including the National Western Center (NWC) redevelopment and its proposed bridge connection at 48th Ave and various sidewalk and bicycle lane project will be considered however at this time are not anticipated to have an impact on design.

B. 30% Traffic Design

This task will be led by RS&H.

This task includes the analysis and preliminary design for traffic signals improvements at the following two intersections with a focus on bike & pedestrian safety:

- Washington St & 47th Ave
- Washington St & 50th Ave

This task will also evaluate the proposed traffic signal improvements at the Washington St & 51st Ave intersection, which is currently at 60% design and will be constructed prior to the Washington St project. This evaluation will confirm how the proposed signal will function in relation to the alignment and cross section that are selected through the NEPA process. The

51st Ave signal was designed with a widened cross-section and shifted alignment in mind, however without specific design information for Washington St, it is likely that some alterations will be required. Any alterations to the signal will be proposed at the next design stage.

The intersection of Washington St & 48th Ave has been identified as potentially warranting a signal in the future. Design of a signal at this location is not included in this scope of services, however the design team will recognize and consider this future signal when designing the Washington St alignment at this intersection.

This task will coordinate with the BNSF at-grade crossing design regarding how to integrate the proposed railroad crossing devices with the adjacent signals at 47th Ave, 48th Ave (future) and 50th Ave.

Additional traffic tasks in addition to the traffic signal design and coordination include:

- Prepare permanent signing and marking plans to include all new signage, signage resets and removals within the project limits.
- Develop preliminary construction phasing concept and preliminary traffic control quantities that reflect the approach determined by the project team.

All traffic design tasks will utilize traffic data from the National Western Center Traffic Impact Study, dated March 27, 2020.

Exclusion from traffic work:

- A traffic study will not be completed for any intersections along the Washington St corridor. All traffic data will be taken directly from National Western Center TIS.
- Collection of traffic data is not included (turning movement counts, 24-hour ADT counts, pedestrian & bicycle counts).
- LOS analysis will not be done for signalized intersections.
- Traffic Signal Warrant Analysis or any conceptual or preliminary design work at the Washington St and 48th Ave intersection.

C. 30% Drainage/Water Quality Design

RS&H will lead this task.

- Preliminary Drainage Design

The Consultant will coordinate all drainage design with the City and County of Denver Storm Drainage Master Plan and with Denver Wastewater to not preclude future improvements identified in the Master Plan, nor those considerations underway in the Globeville Stormwater Systems Study.

Washington Street is located in the downstream portion of the drainage basin and as such there is a significant offsite basin that historically drains from west to east, across Washington Street and ultimately to the South Platte River. There are several existing storm sewer trunk lines in the project limits that cross or follow Washington Street. The drainage design will evaluate whether these trunklines have sufficient capacity for the proposed design, or if they need to be replaced as part of the project. To the maximum

extent practicable, existing drainage facilities will be utilized for this project. The onsite system will be designed to meet spread and depth requirements.

Deliverables Include:

- Drainage Plans: (30 scale) showing inlet locations, pipe sizes, existing contours, proposed contours, conceptual layout for water quality facilities, existing and proposed utilities, and existing and proposed right of way lines. Profiles will not be submitted with this submittal but will be developed as needed to identify right-of-way acquisitions and feasibility of the drainage system.
 - Preliminary Drainage Report
- Preliminary Water Quality Design

There is an existing water quality pond downstream of the project in Heron Park. It is assumed that the pond has sufficient volume to provide water quality treatment and detention for on-site runoff from this project and off-site runoff conveyed through the project. The required additional pond volume tributary to this pond will be calculated, but a hydraulic analysis of the pond or modifications to the pond are not included with this scope. There are several opportunities for on-site water quality that follow the ultra-urban green infrastructure guidelines. Additionally, through coordination with the 48th Ave Stormwater Outfall project team, that project may be able to accept flows from the Washington Street corridor for treatment.

Deliverables Include:

- Water Quality Calculations included in the Preliminary Drainage Report
- Preliminary Stormwater Management Plans
 - Stormwater management plans (SWMP) will not be provided at the 30% submittal.

D. 30% Wayfinding, Urban Design, Streetscape and Placemaking

This task will be led by Livable Cities Studios with collaboration from RS&H.

RS&H through its subconsultant Livable Cities Studio will further the vision of urban design and placemaking and numerous concepts discussed in the RAISE grant application as well as the Globeville Neighborhood Plan and the Washington Street Study. The urban design and placemaking components will be progressed by the design team through the application of innovative, low maintenance, and creative solutions. Elements of this task include:

- **Wayfinding**

Vision and Strategy: Before a sign system can be designed for the corridor, the team and Stakeholders will meet as part of the Community Engagement and Stakeholder Meetings to establish a collective and shared vision for the focus area of the corridor. The results will inform the strategic foundation for the planning and design of the signage and wayfinding elements as they relate to the Washington Street corridor. The meeting will include a verification of the strategy and design principles that will guide

the schematic design options. A tour of the site will be necessary with the team and Stakeholders as part of the Kick-off Meeting.

Based on the Vision and Strategy results, we will prepare and present the Draft Identity and Wayfinding Elements Plan to the City and other Stakeholders to begin to determine the location, quantities and function of all proposed elements. It will address the following anticipated types:

- Vehicular: Welcome to Globeville Entry Sign (and both Denver and Adams County entrances), Vehicular Directional and Corridor Banners on light posts.
- Pedestrian: Pedestrian Directional system, Globeville Historic Interpretive (story telling) system.
- Bicycle: Wayfinding for cyclists can be considered based on AASHTO Standards and Guidelines.

With the determination of the family of sign types, a schematic design direction for each will be established. The presented drawings will include two to three possible variations of schematic design including, format, size, colors, proposed products and materials. The goal is to establish a preferred direction for each element. Historic research will be necessary to address the possible story telling opportunities.

The following products will be prepared/delivered:

1. Meeting display boards specific to Signage and Wayfinding for one (1) public meeting.
2. Develop presentation slides for streetscape for Signage and Wayfinding for one (1) stakeholder meeting.
3. Summary document of the results of the Vision and Strategy established during the meetings.
4. Draft Sign Location Plan specific to Signage and Wayfinding for one (1) stakeholder meeting. The plan can also be presented during one of the public meetings.
5. Summary document of the preferred Schematic Design direction for each element established during the meeting(s)

- **Urban Design, Streetscape and Placemaking**

The project team will build upon the previous planning efforts and partially complete analysis work completed in 2019 to develop 30% design plans for urban design, streetscape and placemaking. Tasks include:

- Review of relevant planning work, grant application, and other documents.
- Reassess and conduct contextual inventory and analysis along with site visit.

- Precedent research identifying similar streetscapes and projects that can be used to inform the design features, character, design, cost, implementation, and maintenance assumptions for the project.
- Develop conceptual design framework to guide overall character and improvements related to realignments at select key intersections, including the integration of innovative public spaces, wayfinding, signage, etc.
- Integration of bicycle and pedestrian facilities with the streetscape design, including creative ways to effectively demarcate pedestrian and bicycle zones.
- Develop up to three (3) renderings, visualizations, illustrations and illustrative concepts for stakeholder meetings, Public Meetings and for the City's use, including boards and PowerPoint presentations (aligned with INVEST PD-03.4).
- Prepare 30% design for the landscaping and streetscape, including full streetscape design concepts and 30% design for sidewalk paving and streetscape elements such as furnishings, plantings, signage and wayfinding, and design of street side stormwater planters.
- Select preliminary list of plant materials based on INVEST criteria, plant character types, and general locations of plants that will be low maintenance, capable of being planted in innovative stormwater facilities and reflect the community's vision of an innovative and sustainable community.
- Support electrical and lighting analysis and design to coordinate street and pedestrian light locations with the preferred streetscape module.
- Support corridor water quality design as it pertains to corresponding streetscape and landscape elements.
- Calculate quantities for and develop streetscape, landscape quantity tabulations for preliminary review.

The following products will be prepared/delivered:

1. Memorandum and/or exhibit summarizing site visit observations and summary of previous plans and studies.
2. Analysis exhibits and design framework with goals and objectives.
3. Precedent images/boards to help confirm preferences and design parameters.
4. Preliminary Design (30%) landscape sheets to be included in the design package, including the following:
 - a. General Landscape Notes
 - b. Planting Plan(s)
 - c. Layout and Materials Plans
 - d. Preliminary Details
5. Preliminary Design level opinion of probable landscape construction cost.

E. Geotechnical Investigations/Pavement Design

RS&H through its subconsultant Geocal will provide the following:

- Perform 17 geotechnical borings along the Washington St at the following locations:

Feature	No. of Borings	Approx. Boring Location	Approx. Depth
Washington St Pavement	11	Existing Washington St	5 ft to 10ft
Signal Poles at 47th Ave	2	NW & NE Corners	25 ft
Signal Poles at BNSF Crossing	2	North & South sides of railroad	25 ft
Signal Poles at 50th Ave	2	SE & NW Corners	25 ft

- A manual pavement condition survey (performed in accordance with the Colorado Department of Transportation (CDOT) 2021 M-E Pavement Design Manual) will be conducted of the existing pavement along the project corridor to identify areas of increased distress and/or failure. This will be conducted either during the staking of the boring locations or concurrent with drilling. The results of the pavement distress survey, the field exploration, and the laboratory testing will be used to perform a Life Cycle Cost Analysis (LCCA) for the pavement along the project corridor.
- Lab Testing: Samples (excluding samples that are determined to be contaminated by Pinyon or contain deleterious material) collected during drilling will be transported to our laboratory, and selected soil samples will be programmed for testing. Typical laboratory tests will include gradation, Atterberg limits (liquid and plastic limits), moisture content, dry unit weight, swell-compression, unconfined compressive strength, R-value, and chemical tests including water-soluble sulfates, water-soluble chlorides, pH, and resistivity. Test results will be used to inform geotechnical recommendations for design.
- Geotechnical Reporting: A single report will be prepared under the direction of a Colorado-registered professional engineer that will contain the results of our field exploration and laboratory testing programs. The results will be evaluated to provide geotechnical recommendations for design of the improvements along Washington Street including new pavement and signal pole foundations. The written report will be written to summarize at least the following:
 - Site geology and physical description of the site.
 - Brief review of field and laboratory procedures.
 - Subsurface conditions encountered (soils, bedrock, and groundwater).
 - Results of the field and laboratory testing.
 - Results of the pavement condition survey.
 - Foundation recommendations for signal poles (in accordance with the latest edition of the CDOT M&S Standards).

- Subgrade preparation for the roadway as well as the bus pads along the route in accordance with the latest edition of the RTD Bus Infrastructure Design Guidelines and Criteria.
- Results of the LCCA (in accordance with CDOT procedures).
- Pavement design recommendations for Washington Street in accordance with the 2019 Metropolitan Government Pavement Engineers Council (MGPEC) Pavement Design Standards.
- Exclusions: The following items are excluded from this scope:
 - Time and materials for groundwater monitoring wells.
 - Decontamination impoundment (and associated equipment and costs).
 - Subsurface exploration and recommendations for utility installation.
 - Percolation tests for planters/landscaping along alignment.

F. Environmental Studies

This task will be led by Pinyon Environmental.

- Limited Sampling and Technical Memorandum

Geotechnical drilling will be completed by the project's geotechnical subconsultant, Geocal, which will provide an opportunity for environmental sampling to be completed concurrently. The Denver Department of Public Health and Environment (DDPHE) will require sampling for the project to support soil reuse decisions during construction and possibly to develop a waste profile at the Denver-Arapahoe Disposal Site (DADS). The following will be completed:

- Pinyon's sampling work will be coordinated with the geotechnical engineer's drilling to avoid duplication of costs. Geocal's scope as of the time of this proposal included drilling 11 pavement borings, and 6 signal pole borings, which would span five days.
- Pinyon will prepare a Health and Safety Plan (HASP) for drilling activities, to be used by Pinyon personnel. Pinyon will share the information presented in our HASP and related documentation with those that are interested. Pinyon's field representative will provide a Photoionization Detector (PID) to monitor atmospheric conditions in the vicinity of the drilling rig for volatile organic compounds (VOCs). Pinyon will share information regarding PID measurements with other project personnel. Pinyon will also field screen soil samples for the presence of potential subsurface impacts.
- During geotechnical drilling (which will be completed and paid for by others), Pinyon will collect up to 17 representative soil samples to evaluate whether the site soil is suitable for reuse on the project, or to support a waste profile application at DADS should soil need to be disposed of during construction. Pinyon assumes drilling will be completed over five days maximum. Should field screening indicate consistent soil conditions, Pinyon's field representative may elect to reduce the number of samples to reduce costs. This may include only sampling odd or even samples, with confirmation from DDPHE.
- Pinyon has included costs for soil logging for only two of the five days drilling to cover costs for field equipment (e.g., PID, GPS, expendables).
- The soil samples will be collected and submitted to Origins Laboratory, Inc. (Origins),

of Denver, Colorado, for analysis of:

- VOCs by Environmental Protection Agency (EPA) Method 8260D
 - Total Resource Conservation and Recovery Act (RCRA) 8 metals by EPA Methods 6010C and 7471
 - Toxicity Characteristic Leachate Procedure (TCLP) (as needed based on total results).
- Pinyon assumes that this roadway project will not result in excavations that would be deep enough to encounter groundwater. Therefore, no groundwater sampling is proposed for this project.
 - Pinyon will provide an EPA and state accredited Certified Asbestos Building Inspector to evaluate potential asbestos building materials (ACMs) identified during drilling. Up to four samples will be submitted to EMSL Analytical, Inc., for analysis of asbestos using polarized-light microscopy (PLM) techniques.
 - It is assumed that soil cuttings will be placed back into the geotechnical holes. However, in the event that potential impacts are identified, Pinyon has included a contingent scope to manage investigation derived wastes (IDW). Pinyon will arrange to have IDW removed and disposed properly by a qualified vendor. Up to four, 55-gallon drums will be removed per this scope of work; we assume that the drillers will provide drums, and the drums will be staged proximate to the work area at a location that they may be easily retrieved later. If analytical data does not indicate environmental impacts, the soil will be thin spread on the ground surface and the drums removed from the project area.
 - An Environmental Sampling Technical Memorandum will be prepared based on the information collected during the limited sampling. This memorandum will discuss the results, conclusions, and recommended next steps based on those findings.
- **Material Management Plan**
Using the information gathered above, and in other project phases, Pinyon will prepare a Materials Management Plan detailing management strategy for potentially impacted media. Note that this task was previously scoped and contracted; however, Pinyon expects that the existing pre-NEPA tasks will be closed out.

G. 30% Utility Conflict Identification and Coordination

RS&H will lead this task.

RS&H will provide the following utility work:

- Monthly meetings with Xcel Energy to coordinate the electric undergrounding along the corridor. These meetings will occur for the duration of the project.
- For all utility facilities, identify potential utility conflicts between existing utilities and proposed improvements for coordination with design team and utility companies.

- Identify locations for potholing. Potholing will be completed in the 60% design phase.
- We have not included any water line relocation work. Until the preliminary design is complete and any conflicts or relocation desired by Denver Water are known, we are not able to determine the work required (if any).

H. 30% Lighting Design

RS&H in conjunction with our subconsultant Clanton & Associates will develop coordinate the 30% lighting design in coordination with DOTI, the utility agency, and project stakeholders.

Lighting design will be integrated into the overall streetscape and character and done accordance with City and County of Denver Streetlighting Guidelines. Lighting will consist of continuous LED streetlights installed along the street and new pedestrian lighting. It is assumed that lighting will be owned and maintained by Xcel Energy.

The scope of work includes:

- New lighting along Washington St from 47th Ave to 52nd Ave.
- Traffic signal electrical infrastructure for the new meter at 47th Ave and 52nd Ave.
- Electrical infrastructure for railroad meter pedestal.

Lighting work for this phase will include determining the type of lights and approximate locations. The following lighting work will be provided for Preliminary Design (30%):

- Lighting kickoff meeting by teleconference
- Coordination with CCD about streetlight ownership
- Site visit to observe existing electrical conditions, if required
- Establish basis of design
- Lighting design
 - Lighting layout
 - Luminaire selection
 - Lighting calculations
- Power source locations
- Utility coordination
- Tabulation of approximate quantities
- Opinion of Probable Cost
- Up to one (1) submittal (30% set)
- Attendance at 30% Review meeting

Specific exclusions from this scope are as follows:

- Xcel Work Order form, BCL applications and/or meter address applications
- Lighting for public artwork or art lighting
- Redesign based on changes in streetlight ownership
- Lighting system redesign after the preliminary submittal due to changes in lighting ownership.
- Development, design or detailing of custom luminaires
- Structural engineering.

- Equipment procurement
- Commissioning
- Communication wiring to traffic signals

I. 30% Cost Estimating

RS&H will lead this task.

RS&H will develop detailed construction bid quantities and construction cost estimates based on the 60% design plans and quantities. The cost estimates will be presented by typical CDOT Pay Items and cost categories and utilize relevant/current unit cost information from similar/recent projects in the Denver metropolitan area.

J. 30% Denver Transportation and Infrastructure Engineering, Regulatory, and Analytics (ERA) Preparation, Process, and Submittal

RS&H will lead this task.

The project must follow the City's review process and meet all City standards (including, but not limited to the Department of Transportation & Infrastructure Standards, etc.). The consultant will complete the 30% design plans/documents associated with the ERA review process. One or more reviews through ERA prior to the completion of the 30% design may be required. The following items may be included:

- Preparation and attendance for the 30% Design Review Meeting.
- Coordinate, complete and compile the plan with inputs from all activities: geotechnical, traffic, urban design, drainage, utilities, right-of-way, etc.
- The 30% design plans will include, but not be limited to:
 - Title Sheet
 - Project Site Plan
 - General Notes
 - Summary of Approximate Quantities
 - Typical Sections
 - Project Control Diagram (105 West)
 - Geometric Control Plan
 - Removal Plan
 - Roadway Plan
 - Roadway Profile
 - Paving Plan
 - Utility Plan
 - Drainage Plan Subset
 - Traffic Signal Subset
 - Signing and Striping Plans
 - Lighting Plan (Clanton)
 - Landscape and Streetscape Plan (Livable Cities Studio)
 - Irrigation Plan (Livable Cities Studio)
 - Roadway Cross Sections

- The following items will be included with the preliminary design plans:
 - 30% Opinion of Probable Cost (excluding items not yet designed, such as items related to SWMP)
 - Preliminary Geotechnical & Pavement design report
 - Preliminary Drainage Report
 - Information regarding any required permits
- The plans and specifications will be reproduced and distributed by the consultant as requested by DOTI.
- Resolve design questions raised in the 30% Design Review meeting in cooperation with DOTI. Document the decisions and transmit the documentation to the City for approval.
- Submit a list of all deviations from standard design criteria along with the written justification for each one. Obtain concurrence from affected agencies or utility companies.
- Consultant shall complete revisions to the 30% design documents to address comments made at the review meeting. Develop a comment response log summarizing the actions taken on each submitted comment.
- Identify and submit a listing of all permits and clearances required for the completion of the project.
- Submit copies of the revised plans to DOTI and other agencies as appropriate.

Task 4: 60% Design and Right of Way Plans**A. Supplemental Field Surveys**

105 West will complete this task at the direction of RS&H.

105 West, Inc has previously obtained topographic survey under the original scope of work. RS&H anticipates that supplemental field survey will be required due to shifts in the alignment that are outside of the limits of survey that were originally obtained. It is also anticipated that some parcels may be redeveloped and have changed conditions from when the survey was obtained in 2019. RS&H has defined areas where supplemental survey may be needed. However, due to the NEPA evaluation and potential resulting alignment shifts and cross section changes, it is recommended to wait until after NEPA clearance to obtain supplemental field survey.

B. Right of Way

105 West will complete this task at the direction of RS&H.

- **Permits/Right-of-Entry**

105 West will apply for the right-of-way permit from the City and County of Denver in order to perform survey work within the City and County of Denver rights-of-way. Additionally, 105 West will prepare right-of-entry (ROE) forms for the fifty-seven (57) private parcels adjoining the project corridor. It is our understanding that CCD will address any private landowners that will not grant survey access to 105 West field personnel.

- **Project Control**

105 West will supplement horizontal and vertical (NAVD 88) control monuments as needed to facilitate the task described hereon. All control will be based on the City and County of Denver's horizontal and vertical datum. The preparation of a project control diagram is included in this task.

- **Final Ownership/Right-of Way Map**

In order to determine the existing right-of-way limits and private ownerships along Washington Street, 105 West will obtain City and County of Denver (CCD) record information including subdivision plats, land survey plats, right-of-way plans and vesting deed information for approximately seventy (70) parcels located along Washington Street (47th to 52nd). As part of this task, 105 West will survey the necessary Aliquot Corners, Range Points, and existing property evidence to facilitate the creation this map.

- **Final Right-of Way Plans**

Based on final geometry, 105 West will create final Right-of-Way plans for up to one-hundred-twelve (112) impacts (i.e. acquisitions, PEs, TEs) along Washington Street. The final right-of-way plans will be in accordance with CCD standards and requirements and satisfactory for a Right-of-Way Plan Review. For the purposes of our proposal, we have assumed that the title commitments for the impacted parcels will be provided to us by others. As part of this task, 105 West will provide a current Land Survey Control Diagram that will supersede the "Existing Right-of-Way Plan and Ownership Map" provided by CCD signed and sealed on November 1, 2018. Monumentation of existing or proposed right-

of-way is not a part of this proposal at this time.

- Final Legal Descriptions and Exhibits

105 West will prepare separate legal descriptions and exhibits for up to one-hundred-twelve (112) property impacts (i.e. acquisitions, PEs, TEs). The legal descriptions and exhibits will be prepared in accordance with CCD requirements and satisfactory for recordation.

- ALTA and Land Title Review Surveys

105 West will perform twenty-four (24) American Land Title Association (ALTA) Surveys. For the purposes of this proposal, the ALTA Surveys for the parcels identified as partial acquisitions will show visible improvements within ten (10') feet from the proposed ROW line. As part of this task, utilizing CCD standards, 105 West will perform up to thirty-eight (38) Land Title Review Surveys (LTR).

- Land Acquisition Ordinance (LAO) Legal Descriptions

Based on simplified geometry (i.e., easterly 10' of that certain parcel) provided to us by RS&H, 105 West will prepare separate legal descriptions and exhibits for up to sixty (60) parcels located along Washington Street (47th to 52nd). The legal descriptions will be prepared in accordance with CCD requirements accepted via the example contained in email correspondence dated September 21, 2022.

C. Subsurface Utility Engineering (SUE)

Utility Mapping Services (UMS) and 105 West will complete this task at the direction of RS&H.

Utility Mapping Services (UMS) has previously completed up to Quality Level B (QL-B) subsurface utility engineering (SUE) along Washington Street under the original scope of work from February 2019. Due to the lapse in time between the initial utility designation, UMS will request new utility records from all companies owning facilities and compare records to identify potential new facilities. If new facilities are identified, RS&H will coordinate with DOTI regarding the need to designate these facilities. Designation work of newly identified utilities is not included in this scope of services.

UMS will designate the underground utilities within the supplemental topographic limits. Once the utilities have been marked, and signed sketches have been provided, 105 West will survey the paint mark locations.

Upon completion of 60% design, RS&H will identify test hole locations based on utility conflicts and areas where more detailed data, including three-dimensional coordinates, are required to complete designs and mitigate conflicts. UMS will perform QL-A utility locates for existing underground utilities in accordance with the American Society of Civil Engineers Construction Institute Standard 38-02 (ASCE/CI 38-02). The utility investigation primarily consists of utility locating via discrete QL A vacuum excavated test holes. Based on the previous work designating utilities within the project area and the number of test hole required on the adjacent 51st Ave project, approximately 16 test holes per block are estimated, for a total of 80 test holes in total.

UMS will perform the following tasks:

- Records research to obtain updated record information.
- A comparison of the newly acquired records versus records obtained in 2019.
This work does not include any field comparisons or verification or utility designation.
- 3-D QL-A utility locating at up to 80 locations to be identified by RS&H.
 - Work includes field investigation, vacuum excavations (test holes), and depiction of utility infrastructure depth information at discrete locations.
 - GPS survey operations to record utility location and depth information.
- Populating utility data repository with test hole results (digital data and images).
- QA/QC review of submittal documents including reviewing field data and project submittals.
- Updating existing utility CAD file.
- Updating existing utility plan sheets.

The following project deliverables will be provided:

- An updated CAD utility reference file depicting the results of the QL-A investigation.
- Test hole summary report.
- An updated set of P.E. sealed SUE existing utility plans.
- A P.E. sealed report summarizing this investigation along with highlights of unusual findings.

Project Assumptions:

- Up to 70 excavations in asphalt/concrete pavement which will require concrete/asphalt coring. The remaining 10 test holes are assumed to be in the dirt, outside of the pavement areas.
- CCD will obtain all necessary permits, right-of-entries, etc. (including private land access and railroad access) to allow UMS field personnel to work in areas outside of public right-of-way limits.
- Excavations which fail to expose the targeted utility after attaining a reasonable depth (6-7') will still be considered a completed excavation.
- Excavations are located outside of areas which require special repair measures (sidewalks, planters, driveways, etc.). Backfilling of each excavation will be accomplished with the use of native material. Special sidewalk repairs, hot patch repairs, T-patch repairs, etc. are not included with this proposal.
- Surface restoration for excavations in asphalt will be completed using a cold patch repair.
- A maximum of 14 days of special traffic control measures has been included with this proposal.

D. 60% Roadway and Multimodal Design

This task will be led by RS&H with collaboration and participation from Livable Cities Studio and OV Consulting.

RS&H will update the roadway horizontal and vertical geometry based on the final alignment selected by the NEPA evaluation. All associated roadway design elements will be revised and further developed per the alignment updates. RS&H will develop 60% plans that include all elements from the 30% plans along with the following additions:

- Side street profiles will be provided as needed to show positive drainage.
- Curb Ramp Details for ramps that differ from DOTI's Transportation Standards and Details.
- Driveway Details for driveways for ramps that differ from DOTI's Transportation Standards and Details.
- Bus Stop Details
- Fence Plan

E. 60% Traffic Design

This task will be led by RS&H.

This task includes the analysis and preliminary design for traffic signals improvements at the following two intersections with a focus on bike & pedestrian safety:

- Washington St & 47th Ave
- Washington St & 50th Ave

This task will also evaluate the proposed traffic signal improvements at the Washington St & 51st Ave intersection, which is currently at 60% design and will be constructed prior to the Washington St project. This evaluation will confirm how the proposed signal will function in relation to the alignment and cross section that are selected through the NEPA process. The 51st Ave signal was designed with a widened cross-section and shifted alignment in mind, however without specific design information for Washington St, it is likely that some alterations will be required. Any alterations to the signal will be proposed at the next design stage.

Additional traffic tasks in addition to the traffic signal design and coordination include:

- Prepare permanent signing and marking plans to include all new signage, signage resets and removals, and quantity tabulations.
- Analysis of recommended left turn lane lengths at signalized intersections utilizing Synchro/SimTraffic
- 60% construction phasing strategy and construction phasing plans: RS&H will develop plans for traffic management during construction and other considerations, to allow access to properties on Washington Street and side streets during construction. Consultant will provide design plans for temporary alignments and construction traffic control signing within the construction zone and on detour routes (if required).

F. 60% Drainage/ Water Quality Design

RS&H will lead this task.

- **Final Drainage Design**

Final drainage plans will be a continuance of the preliminary drainage plans developed at 30% Design. Comments from the preliminary drainage plans will be addressed and design will be further developed to include vertical layout of storm sewer, water quality details, and erosion control details. During this phase, the drainage design will be adjusted to minimize impacts to the existing utilities. Utility impacts that are unable to be avoided will be coordinated with the utility designers. Because the constrained nature of the corridor, special drainage structures are anticipated. Design and detailing of two special drainage structures are included in this scope.

Deliverables Include:

- Final Drainage Plans (30 scale), Profiles, General Notes, and Details
- Final Drainage Report

- **Final Water Quality Design and Engineering**

The consultant will provide final required water quality volumes for the existing extended detention basin downstream of the project. It is anticipated that the water quality outlet structure of the extended detention basin will not need to be retrofit or replaced to accommodate the additional flows from this Project and no further analysis will be required. Potential water quality locations outside of the Heron Pond basin identified in the preliminary phase will be designed and detailed.

Deliverables include:

- Water quality details
- Water quality calculations included in the Final Drainage Report

- **Final Stormwater Management Plans**

The Consultant will provide stormwater management plans adjusted to address comments and for modifications to roadway and drainage designs. These plans will serve as the basis of the contractor obtaining the construction stormwater discharge permit. The permit application is not included with this scope.

Deliverables Include:

- Stormwater Management Plans (Three Phases)

G. 60% Wayfinding, Urban Design, Streetscape and Placemaking

This task will be led by Livable Cities Studios with collaboration from RS&H.

RS&H through its subconsultant Livable Cities Studio will prepare 60% design for the landscape and streetscape for Washington Street. Elements of this task include:

- **Signage and Wayfinding Design**

Based on the selected preferred concept direction established in Schematic Design, we will prepare and present to the City and Stakeholders a refined final design direction with a complete family of sign elements and expanded details. We anticipate specifying available products for banner armature/connections. All site signs will comply with ADA requirements for mounting heights, acceptable typefaces, size, contrast and materials.

The following products will be prepared/delivered:

1. Developed Sign Location Plan for Signage and Wayfinding for one (1) stakeholder meeting.
2. Summary document of the developed design of the sign program.
3. Cost estimates from two (2) Regional Sign Contractors to verify the desired sign elements are within the established budget(s).

- **Urban Design, Streetscape and Placemaking**

Based on the 30% Design submittal, and considering comments received during the 30% Design Phase, the project team will prepare 60% Design drawings. Tasks include:

- Prepare layout plans for pedestrian pavements, planting areas and other streetscape elements.
- Prepare materials plan showing types of pavement, planting areas, and other site elements.
- Prepare planting plan showing tree and/or shrub and turf locations and a complete plant material schedule.
- Prepare details and reference sections of the above-described landscape materials with information required for construction, installation, and finishing of landscape components of the project.
- Layout of site furnishings.
- Coordinate and work with the team on the bike facility and multi-use path.
- Coordination of design with bus stops and transit features.
- Support roadway design with aesthetic treatments and details.
- Design an irrigation system(s) for corridor landscaping.
- Support water quality analysis & design with regard to landscape design and the proposed water quality and any other water quality features integrated into the streetscape.
- Coordinate street light and pedestrian light locations with streetscape module.
- Prepare technical specifications for landscape improvements and/or site features described by the above listed drawings.
- Prepare up to three (3) illustrative renderings and visualizations to assist with public engagement.
- Develop 60% plans and specifications for landscape, streetscape, and irrigation.
- Develop streetscape, landscape and irrigation quantity tabulations.
- Conduct/Attend coordination meetings with the City on streetscape and landscape irrigation.
- Design 60% irrigation system(s) for corridor landscaping.

- Calculate quantities for and develop streetscape, landscape, and irrigation.

The following products will be prepared/delivered:

1. 60% Construction Documentation Package
 - a. General Landscape Notes
 - b. Planting Plans
 - c. Layout and Materials Plans
 - d. Irrigation Plans
 - e. Detail Sheet(s)
2. 60% Construction Documentation Set
3. 60% Specifications
4. 60% Streetscape, Landscape, and Irrigation quantity calculations

H. Utility Conflict Identification and Coordination

RS&H will lead this task.

RS&H will provide the following utility work:

- Evaluate test hole results to identify utility conflicts between existing utilities and proposed improvements. Coordinate with design team to mitigate and avoid these conflicts if possible. Coordinate with utility companies regarding potential relocations.
- Incorporate utility mitigations/relocations schematics into design package.
- Prepare a summary table of all utilities within the project limits, noting utility adjustments, relocations and / or replacement.
- We have not included any water line relocation work. Until 60% design is complete and test holes have identified conflicts, any relocations desired by Denver Water are unknown, and we are not able to determine the work required (if any).

I. Railroad Coordination and Public Utilities Commission and Support

RS&H in conjunction with our subconsultant, RailPros, will provide railroad crossing support and final design services at the Washington Street grade crossing (DOT#245283D) including preparation of a railroad queue cutter traffic signal design and coordination with BNSF and the PUC. Tasks included in this scope and defined herein will supplement, but not supersede, the design review and railroad coordination services scoped under the previously submitted “Advanced Design” proposal dated September 30, 2021.

Roadway improvements and signing and striping design at the railroad crossing will be in accordance with MUTCD and BNSF design standards. The queue cutter signal will be interconnected to BNSF’s railroad signal system. The consultant will prepare a preemption measurement exhibit for the crossing to assist in calculating the appropriate preemption timing. The consultant will calculate appropriate preemption timing for the queue cutter and determine detection placement for queue cutter operations. Based on the preemption timing calculations, the Consultant will complete a BNSF preemption request form.

Work efforts under this task include:

- Prepare bi-directional queue cutter design plans for the railroad crossing.

- Prepare a preemption measurement exhibit to support the preemption calculations.
- Prepare queue cutter preemption calculations.
- Prepare BNSF preemption request form.
- Prepare specifications and estimate for queue cutter design.
- Coordinate and provide review comments.
- Coordinate with BNSF, JLL and Colorado Public Utilities Commission (PUC).
- Review easement area and legal description for compliance with BNSF requirements.

Task Deliverables

- Preemption measurement exhibit.
- Queue cutter design plans.
- Preemption calculations.
- Queue cutter specifications and estimate.
- BNSF Preemption request form.
- Final PUC application.
- Review comments on easement and legal descriptions

J. 60% Lighting Design

RS&H in conjunction with our subconsultant Clanton & Associates will develop the 60% lighting design in coordination with the City, the utility agency, and project stakeholders. The Consultant will provide the following lighting work for 60% Design:

- Incorporate comments from 30% Review, up to one (1) comment response
- Lighting design
 - Final lighting layout
 - Lighting details
 - Luminaire schedule
- Electrical design
 - Panel schedules
 - Lighting Control Centers, including feeder sizing
 - Conduit routing
- Utility Coordination
- Specifications
- Tabulation of Approximate Quantities
- Opinion of Probable Cost
- Up to one (1) submittal (60% set)
- Attendance at 60% Review meeting

K. 60% Cost Estimating, Quantities and Specifications

RS&H will lead this task.

RS&H will develop detailed construction bid quantities and construction cost estimates based on the 60% design plans and quantities. The cost estimates will be presented by typical CDOT Pay Items and cost categories and utilize relevant/current unit cost information from similar/recent projects in the Denver metropolitan area.

RS&H will prepare technical specifications and submit a 60% specification package.

L. Denver Transportation and Infrastructure Engineering, Regulatory, and Analytics (ERA) Preparation, Process, and Submittal

RS&H will lead this task.

The Consultant will prepare and submit 60% construction documents, drawings and specifications per DOTI design standards and format. The following items may be included:

- Preparation and attendance for the 60% Design Review Meeting,
- Coordinate, complete and compile the plan with inputs from all activities: geotechnical, traffic, urban design, drainage, utilities, right-of-way, etc.
- The 60% design plans will include all plan subsets as included the 30% plan with the addition of the following plans:
 - Curb Ramp Details
 - Driveway Details
 - Bus Stop Details
 - Fence Plan
 - Side Street Profiles
 - Drainage Profiles
 - Stormwater Management (SWMP) Plan
 - Irrigation Plan
 - Traffic Control Plan
- The following items will be included with the 60% design plans:
 - 60% Opinion of Probable Cost
 - Final Comment responses to the 30% Plans.
 - Final Geotechnical & Pavement Design Report
 - Final Drainage Report
 - Survey documents to support obtaining the required ROW Clearance:
 - Final ROW and Ownership Plans
 - Updated Legal descriptions and Exhibits
 - Title Commitments (provided by CCD)

Task 5: Final Design (90%)

A. 90% Roadway and Multimodal Design

This task will be led by RS&H.

The Consultant will continue with design as described in previous sections to the 90% level.

B. 90% Traffic Design

This task will be led by RS&H.

RS&H will continue with design as described in previous sections to the 90% level.

C. 90% Drainage/Water Quality Design

RS&H will lead this task.

RS&H will continue with design as described in previous sections to the 90% level.

D. 90% Wayfinding, Urban Design, Streetscape and Placemaking

This task will be led by Livable Cities Studios with collaboration from RS&H.

The project team will continue with design as described in previous sections to the 90% level.

E. Utility Coordination

RS&H will lead this task.

RS&H will continue with design as described in previous sections to the 90% level.

F. 90% Railroad Design and Coordination

RS&H in conjunction with our subconsultant, RailPros, will lead this task.

The project team will continue with design as described in previous sections to the 90% level.

G. 90% Lighting Design

RS&H in conjunction with our subconsultant Clanton & Associates will develop the 90% lighting design in coordination with the City, the utility agency, and project stakeholders. The Consultant will provide the following lighting work for 90% Design:

- Incorporate comments from 60% Review, up to one (1) comment response
- Lighting design
 - Final lighting layout
 - Lighting details
 - Luminaire schedule
- Electrical design
 - Panel schedules
 - One-line diagrams
 - Meter power pedestals, including short circuit calculations and feeder sizing
 - Circuiting and conduit, including voltage drop calculations and conduit sizing
 - Electrical details
- Utility Coordination
- Specifications
- Tabulation of Approximate Quantities

- Opinion of Probable Cost
- Up to one (1) submittal (90% set)
- Attendance at 90% Review meeting

H. 90% Cost Estimate, Quantities & Specifications

RS&H will lead this task.

RS&H will continue with developing estimate and specifications as described in previous sections to the 90% level.

I. 90% Denver Transportation and Infrastructure Engineering, Regulatory, and Analytics (ERA) Preparation, Process, and Submittal

RS&H will lead this task.

The Consultant will prepare and submit 90% construction documents, drawings and specifications per DOTI design standards and format. The following items may be included:

- Preparation and attendance for the 90% Design Review Meeting,
- The 90% design plans will include all plan subsets as included the 60% plans.
- The following items will be included with the 90% design plans:
 - 90% Opinion of Probable Cost
 - Final Comment responses to the 60% Plans.
 - Revised Final Drainage Report (if needed based on design changes since 60%)

Task 6: Ad Plans (100%)

A. 100% Roadway and Multimodal Design

This task will be led by RS&H.

RS&H will continue with design as described in previous sections to the 100% level.

B. 100% Traffic Design

This task will be led by RS&H.

RS&H will continue with design as described in previous sections to the 100% level.

C. 100% Drainage/Water Quality Design

This task will be led by RS&H.

RS&H will continue with design as described in previous sections to the 100% level.

D. 100% Wayfinding, Urban Design, Streetscape and Placemaking

This task will be led by Livable Cities Studios with collaboration from RS&H.

The project team will continue with design as described in previous sections to the 100% level.

- **Signage and Wayfinding Design**

A complete sign program Design Intent Document will be prepared that provides more in-depth element component construction details for the identity elements. Renderings of sign program design(s) and some key details will be included. Although the document

will contain specific fabrication details, specifications and notes, it is in lieu of traditional Architectural Construction Documents. As an alternative, these design intent drawings can be integrated into the Landscape Architect's 100% Design drawing set. Note: The final selected sign fabricator will provide final contract Shop Drawings during the fabrication process.

The following products will be prepared/delivered:

1. Design Intent Drawings for fabrication

Exclusions:

- Special formatting of design documents and/or presentations to other authorities (CDOT, etc.) or groups not noted.
- Coordination of Bidding, Fabrication and Installation.

E. 100% Lighting Design

RS&H in conjunction with our subconsultant Clanton & Associates will develop the 100% lighting design in coordination with the City, the utility agency, and project stakeholders. The Consultant will provide the following lighting work for 100% Design:

- Incorporate comments from 90% review, up to one (1) comment response
- Lighting Design
- Electrical design
- Specification revisions
- Tabulation of Approximate Quantities
- Opinion of Probable Cost
- Up to one (1) submittal (Bid Set)
- Up to one (1) submittal (stamped set)

F. Final Utility Coordination

RS&H will lead this task.

DOTI will prepare Utility Clearance Letters to Utility Companies with assistance from RS&H. Verify all utility facilities in the field to the full extent possible to finalize design and identify project utility relocations. The objective will be to obtain the required Utility Clearances for the project.

G. Denver Transportation and Infrastructure Engineering, Regulatory, and Analytics (ERA) Preparation, Process, and Submittal

RS&H will lead this task.

The Consultant will prepare and submit 100% construction documents, drawings and specifications per DOTI design standards and format. The following items may be included:

- The 100% design plans will include all plan subsets as included the 90% plans.
- The following items will be included with the 100% design plans:

- Project Sign-off and Opinion of Probable Cost for Ad for Bids
- Final Comment responses to the 90% Plans.
- Technical Specifications

Task 7: Real Estate Services

This task will be led by H.C. Peck.

H.C. Peck will perform real estate acquisition services for the project. This scope assumes the following:

- Property/property rights from 50 parcels with 38 (effective) owners
- One billboard, plus acquisition of property rights/modified license agreement to cross BNSF Right of Way.
- Relocation efforts are not included herein.
- If agreement cannot be reached to acquire property through negotiated settlements, the file or files will be turned over for condemnation.

The following tasks will be performed:

- Project administration, which includes the creation, maintenance and periodic distribution of project status reports, project meetings, coordination with the project team, appraisers, CDOT, landowners and landowners' counsel, assistance with CDOT ROW clearance and yearly FHWA reporting requirements.
- Prepare 51 narrative appraisals for affected properties and billboard per the CDOT Manual.
- Prepare/send: Notices of intent, offer letters, final offer letters, conveyance documents, and any additional correspondence with property owners.
- Conduct negotiations with each owner for the acquisition of the property to be acquired based on the approved fair market value.
- Processing PSA.
- Obtain tax prorations and partial releases of financial encumbrances.

The appraisers with whom we work strive to meet the 90-day deadline as proscribed in CRS 38-1-121, but for a multitude of reasons H.C. Peck & Associates, Inc. will not guarantee this window will be met. There are many reasons why: i) given the relatively small number of eminent domain-qualified appraisers, most are working on multiple projects simultaneously; ii) in connection with the forgoing, actual start of the valuation process as opposed to anticipated start (i.e., project delays); iii) delays (not caused by the appraiser) in confirming comparable sales; iv) non-responsive landowners; v) uncooperative landowners, both in terms of meeting onsite and in providing information that may affect land value or highest and best use; vi) delays in the receipt of engineering plans and specs; and vii) last but not least, having to prepare for and participate in litigation-related matters on short notice.

Title work, closing services, and title insurance are not included in this Cost Estimate (all covered via CCD direct bill). H.C. Peck will conduct closings at the (Division of Insurance) posted fee. Currently, that fee is \$600/closing but may increase in 2023. As requested, H.C. Peck can provide title insurance through our underwriter, Westcor Land Title Insurance Company, for an additional charge (posted rates).

Litigation support will be billed at \$200.00/hour and is not included in this cost estimate. (This rate does not include the project appraisers.)

Task 8: Additional Design Services as Directed by the City

Up to \$100,000 is allocated for additional design services to be used as directed by the City Project Manager. Additional service work will be agreed to by the Consultant and City Project Manager prior to this work being performed.

Task 9: Post-Design Services (between Final Plans and Bid Opening only)

RS&H will assist the City during the period between finalization of the plan documents and bid opening. RS&H will perform the following:

- Prepare addenda drawings. Assume 4 drawings at 8 hours each (32 hours).

Exclusions

As directed by the City, the following construction phase services are excluded:

- Provide information needed for the City to administer the project's advertisement and bidding.
- Attend one Pre-Bid meeting with DOTI.

Task 10: Construction Phase Services

RS&H will provide construction phase design services for Washington St from 47th Ave to 52nd Ave as detailed below. RS&H will provide services related to elements of the project which RS&H or our subconsultants designed. For this scope and fee, the project is assumed to be delivered as a Design-Bid-Build.

The City of Denver will be responsible for all construction administration activities including inspections, documentation, quality assurance, review and approval of pay applications and coordination with the Contractor, property owners, and other agencies and departments within the City. The City plans to have a City inspector assigned to the project who will be the primary person responsible for construction administration.

Assist the City during the construction period by performing the following:

A. Services During Construction (RS&H)

1. Attend one Pre-Construction meeting with City and Contractor. Attendance of the appropriate personnel will be coordinated with the City's Construction Project Manager (PM).
2. Review shop drawings and working drawings as requested by the City in accordance with subsection 105.02 of CDOT Standard Specification for Road and Bridge Construction.
3. Respond to RFIs, as requested.
4. The RS&H team will review material submittals for conformance with the construction contract documents, as requested.
5. RS&H will assist in the review of change order requests if requested by the PM.
6. Make limited periodic project site visits as requested by the PM to resolve construction related issues. The effort includes one 2 hour visit every month for a 18 month duration.
7. Attend the Substantial Completion and Final Acceptance walks with the PM and the Contractor. Prepare a punch list from each of those walks to be submitted to the PM.

B. Construction Materials Testing Services (Geocal)

1. Prepare a CDOT Form 250 or equivalent that documents the number of tests that are required for project quantities.
2. Provide sampling and testing of soils and aggregates as per the frequencies in the 2023 CDOT Field Materials Manual.
3. Provide sampling and testing of paving and site concretes as per the frequencies in the 2023 CDOT Field Materials Manual.
4. Provide sampling and testing of asphalt paving as per the frequencies in the 2023 CDOT Field Materials Manual.
5. Prepare the testing and materials documentation for inclusion in the project closeout documentation. Require documentation is to be consistent with that outlined in the 2023 CDOT Field Materials Manual and the latest version of the construction manual.
6. Complete and sign/stamp the CDOT Form 250 and Form 474(s).

C. Additional Construction Phase Services

Up to \$50,000 is allocated for additional construction phase services to be used as directed by the City Project Manager. Additional service work will be agreed to by the Consultant and City project manager prior to this work being performed. RS&H's subconsultants, Pinyon and Clanton, will provide construction services as requested by the City or RS&H related to their area of expertise.

Construction Schedule

Based on schedule information available at this time, construction services are anticipated to begin in 2025. The construction period is anticipated to be between 18 and 24 months. RS&H does not have control over the construction schedule and therefore, RS&H's schedule and fee is subject to change as directed by the City.

Exclusions

As directed by the City, the following construction phase services are excluded:

1. Attendance of construction progress meetings.
2. Quality Verification testing will be provided by others.
3. As-Built Plans.

Expenses

All reimbursable expenses are subject to the review and approval of the City. It is anticipated that reimbursable expenses for construction services may include plan set reproduction, laboratory testing, testing equipment, or similar expenses such as special testing by outside laboratories and shipping that are requested and approved by the City as needed to perform specific services requested.

Task 11: Additional Construction Phase Services as Directed by the City

Up to \$50,000 is allocated for additional construction phase services to be used as directed by the City Project Manager. Additional service work will be agreed to by the Consultant and City Project Manager prior to this work being performed.

Limitations on Scope of Services

We have provided a specific number of hours to execute the various work tasks outlined in this proposal. The following tasks are not included in the scope of services:

- Redesign resulting from a change in CCD design policy or standards.
- Private or municipal utility design, including design work for potential water line relocations.
- Structural analysis or design including for retaining walls.
- Structure analysis or design for any buildings or structures that may be impacted by construction.
- Hydraulic analysis or modifications to the existing water quality pond downstream of this project.
- Public art is assumed to be part of the Arts & Venue process for public art. We assume limited coordination related to public art.
- Development of concepts for any remnant parcels of land resulting from the realignment of the intersection of 51st Avenue and Washington Street.
- Design of improvements on private parcels, such as parking lot redesign or layout, beyond the roadway limit of construction.
- Design of concrete jointing and joint layout plans. The project team will perform a Life Cycle Cost Analysis (LCCA) which will inform which type of pavement is preferable. It is unknown at this time if concrete pavement will be utilized within the project limits.
- Percolation tests for planters/landscaping along alignment.
- Railroad Track Design or railroad improvement cost estimates. It is assumed that BNSF will provide estimates for railroad grade crossing improvements.
- Flaggers for traffic control for completion of utility test holes. Traffic control is assumed to only require signage and cones. Flaggers are not typically required for test holes but depending on the location of the test holes they may be needed. If required, flagging can be added at an additional cost.
- Right of entry (ROE) for utility test holes outside of the right of way. Test holes will be taken within the public right of way as close as possible to private property to avoid ROE, however there may be instances where a test hole on private property is needed.
- Monumentation of existing or proposed right-of-way.
- SUE field work for utilities newly installed since the initial SUE investigation was complete in 2020.
- Procurement of Title Commitments. This work will be performed by the City.
- Traffic data collection, modeling, or analysis beyond what is stated within this proposal.
- Analysis or design for a future traffic signal at Washington St & 48th Ave.
- Permit fees or review fees that are not otherwise stated in this scope.
- Translation services. All translation services will be provided by OCBE.
- Title work, closing services, and title insurance. As requested, title insurance can be provided for an additional fee.
- Real Estate services litigation support.
- Construction as-built plans.

**City and County of Denver, Department of Transportation & Infrastructure
Washington Street Improvements, 47th Avenue to 52nd Avenue
Preliminary, Final Engineering & Construction Phase Services Fee Estimate**

	RS&H Hours	RS&H Cost	Subconsultant Cost	Expenses	Total Cost
Task 1 - Project Management	1266	\$ 307,222.00	\$ -	\$ -	\$ 307,222.00
Task 2 - Public Meetings & Outreach	284	\$ 62,758.00	\$ 195,865.00	\$ 5,600.00	\$ 264,223.00
Task 3a - 30% Design	2016	\$ 412,517.00	\$ 268,554.00	\$ 34,065.00	\$ 715,136.00
Task 3b - 30% Plan Package	1470	\$ 270,539.00	\$ -	\$ -	\$ 270,539.00
Task 4a - 60% Design & ROW	1622	\$ 334,277.00	\$ 751,881.28	\$ 100,750.00	\$ 1,186,908.28
Task 4b - 60% Plan Package	1833	\$ 342,088.00	\$ -	\$ -	\$ 342,088.00
Task 5a - 90% Design	997	\$ 204,075.00	\$ 78,800.00	\$ -	\$ 282,875.00
Task 5b - 90% Plan Package	906	\$ 172,273.00	\$ -	\$ -	\$ 172,273.00
Task 6 - 100% Design & Plan Package	822	\$ 166,710.00	\$ 54,590.00	\$ -	\$ 221,300.00
Task 7 - Real Estate Services	0	\$ -	\$ 938,899.00	\$ 3,000.00	\$ 941,899.00
Task 8 - Additional Design Services (as directed by CCD)	n/a	\$ 100,000.00	\$ -	\$ -	\$ 100,000.00
Task 9 - Post-Design Services	32	\$ 8,289.68	\$ 2,630.00	\$ -	\$ 10,919.68
Task 10 - Construction Phase Services	786	\$ 214,596.18	\$ 315,675.50	\$ 18,152.25	\$ 548,423.93
Task 11 - Additional Construction Phase Services (as directed by CCD)	n/a	\$ 50,000.00	\$ -	\$ -	\$ 50,000.00
Total	12034	\$ 2,645,344.86	\$ 2,606,894.78	\$ 161,567.25	\$ 5,413,806.89

EXHIBIT A-3



City and County of Denver, Department of Transportation & Infrastructure Washington Street Improvements, 47th Avenue to 52nd Avenue Preliminary and Final Engineering Fee Estimate

Work Activity	Sheets	Hours / Sheet	Subtotal Hours	PM	Roadway					Drainage		Traffic				Admin		Total Design Hours	R&M Cost	Subs & Expenses												Total Cost					
				Project Manager	PE 5	PE 4	PE 3	PE 2	Design 4	Design 2	PE 5	PE 3	PE 2	Design 3	PE 4	PE 2	Admin III			Admin II	Survey	Public Involvement	Lighting	Geotech	Urban Design	PI / Multimodal	Environmental	Railroad	Utilities	Real Estate Services	Expenses						
				\$ 285.00	\$ 285.00	\$ 260.00	\$ 193.00	\$ 173.00	\$ 215.00	\$ 140.00	\$ 285.00	\$ 193.00	\$ 173.00	\$ 175.00	\$ 260.00	\$ 173.00	\$ 150.00			\$ 105.00	105 West	CIG	Clanton	Geocal	Livable Cities	OV	Pinyon	RailPros	UMS	H.C. Peck	(Lab testing, airline travel, etc)						
Task 1 - Project Management				Lapsley	Talvite	Duszak	Birgham/Smith	Moreland	McKinnon	Hernandez/Cassell	Carroll	Duke/Yesla	Draper	Nichols	Logsdon	Worke	Devine	McMartin																			
A General Project Management			24			630	128										24	24	782	\$ 195,344.00																\$ 195,344.00	
Management & Coordination (10 hr/week)						16													64	\$ 10,280.00																\$ 10,280.00	
Contract Administration (Subconsultant Agreements, Work Orders, Accounting)			1			8													9	\$ 2,365.00																\$ 2,365.00	
Quality Plan						40													40	\$ 10,400.00																\$ 10,400.00	
Monthly Invoicing (2 hr/month)						20													20	\$ 5,200.00																\$ 5,200.00	
Monthly Staffing/Planning Updates (1 hr/month)						20													20	\$ 5,200.00																\$ 5,200.00	
Monthly Project Management Report Updates (1 hr/month)						0													0	\$ -																\$ -	
B Meetings			2			8	4				4	0	4	0	4				0	\$ -																\$ -	
Kick-off Meeting & Minutes			10			20	14	4	4	4	4	0	18	0	18				26	\$ 6,294.00																\$ 6,294.00	
General Project Design Coordination Meetings (1 mtg/month)						20													96	\$ 21,798.00																\$ 21,798.00	
Washington Area Program of Projects (1 mtg/month)						20													20	\$ 5,200.00																\$ 5,200.00	
Technical Meetings & Minutes (12 mtgs)			10			24	18			0	0	12	0	12				76	\$ 17,760.00																	\$ 17,760.00	
DOT Biweekly Progress Meetings			4			48				0	0	27	0	0				79	\$ 18,291.00																	\$ 18,291.00	
C Risk Register (1 hr/month)			8			12												0	\$ -																	\$ -	
Develop & Update Schedule			2			12												20	\$ 5,400.00																	\$ 5,400.00	
						14												14	\$ 3,690.00																	\$ 3,690.00	
Total Task 1 Hours			61		878	164	4	4	4	8	0	34	0	24	24			1266																			
Total Task 1 Fee			\$ 17,385	\$ -	\$ 228,280	\$ 35,652	\$ 692	\$ 860	\$ 560	\$ 2,280	\$ -	\$ 10,553	\$ -	\$ 8,840	\$ -	\$ 3,600	\$ 2,520		\$ 307,222.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 307,222.00		
Task 2 - Public Meetings & Outreach																																					
A Public Meeting (3 meetings)			4			40	14	14		32					12				116	\$ 24,264.00			\$32,840.00			\$13,500.00								\$5,600.00	\$ 76,204.00		
B Community Working Group (up to 5 meetings)			2			40	40												82	\$ 18,690.00															\$ 18,690.00		
C Adjacent Project Coordination			2			40	8												50	\$ 12,514.00															\$ 12,514.00		
D Property Owner & Business Outreach																			0	\$ -						\$114,235.00									\$ 114,235.00		
E Develop exhibits for property owner meetings (4 exhibits @ 6 hr/each)						4		10		10									24	\$ 4,170.00															\$ 4,170.00		
F Property owner meeting support						8													8	\$ 2,080.00															\$ 2,080.00		
G Maintenance District Investigation and Assessment						4													4	\$ 1,040.00					\$4,080.00	\$31,210.00									\$ 36,330.00		
Total Task 2 Hours			8	0	136	62	24	0	42	0	0	0	0	12	0	0	0	284																			
Total Task 2 Fee			\$ 2,280	\$ -	\$ 35,360	\$ 11,966	\$ 4,152	\$ -	\$ 5,880	\$ -	\$ -	\$ -	\$ -	\$ 3,120	\$ -	\$ -	\$ -		\$ 62,758.00	\$ 0.00	\$32,840.00	\$ 0.00	\$ 0.00	\$17,580.00	\$145,445.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 264,223.00			

EXHIBIT A-3



City and County of Denver, Department of Transportation & Infrastructure Washington Street Improvements, 47th Avenue to 52nd Avenue Preliminary and Final Engineering Fee Estimate

Work Activity	Sheets	Hours / Sheet	Subtotal Hours	PM	Roadway						Drainage				Traffic				Admin		Total Design Hours	RS&H Cost	Subs & Expenses												Total Cost
				Project Manager	PE 5	PE 4	PE 3	PE 2	Design 4	Design 2	PE 5	PE 3	PE 2	Design 3	PE 4	PE 2	Admin III	Admin II	Survey	Public Involvement			Lighting	Geotech	Urban Design	PI / Multimodal	Environmental	Railroad	Utilities	Real Estate Services	Expenses				
				\$ 285.00	\$ 285.00	\$ 260.00	\$ 193.00	\$ 173.00	\$ 215.00	\$ 140.00	\$ 285.00	\$ 193.00	\$ 173.00	\$ 175.00	\$ 260.00	\$ 173.00	\$ 150.00	\$ 105.00	105 West	CIG			Clanton	Geocal	Livable Cities	OV	Pinyon	RailPros	UMS	H.C. Peck	(Lab testing, airline travel, etc)				
				Lapsley	Talvite	Duzak	Brigham/Smith	Moreland	McKinnon	Hernandez/Cassell	Carroll	Duke/Yesla	Draper	Nichols	Logsdon	Worke	Devine	McMartin																	
Task 3a - 30% Design																																			
A 30% Roadway & Multimodal Design																																			
Develop Design Criteria						4	0	0											0	\$ -														\$ -	
Design vehicle selection & technical memo						8	4	4										16	\$ 1,040.00														\$ 1,040.00		
CADD Workspace Setup						2	0	4										22	\$ 3,544.00														\$ 3,544.00		
CADD Coordination with subs and technical assistance						2	0	4										46	\$ 4,652.00														\$ 4,652.00		
Roadway Horizontal Alignment						2	40	40	40									122	\$ 9,812.00														\$ 9,812.00		
Roadway Vertical Alignment						2	40	40	20									82	\$ 25,610.00														\$ 25,610.00		
Multimodal Design						32	24	2										58	\$ 18,290.00														\$ 18,290.00		
Typical Section Design						20	28	32										80	\$ 13,298.00								\$50,320.00						\$ 16,140.00		
Roadway Modeling						32	200	52										284	\$ 16,140.00														\$ 55,916.00		
Apply feedback from stakeholders						32	16	24										72	\$ 55,916.00														\$ 15,560.00		
Right-of-Way impacts and considerations						8	8	16										32	\$ 15,560.00														\$ 6,392.00		
																		0	\$ 6,392.00														\$ -		
B 30% Traffic Design																		0	\$ -															\$ -	
Signal Design (47th Ave)						2	2	2							8	24		38	\$ 7,484.00														\$ 7,484.00		
Signal Design (50th Ave)						2	2	2							8	24		38	\$ 7,484.00														\$ 7,484.00		
Signal Design (51st Ave)						2	2	2							2	8		16	\$ 3,156.00														\$ 3,156.00		
Signal Consideration & Coordination (48th Ave)						2	2	2							4	8		18	\$ 3,676.00														\$ 3,676.00		
Signing and Striping Design						0	0								8	32		40	\$ 7,616.00														\$ 7,616.00		
Traffic Control Design															8	24		32	\$ 6,232.00														\$ 6,232.00		
																		0	\$ -															\$ -	
C 30% Drainage/Water Quality Design																		0	\$ -															\$ -	
Hydrology											8	30	58	0				96	\$ 18,104.00														\$ 18,104.00		
Hydraulics Design											12	70	54	0				136	\$ 26,272.00															\$ 26,272.00	
Water Quality Calculations											8	38	31	0				77	\$ 14,977.00														\$ 14,977.00		
Coordination with 48th Stormwater project											4	0	16	0				32	\$ 7,028.00														\$ 7,028.00		
Incorporation of 48th Stormwater design						2	8	8	8	4	2	4	0	8	0			36	\$ 7,112.00															\$ 7,112.00	
Preliminary Drainage Report						2						10	92	84	44			232	\$ 43,358.00															\$ 43,358.00	
																		0	\$ -															\$ -	
D 30% Urban Design																		0	\$ -															\$ -	
Wayfinding						2		8	5	5								20	\$ 4,480.00															\$ 4,480.00	
Urban Design, Streetscape and Placemaking						2		8	5	5								20	\$ 4,480.00								\$62,240.00							\$ 62,240.00	
Irrigation Design																		0	\$ -															\$ -	
																		0	\$ -															\$ -	
E Geotechnical Investigations																		0	\$ -															\$ -	
Coordinate soil borings																		6	\$ 1,560.00															\$ 1,560.00	
Develop soil boring plan																		16	\$ 3,236.00															\$ 3,236.00	
Soil borings & Lab Testing																		0	\$ -															\$ -	
Pavement Design Report						2												2	\$ 520.00															\$ 520.00	
																		0	\$ -															\$ -	
F Environmental Studies																		0	\$ -															\$ -	
Limited Soil Sampling						2												2	\$ 520.00															\$ 520.00	
Material Management Plan						2												2	\$ 520.00															\$ 520.00	
Environmental Specifications						1												1	\$ 260.00															\$ 260.00	
																		0	\$ -															\$ -	
G 30% Utility Conflict Identification and Coordination																		0	\$ -															\$ -	
Xcel Energy monthly coordination meetings						24												24	\$ 6,240.00															\$ 6,240.00	
Utility conflict identification and coordination						40	8	16										64	\$ 14,712.00															\$ 14,712.00	
																		0	\$ -															\$ -	
H 30% Lighting Design																		8	\$ 1,812.00															\$ 1,812.00	
						4	4											8	\$ -															\$ -	
																		0	\$ -															\$ -	
I 30% Cost Estimate, Quantities & Specifications																		0	\$ -															\$ -	
Cost Estimate & Quantities																		54	\$ 10,438.00															\$ 10,438.00	
						6	12	16							8	8		0	\$ -															\$ -	
J 30% ERA preparation, process & submittal																		0	\$ -															\$ -	
QA/QC						24		24	40	32								120	\$ 26,336.00															\$ 26,336.00	
List of deviations from standard design criteria						2		2										4	\$ 906.00															\$ 906.00	
Design Review Meeting						2		6	2	2								16	\$ 3,728.00															\$ 3,728.00	
Respond to comments								16	16	16								48	\$ 10,016.00															\$ 10,016.00	
Total Task 3a Hours																																			

RS&H

Preliminary and Final Engineering Fee Estimate

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RS&H

EXHIBIT A-3

Work Activity	Sheets	Hours / Sheet	Subtotal Hours	PM	Roadway				Drainage				Traffic				Admin		Total Design Hours	Subs & Expenses												Total Cost																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
				Project Manager	PE 5	PE 4	PE 3	PE 2	Design 4	Design 2	PE 5	PE 3	PE 2	Design 3	PE 4	PE 2	Admin III	Admin II		RS&H Cost	Survey	Public Involvement	Lighting	Geotech	Urban Design	P1 / Multimodal	Environmental	Railroad	Utilities	Real Estate Services	Expenses																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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				\$	285.00	\$	285.00	\$	260.00	\$	193.00	\$	173.00	\$	215.00	\$	140.00	\$		285.00	\$	193.00	\$	173.00	\$	175.00	\$	260.00	\$	173.00	\$		150.00	\$	105.00			105 West	CIG	Clanton	Geocal	Livable Cities	OV	Pinyon	RailPros	UMS	H.C. Peck																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
				Lapsley	Talvite	Duszak	Brigham/Smith	Moreland	McKinnon	Hernandez/Cassell	Carroll	Duke/Yesla	Draper	Nichols	Logsdon	Worke	Devine	McMartin																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										</

RS&H

	Traffic	Admin	
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EXHIBIT A-3



City and County of Denver, Department of Transportation & Infrastructure Washington Street Improvements, 47th Avenue to 52nd Avenue Preliminary and Final Engineering Fee Estimate

Work Activity	Sheets	Hours / Sheet	Subtotal Hours	PM	Roadway					Drainage			Traffic			Admin		Total Design Hours	RS&H Cost	Subs & Expenses												Total Cost	
				Project Manager	PE 5	PE 4	PE 3	PE 2	Design 4	Design 2	PE 5	PE 3	PE 2	Design 3	PE 4	PE 2	Admin III			Admin II	Survey	Public Involvement	Lighting	Geotech	Urban Design	PI / Multimodal	Environmental	Railroad	Utilities	Real Estate Services	Expenses (Lab testing, airline travel, etc)		
				\$ 285.00	\$ 285.00	\$ 260.00	\$ 193.00	\$ 173.00	\$ 215.00	\$ 140.00	\$ 285.00	\$ 193.00	\$ 173.00	\$ 175.00	\$ 260.00	\$ 173.00	\$ 150.00			\$ 105.00													
				Lapsley	Talvite	Duzak	Brigham/Smith	Moreland	McKinnon	Hernandez/Cassell	Carroll	Duke/Yesla	Draper	Nichols	Logsdon	Worke	Devine	McMartin			105 West	CIG	Clanton		Geocal	Livable Cities	OV	Pinyon	RailPros	UMS	H.C. Peck		
Task Sa - 90% Design																			0	\$ -												\$	
A 90% Roadway & Multimodal Design																			4	\$ 950.00												\$	
CADD Coordination with subs and technical assistance						2	0	0	2										32	\$ 6,552.00												\$	
Roadway Horizontal Alignment						8	16	8											12	\$ 2,504.00												\$	
Roadway Vertical Alignment						4	4	4											20	\$ 4,316.00												\$	
Multimodal Design						8	8	4											6	\$ 1,252.00												\$	
Typical Section Design						2	2	2											8	\$ 2,294.00												\$	
Roadway Modeling						8	40	18											66	\$ 7,248.00												\$	
Asolv feedback from stakeholders						16	16	0											32	\$ 1,812.00												\$	
Right-of-Way impacts and considerations						4	4	0											8	\$ -												\$	
																			0	\$ -												\$	
B 90% Traffic Design																			19	\$ 3,762.00												\$	
Signal Design (47th Ave)						1	2								4	12			19	\$ 3,762.00												\$	
Signal Design (50th Ave)						1	2								4	12			19	\$ 3,762.00												\$	
Signal Design (51st Ave)						1	2								2	4			9	\$ 1,854.00												\$	
Signal Consideration & Coordination (48th Ave)						0	0								2	4			6	\$ 1,212.00												\$	
Signing and Striping Design						1	1								2	2			6	\$ 1,319.00												\$	
Traffic Control Design						4	0								4	4			12	\$ 2,772.00												\$	
																			0	\$ -												\$	
C 90% Drainage/Water Quality Design																			72	\$ 13,680.00												\$	
Hydrology											7	22	43	0					102	\$ 19,786.00												\$	
Hydraulics Design											10	51	41	0						\$ -												\$	
Water Quality Calculations											6	29	23	0					58	\$ 11,286.00												\$	
Coordination with 48th Stormwater project											0	0	16	0					16	\$ 2,768.00												\$	
Incorporation of 48th Stormwater design											0	0	8	0					8	\$ 1,384.00												\$	
Final Drainage Report											5	39	44	28					116	\$ 21,464.00												\$	
																			0	\$ -												\$	
D 90% Urban Design and Placemaking																			8	\$ 1,678.00												\$	
Wayfindine						2	6												8	\$ 1,678.00												\$	
Urban Design, Streetscape and Placemaking						2	6												8	\$ 1,678.00					\$48,560.00								\$
Irrigation Design						2	4												6	\$ 1,292.00					\$3,300.00								\$
																			0	\$ -												\$	
E 90% Utility Coordination						40	60	34											134	\$ 27,862.00													\$
																			0	\$ -												\$	
F 90% Railroad Design and Coordination						8	2								4	2			16	\$ 3,852.00												\$	
																			0	\$ -												\$	
G 90% Lighting Design						2													2	\$ 520.00												\$	
																			2	\$ -					\$26,940.00								\$
H 90% Cost Estimate, Quantities & Specifications																			0	\$ -												\$	
Cost Estimate & Quantities						8	4	4					4	4					24	\$ 5,008.00												\$	
Specifications						24	2	2											36	\$ 8,884.00												\$	
																			0	\$ -												\$	
I 90% ERA preparation, process & submittal																			0	\$ -												\$	
QA/QC						12	16	16	8										52	\$ 12,052.00													\$
List of deviations from standard design criteria						0	0	0											0	\$ -												\$	
Design Review Meeting						0	0	0											0	\$ -												\$	
Respond to comments						32	32	24											88	\$ 18,648.00													\$
Total Task Sa Hours					0	12	196	229	108	2	0	32	149	179	28	22	40	0	0	997													
Total Task Sa Fee					\$ -	\$ 3,420	\$ 50,960	\$ 44,197	\$ 18,684	\$ 430	\$ -	\$ 9,120	\$ 28,757	\$ 30,967	\$ 4,900	\$ 5,720	\$ 6,920	\$ -	\$ -	\$ 204,075.00	\$0.00	\$0.00	\$26,940.00	\$0.00	\$51,860.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$ 282,875.00	

RS&H

City and County of Denver, Department of Transportation & Infrastructure
Washington Street Improvements, 47th Avenue to 52nd Avenue
Preliminary and Final Engineering Fee Estimate

[illegible]

EXHIBIT A-3



City and County of Denver, Department of Transportation & Infrastructure Washington Street Improvements, 47th Avenue to 52nd Avenue Post-Design and Construction Phase Services Fee Estimate

Work Activity	Sheets	Hours / Sheet	Subtotal Hours	PM	Roadway								Drainage				Traffic				Admin		Total Design Hours	RS&H Cost	Subs & Expenses															Total Cost	
				Project Manager	PE 5	PE 4	PE 3	PE 2	Design 4	Design 2	PE 5	PE 3	PE 2	Design 3	PE 4	PE 2	Admin III	Admin II	Survey	Public Involvement	Lighting	Geotech			Urban Design	PI / Multimodal	Environmental	Railroad	Utilities	Real Estate Services	Expenses										
				\$ 346.42	\$ 346.42	\$ 316.03	\$ 234.59	\$ 210.28	\$ 261.33	\$ 170.17	\$ 346.42	\$ 234.59	\$ 210.28	\$ 212.71	\$ 316.03	\$ 210.28	\$ 182.33	\$ 127.63	105 West	CIG	Clanton	Geocal			Livable Cities	OV	Pinyon	RailPros	UMS	H.C. Peck	(Lab testing, airline travel, etc)										
				Lapsley	Talvite	Duszak	Brigham/Smith	Moreland	McKinnon	Hernandez/Cassell	Carroll	Duke/Yesia	Draper	Nichols	Logsdon	Worke	Devine	McMartin																							
Task 9 - Post-Design Services																																									
A Addenda drawings (4 drawings at 8 hr/each)																																									
Total Task 9 Hours																																									
Total Task 9 Fee																																									
Task 10 - Construction Phase Services																																									
A Services During Construction																																									
Management & Coordination																																									
Contract Administration (Work Orders & Accounting)																																									
Preconstruction Meeting																																									
Shop Drawing Reviews																																									
Answer RFIs																																									
Construction Observation (2 hr/month for 18 months)																																									
Attend the Substantial Completion and Final Acceptance walks & punchlist																																									
B Construction Materials Testing Services																																									
Materials Testing (by Geocal)																																									
Total Task 10 Hours																																									
Total Task 10 Fee																																									
Task 11 - Additional Construction Phase Services (as directed by CCD)																																									
A Total Task 11 Fee																																									
PROJECT POST-DESIGN & CONSTRUCTION PHASE SERVICES TOTALS																																									
PROJECT POST-DESIGN & CONSTRUCTION PHASE SERVICES TOTALS																																									

EXHIBIT A-3



4201 E. Yale Ave., STE 230
Denver, CO 80222
Phone 303-859-4491

May 17, 2022
Revised September 30, 2022

Mr. Randal Lapsley, PE
Transportation Office Leader
RS&H
4582 South Ulster Street, SUITE 1100
Denver, CO 80237

RE: Proposal for Professional Surveying Services – Washington Street (47th to 52nd) Final Design Surveys – City and County of Denver

Dear Randal:

105 West, Inc. (105 West), appreciates the opportunity to offer our proposal providing professional surveying services for the above-referenced project. For the purposes of this proposal, 105 West assumes that all title commitments for the impacted parcels and utility locates will be provided by others.

SCOPE OF SERVICES

Task A – Meetings, Mobilization & Coordination

105 West anticipates attending ten (10) project team meetings with CCD personnel and/or the RS&H team members. As part of this task 105 West will develop work plans, mobilize staff, and keep the Consultant Manager and CCD Project Manager updated relative to the survey team's progress or any concerns.

Task B – Permits/Right-of-Entry

105 West will apply for the right-of-way permit from the City and County of Denver in order to perform survey work within the City and County of Denver rights-of-way. Additionally, 105 West will prepare right-of-entry (ROE) forms for the fifty-seven (57) private parcels adjoining the project corridor. It is our understanding that CCD will address any private landowners that will not grant survey access to 105 West field personnel.

Task C – Project Control

105 West will supplement horizontal and vertical (NAVD 88) control monuments as needed to facilitate the task described hereon. All control will be based on the City and County of Denver's horizontal and vertical datum. The preparation of a project control diagram is included in this task.

Task D – Supplemental Topographic Design Survey

105 West will obtain, by field methods, existing, visible planimetric features and topography at a one-foot (1') contour interval. The topographic survey will include the existing edges of pavement, existing edge of traveled surface, curb/gutter, striping, sidewalks, traffic signals, culverts, fences, structures, and surface utility evidence within the eleven (11) areas shown in Green on the attached Exhibit A. All electronic deliverables will be provided in AutoCAD.

EXHIBIT A-3

Task E – Final Ownership/Right-of Way Map

In order to determine the existing right-of-way limits and private ownerships along Washington Street, 105 West will obtain City and County of Denver (CCD) record information including subdivision plats, land survey plats, right-of-way plans and vesting deed information for approximately seventy (70) parcels located along Washington Street (47th to 52nd). As part of this task, 105 West will survey the necessary Aliquot Corners, Range Points, and existing property evidence to facilitate the creation this map.

Task F - Underground Utilities

The firm of Utility Mapping Services (under separate contract) will mark the underground utilities within the topographic limits shown in Green on the attached Exhibit A. Once the utilities have been marked, and signed sketches have been provided, 105 West will survey the paint mark locations.

Task G – Final Right-of Way Plans

Based on final geometry provided to us by RS&H, 105 West will create final Right-of-Way plans for up to one-hundred-twelve (112) impacts (i.e. acquisitions, PEs, TEs) along Washington Street. The final right-of-way plans will be in accordance with CCD standards and requirements and satisfactory for a Right-of-Way Plan Review. For the purposes of our proposal, we have assumed that the title commitments for the impacted parcels will be provided to us by others. As part of this task, 105 West will provide a current Land Survey Control Diagram that will supersede the “Existing Right-of-Way Plan and Ownership Map” provided by CCD signed and sealed on November 1, 2018. ***Monumentation of existing or proposed right-of-way is not a part of this proposal at this time.***

Task H – Final Legal Descriptions and Exhibits

Based on the geometry provided to us by RS&H, 105 West will prepare separate legal descriptions and exhibits for up to one-hundred-twelve (112) property impacts (i.e. acquisitions, PEs, TEs). The legal descriptions and exhibits will be prepared in accordance with CCD requirements and satisfactory for recordation.

Task I – ALTA and Land Title Review Surveys

Based on the identified items shown on the attached Table A, 105 West will perform twenty-four (24) American Land Title Association (ALTA) Surveys as shown on the attached Exhibit B. For the purposes of this proposal, the ALTA Surveys for the parcels identified as partial acquisitions will show visible improvements within ten (10') feet from the proposed ROW line. As part of this task, utilizing CCD standards, 105 West will perform up to thirty-eight (38) Land Title Review Surveys (LTR).

Task J – Land Acquisition Ordinance (LAO) Legal Descriptions

Based on simplified geometry (i.e., easterly 10' of that certain parcel) provided to us by RS&H, 105 West will prepare separate legal descriptions and exhibits for up to sixty (60) parcels located along Washington Street (47th to 52nd). The legal descriptions will be prepared in accordance with CCD requirements accepted via the example contained in email correspondence dated September 21, 2022.

EXCLUSIONS

Procurement of title commitments
Appraisal Staking
Manhole/Inlet invert measure downs

EXHIBIT A-3

FEES

For the professional services described herein, 105 West, Inc., proposes to be compensated at cost not-to-exceed basis. Please see our fee breakdown spreadsheet dated September 30, 2022 for detailed project costs.

SCHEDULE

Upon receipt of our permission to enter and title commitments from CCD, we are prepared to commence work immediately. We anticipate completing Tasks A - E within twelve (12) weeks (weather permitting). The remaining Tasks F-J are at the schedule discretion of others. However, once authorized in writing we anticipate the final ROW Plans, Legal Descriptions and Exhibits, ALTA Surveys, and Land Title Review Surveys will be completed within twenty-four (24) weeks after final impact geometry has been provided.

Thank you for the opportunity to provide our services to you. Please contact us if you have any questions.

Sincerely,

105 West, Incorporated



Robert C. Maestas, PLS

Director of Surveying and Mapping Services

EXHIBIT A-3

Fee Schedule

105 West

17-May-22

Washington Street Final Design

Washington Street Final Design		105 West Staff						105 West Totals			TOTALS	
TASK / DELIVERABLE	Director of Survey/Mapping	Survey Manger	Project Surveyor	Survey Technician	Party Chief	Instrument Operator	GPS/Robotic (1-Man)	Professional Service Hours	Professional Service Fee	105 West's Other Direct Costs and Subconsultants	Professional Service Fee and Other Direct Costs	
	\$140	\$135	\$120	\$100	\$95	\$70	\$135					
SCOPE OF WORK												
	Activity 1 - Survey & Mapping											
	Task A - Meetings/ Mobilization, Coordination	14	20	12				46	\$ 6,100		\$ 6,100	
	Task B - Permits/Permission to Enter	2	4	10	30			46	\$ 5,020	\$ -	\$ 5,020	
	Task C - Project Control	2	3	5	12	20	20	62	\$ 5,785		\$ 5,785	
	Task D -Supplemental Topographic Design Survey	4	8	16	30	60	60	178	\$ 16,460		\$ 16,460	
	Task E - Final Ownership/Right-of-Way Map	12	24	48	80	56	56	276	\$ 27,920		\$ 27,920	
	Task F - Underground Utilities	2	2	4	12			40	\$ 4,930		\$ 4,930	
	Task G - Final Right-of-Way Plans	24	48	120	240			8	440	\$ 49,320		\$ 49,320
	Task H – Final Legal Descriptions and Exhibits	56	112	168	448			8	792	\$ 89,000		\$ 89,000
	Task I – ALTA and Land Title Review Surveys	200	400	720	1040	200	200		2760	\$ 305,400		\$ 305,400
	Task J – Land Acquisition Ordinance (LAO) Legal Descriptions		30		100				130	\$ 14,050		\$ 14,050
TOTALS		316	651	1103	1992	336	336	36	4,770	\$ 523,985	\$ -	\$ 523,985

Exhibit A

EXHIBIT A-3

Legend

Washington Street (47th to 52nd) Final Design Supplemental Topographic Survey Areas - 11 Total



TABLE A**OPTIONAL SURVEY RESPONSIBILITIES AND SPECIFICATIONS**

NOTE: The twenty (20) items of Table A may be negotiated between the surveyor and client. Any additional items negotiated between the surveyor and client shall be identified as 21(a), 21(b), etc. and explained pursuant to Section 6.D.ii.(g). Notwithstanding Table A Items 5 and 11, if an engineering design survey is desired as part of an ALTA/NSPS Land Title Survey, such services should be negotiated under Table A, Item 21.

If checked, the following optional items are to be included in the ALTA/NSPS LAND TITLE SURVEY, except as otherwise qualified (see note above):

1. ☒ Monuments placed (or a reference monument or witness to the corner) at all major corners of the boundary of the property, unless already marked or referenced by existing monuments or witnesses in close proximity to the corner.
2. ☒ Address(es) of the surveyed property if disclosed in documents provided to or obtained by the surveyor, or observed while conducting the fieldwork.
3. ☐ Flood zone classification (with proper annotation based on federal Flood Insurance Rate Maps or the state or local equivalent) depicted by scaled map location and graphic plotting only.
4. ☐ Gross land area (and other areas if specified by the client).
5. ☐ Vertical relief with the source of information (e.g., ground survey, aerial map), contour interval, datum, and originating benchmark identified.
6. ☐ (a) If set forth in a zoning report or letter provided to the surveyor by the client, list the current zoning classification, setback requirements, the height and floor space area restrictions, and parking requirements. Identify the date and source of the report or letter.
☐ (b) If the zoning setback requirements are set forth in a zoning report or letter provided to the surveyor by the client, and if those requirements do not require an interpretation by the surveyor, graphically depict the building setback requirements. Identify the date and source of the report or letter.
7. ☐ (a) Exterior dimensions of all buildings at ground level.
☐ (b) Square footage of:
☐ (1) exterior footprint of all buildings at ground level.
☒ (2) other areas as specified by the client. SF of land being acquired
☐ (c) Measured height of all buildings above grade at a location specified by the client. If no location is specified, the point of measurement shall be identified.

EXHIBIT A-3

American Land Title Association® (ALTA®)
National Society of Professional Surveyors (NSPS)

Minimum Standard Detail Requirements
For ALTA/NSPS Land Title Surveys

-
8. X *Substantial features observed in the process of conducting the fieldwork (in addition to the improvements and features required pursuant to Section 5 above) (e.g., parking lots, billboards, signs, swimming pools, landscaped areas, substantial areas of refuse).*
9. *Number and type (e.g., disabled, motorcycle, regular and other marked specialized types) of clearly identifiable parking spaces on surface parking areas, lots and in parking structures. Striping of clearly identifiable parking spaces on surface parking areas and lots.*
10. *(a) As designated by the client, a determination of the relationship and location of certain division or party walls with respect to adjoining properties (client to obtain necessary permissions).*
- (b) As designated by the client, a determination of whether certain walls are plumb (client to obtain necessary permissions).*
11. X *Location of utilities existing on or serving the surveyed property as determined by:*
- *observed evidence collected pursuant to Section 5.E.iv.*
 - *evidence from plans requested by the surveyor and obtained from utility companies, or provided by client (with reference as to the sources of information), and*
 - *markings requested by the surveyor pursuant to an 811 utility locate or similar request*
- Representative examples of such utilities include, but are not limited to:*
- *Manholes, catch basins, valve vaults and other surface indications of subterranean uses;*
 - *Wires and cables (including their function, if readily identifiable) crossing the surveyed property, and all poles on or within ten feet of the surveyed property. Without expressing a legal opinion as to the ownership or nature of the potential encroachment, the dimensions of all encroaching utility pole crossmembers or overhangs; and*
 - *Utility company installations on the surveyed property.*
- Note to the client, insurer, and lender - With regard to Table A, item 11, source information from plans and markings will be combined with observed evidence of utilities pursuant to Section 5.E.iv. to develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response, in which case the surveyor shall note on the plat or map how this affected the surveyor's assessment of the location of the utilities. Where additional or more detailed information is required, the client is advised that excavation and/or a private utility locate request may be necessary.*
12. *As specified by the client, Governmental Agency survey-related requirements (e.g., HUD surveys, surveys for leases on Bureau of Land Management managed lands).*

EXHIBIT A-3

American Land Title Association® (ALTA®)
National Society of Professional Surveyors (NSPS)

Minimum Standard Detail Requirements
For ALTA/NSPS Land Title Surveys

13. _____ *Names of adjoining owners according to current tax records. If more than one owner, identify the first owner's name listed in the tax records followed by "et al."*
14. _____ *As specified by the client, distance to the nearest intersecting street.*
15. _____ *Rectified orthophotography, photogrammetric mapping, remote sensing, airborne/mobile laser scanning and other similar products, tools or technologies as the basis for the showing the location of certain features (excluding boundaries) where ground measurements are not otherwise necessary to locate those features to an appropriate and acceptable accuracy relative to a nearby boundary. The surveyor shall (a) discuss the ramifications of such methodologies (e.g., the potential precision and completeness of the data gathered thereby) with the insurer, lender, and client prior to the performance of the survey, and (b) place a note on the face of the survey explaining the source, date, precision, and other relevant qualifications of any such data.*
16. _____ *Evidence of recent earth moving work, building construction, or building additions observed in the process of conducting the fieldwork.*
17. _____ *Proposed changes in street right of way lines, if such information is made available to the surveyor by the controlling jurisdiction. Evidence of recent street or sidewalk construction or repairs observed in the process of conducting the fieldwork.*
18. _____ *If there has been a field delineation of wetlands conducted by a qualified specialist hired by the client, the surveyor shall locate any delineation markers observed in the process of conducting the fieldwork and show them on the face of the plat or map. If no markers were observed, the surveyor shall so state.*
19. _____ *Include any plottable offsite (i.e., appurtenant) easements or servitudes disclosed in documents provided to or obtained by the surveyor as a part of the survey pursuant to Sections 5 and 6 (and applicable selected Table A items) (client to obtain necessary permissions).*
20. ☒ _____ *Professional Liability Insurance policy obtained by the surveyor in the minimum amount of \$_____ to be in effect throughout the contract term. Certificate of Insurance to be furnished upon request, but this item shall not be addressed on the face of the plat or map. \$1,000,000 per occurrence and \$2,000,000 aggregate.*
21. ☒ _____

Note if any underground wells are found, whether capped or not.

*Adopted by the Board of Governors, American Land Title Association, on October 8, 2015.
American Land Title Association, 1800 M St., N.W., Suite 300S, Washington, D.C. 20036-5828.
www.alta.org*

*Adopted by the Board of Directors, National Society of Professional Surveyors, on October 9, 2015.
National Society of Professional Surveyors, Inc., 5119 Pegasus Court, Suite Q, Frederick, MD 21704.
<http://www.nspis.us.com/>*

Washington St, 47th Ave to 52nd Ave
Conceptual ROW Acquisitions
See file: User/DAD/Concept ROW Needs from 47th to 52nd

Exhibit B

West of Washington St (listed south to north)										
#	Address	ROW	TE	PE	ROW Acquisition (SF)	ROW Acquisition (AC)	Note	Property Owner	Property Owner Address (if different)	Business (if different than owner)
1	4685 Washington	0	0		0	0.0000		Replin, Richard K	27 S Dahlia St Denver, CO 80246	
2	4705 Washington	1	1		127	0.0029		Greer, Joe		
3	4709 Washington	1	1		139	0.0032		Wash A LTD		
4	4717 Washington	1	1		680	0.0156		Ornelas, Manuel		
5	4735 Washington	1	1		2178	0.0500		PDM Steel Service Centers, Inc.	9245 Lauguna Springs Dr 350, Elk Grove, CA 95758	
6	4755 Washington	1	1		355	0.0081		PDM Steel Service Centers, Inc.	9245 Lauguna Springs Dr 350, Elk Grove, CA 95758	
7	4701 Washington	1	0		343	0.0079		BNSF Railroad		
8	4801 Washington	1	1		467	0.0107		Poor Boy Irrevocable Trust	1962 S Michigan Way Denver, CO 80219	Garbagio
9	4815 Washington	1	1		552	0.0127		Poor Boy Irrevocable Trust	1962 S Michigan Way Denver, CO 80219	Garbagio
10	4825 Washington	1	1		72	0.0017		Weyland-Yutani Corporation LLC	17532 Highway 8 Morrison, CO 80465	
11	4827 Washington	0	1		0	0.0000		Omni Consumer Products LLC	PO Box 16255 Denver, CO 80216	
12	4831 Washington	0	1		0	0.0000		Ayala, Baltazar	2225 W 58th Pl Denver, CO 80221	
13	4837 Washington	0	1		0	0.0000		Fair, Jacqueline M	1087 S Ogden St Denver, CO 80209	Bonfire Cannabis Company
14	4851 Washington	0	1		0	0.0000		4851 Washington Street LLC	6885 Lowell Blvd Denver, CO 80221	
15	4855 Washington	0	1		0	0.0000		Difore, Vincenzo	3590 Lee St Denver, CO 80033	Unknown
16	4881 Washington	0	1		0	0.0000		Larson, Gregory W & Deborah A	1120 S Garland Way Lakewood, CO 80232	Manny's Welding Shop
17	4895 Washington	0	1		0	0.0000		Blake Street Property Group	333 W Hampden Ave 710 Englewood, CO 80110	Auto Dent Pros
18	4903 Washington	0	1		0	0.0000		4905 Washington LLC	760 N Downing St Denver, CO 80218	Where Wood Meets Steel
19	4917 Washington	0	1		0	0.0000		Tran, Bang & Nguyen, Loan	3770 W 103rd Dr Westminster, CO 80031	Checks Cash
20	4923 Washington	0	1		0	0.0000		Tran, Bang & Nguyen, Loan	3770 W 103rd Dr Westminster, CO 80031	
21	4925 Washington	0	1		0	0.0000		Tran, Bang & Nguyen, Loan	3770 W 103rd Dr Westminster, CO 80031	
22	4931 Washington	0	1		0	0.0000		Tran, Bang & Nguyen, Loan	3770 W 103rd Dr Westminster, CO 80031	
23	4939 Washington	0	1		0	0.0000		Amiri, Mehdi		
24	4943 Washington	0	1		0	0.0000		Amiri, Mehdi		Car Time
25	4945 Washington	0	1		0	0.0000		Amiri, Mehdi	4943 Washington St Denver, CO 80216	Unknown
26	4995 Washington	0	0		0	0.0000		City & County of Denver	201 W Colfax Ave Denver, CO 80202	Car Time
27	5005 Washington	1	1		4020	0.0923		Schatz Family Inc Company	11 Hyde Park Cir Denver, CO 80209	Bargreen Ellingson Restaurant Supply & Design
28	5055 Washington	1	1		2691	0.0618		Denver Branch LLC	1637 N Warson Rd Saint Louis, MO 63132	Denver Specialty Contraction
29	5095 Washington	0	0		0	0.0000		5095 Washington Street LLC	7268 S Tuscon Way Centennial, Co 80112	Guzman Tire Shop
30	5105 Washington	1	0		12649	0.2904		Benton Family Limited	14075 W 59th Pl Arvada, CO 80004	Unknown
31	5125 Washington	1	0		3123	0.0717		Ribota, Pedro O	1079 Lipan St Denver, CO 80204	Juares Auto Sales & Towing
32	401 E 51st Ave	1	1		520	0.0119		Ribota, Pedro O	1079 Lipan St Denver, CO 80204	
33	5101 Washington	1	1		652	0.0150		Ribota, Pedro O	1079 Lipan St Denver, CO 80204	
34	620 E 52nd Ave	0	1		0	0.0000		Eight O One LLC	17554 County Road 5 Berthoud, CO 80513	Stillman Wholesale Meat Co
East of Washington St (listed south to north)										
#	Address	ROW	TE	PE	ROW Acquisition (SF)	ROW Acquisition (AC)	Note	Property Owner		
35	4708 Washington	1	1		2455	0.0564		Den-Col Supply Company		7-11 Gas Convenience Store
36	4770 Washington	1	1		3456	0.0793		Electra Properties, LLC	4630 Washington St. 80216	Unknown
37	4600 Washington	1	0		385	0.0088		BNSF Railroad		
38	4800 Washington	0	1		0	0.0000	48th Outfall project acquisition	Slaughterhouse Investment LLC	850 Milwaukee St Denver, CO 80206	Colorado Closeouts INC
39	4801 Clarkson	0	1		0	0.0000	48th Outfall project acquisition	Altas Financial Corp	600 Josephine St Denver, CO 80206	Unknown
40	4812 Washington	0	1		0	0.0000	48th Outfall project acquisition	Mountain Meadows Lamb	4900 Clarkson St Denver, CO 80216	Unknown
41	4900 Clarkson	1	1		3667	0.0842		Superior Farms Inc		
42	4920 Washington	1	1		7533	0.1729		4920 Washington Street LLC		Denver Scrap Metal Recycling
43	4950 Washington	1	1		6148	0.1411		Project Angel Heart		
44	5000 Washington	1	1		3170	0.0728		Michel Family Partnership LLC	1701 38th St Denver, CO 80216	Unknown
45	5040 Washington	1	1		1332	0.0306		Ruppert, Raymond R	PO Box 16276 Denver, CO 80216	Unknown
46	5050 Washington	1	1		4493	0.1031		Ringsby Court LLC	3455 Ringsby Ct Denver, O 80216	Western Convenience Store
47	5106 Washington	0	1		0	0.0000		Larimer Garage & Salvage II	10025 Valley View Rd 190 Eden Prairie, MN 55344	Casa Don Juan Mexican Restaurant / Daniel B Weldir
48	5124 Washington	0	1		0	0.0000		PIII Washinton St LLC	3609 S Wadsworth Blavd 230 Lakewood, CO 80235	Unknown
49	5130 Washington	0	1		0	0.0000		PIII Washinton St LLC	3609 S Wadsworth Blavd 230 Lakewood, CO 80235	Unknown
50	5134 Washington	0	1		0	0.0000		Kilgore, Amanda & Nathan		
51	5140 Washington	0	1		0	0.0000		Sanguinette, Albert Leroy & Sanguinette, Adeline G		
52	5142 Washington	0	1		0	0.0000		Flores, Eligio F Jr & Flores, Graciela G	4639 Columbine St Denver, CO 80216	
53	5148 Washington	0	1		0	0.0000		Zapian, John & Mary J		
54	5152 Washington	0	1		0	0.0000		Rivera, Joseph A		
55	5164 Washington	0	1		0	0.0000		Ornelas, Manuel Ornelas, Deborah A	4709 Washington St Denver, CO 80216	Ortega Lawn Service
56	5180 Washington	0	1		0	0.0000		Zambrano-Martinez, Armando		Zambranos Auto Sales
57	5194 Washington	0	1		0	0.0000		Meza, John Eric		La Conte's Clone Bar & Dispensary
	SUM	24	50	38	61207	1.41				

Assume 2/3 of parcels need PE for light pole, drainage, etc (57 * 0.67 = 38)

Washington Street Design (47th to 52nd avenues) Public Information Scope

General Public Meetings

CIG/Washington Street team will participate in three (3) Washington Area public meetings managed by OCBE.

- The first meeting will occur in October 2022 and re-introduce the project to the community and provide opportunity for input on design decisions.
- The second meeting is tentatively scheduled for February 2023 and will include sharing the finalized concept design with the community.
- The third meeting is tentatively scheduled for June 2023 and will include sharing the final design and next steps with the community.

These meetings may be online or in person depending on OCBE policy at the time of the meetings.

Presentation slides or boards will be developed by RS&H and OCBE. All Washington Final design meeting materials will be in English and Spanish, although written translations and meeting interpretation will be provided by OCBE.

Meeting notification for area stakeholders, RNO's and Council office will be managed by OCBE through the existing Community Advisory Group. As needed in conjunction with these meetings, CIG will support OCBE by developing and/or distributing materials to market the three public meetings.

CIG's scope for these meetings will include:

- Coordinating with the OCBE team on meeting logistics prior to the meeting (in person or virtual)
- Assisting OCBE with developing informational flyers, postcards, email notices, website content or social media posts as needed
- Distributing flyers to adjacent properties along the corridor
- Coordinating with Garden Place Elementary to distribute meeting flyers
- Providing staff support during the meeting to document input and key takeaways related to Washington Final Design
- Drafting a meeting summary report of comments offered during the three meetings
- Assisting OCBE's engagement specialist as needed

CIG will also support OCBE in the delivery of three Community Working Group meetings and provide coordination support with the Birdseed Collective.

EXHIBIT A-3



Washington Street Design project through Dec. 31, 2024.

Scope includes support of three public meetings

Task Description	Principal	Counselor 1	Creative (Art) Director	Associate Creative Director	Associate 1	Specialist	TASK HOURS	COST PER TASK
	\$ 215	\$ 141	\$ 126	\$ 115	\$ 84	\$ 68		
Coordinate with OCBE on meeting logistics		6					6	\$ 846.00
Assist OCBE in developing printed collateral to promote meetings		15	6	12			33	\$ 4,251.00
Assist OCBE with website and social media copy as needed		10			10		20	\$ 2,250.00
Distribute flyers to adjacent properties for 3 public meetings		6			24	24	54	\$ 4,494.00
Coordinate with Garden Place Elementary on flyers		12			6		18	\$ 2,196.00
Provide staff support during 3 meetings and document comments		15			24		39	\$ 4,131.00
Draft summary report of comments at 3 public meetings		12			6		18	\$ 2,196.00
Assist OCBE engagement specialist		10			6	4	20	\$ 2,186.00
Support for 3 Community Working Group meetings		12			12		24	\$ 2,700.00
Birdseed Collective coordination and community relations support		10			10		20	\$ 2,250.00
Project administration	15	15					30	\$ 5,340.00
	\$ 3,225	\$ 17,343	\$ 756	\$ 1,380	\$ 8,232	\$ 1,904	\$ 32,840.00	TOTAL LABOR
								POTENTIAL ODC's
							\$ 500.00	Flyer printing
							\$ 33,340.00	TOTAL BUDGET

January 31, 2023

Dave Duszak

RS&H

4582 South Ulster St, Suite 1100

Denver, CO 80237

720-586-6674 | David.Duszak@rsandh.com

Re: Washington Street
Lighting and Electrical Design Consulting Proposal
Clanton Project #22022

Clanton and Associates proposes to undertake the lighting and electrical consulting for the Washington Street improvements in Denver, CO.

Design Work Total Fee (labor only): \$ 89,800

The scope of work includes:

1. Washington Street improvements between 47th Avenue and 52nd Avenue
2. Traffic signal electrical infrastructure for the new meter pedestals at 47th and 50th
3. Electrical infrastructure for railroad meter pedestal

Assumptions:

1. New streetlights will be owned and maintained by Xcel Energy
 - a. Continuous LED streetlights will be installed along the street
2. New pedestrian lights will be owned and maintained by Xcel Energy
3. New traffic signal infrastructure will be owned and maintained by CCD
4. Specifications will be issued in CDOT format
5. Electrical secondary infrastructure between power supply and signal for railroad crossing signals and streetlights.

Fees are billed hourly not to exceed the contract amount without prior approval. Invoicing will occur monthly based on hours worked. Design services shall include the following:

30% Preliminary Design (FIR)

- Lighting kickoff meeting by teleconference
- Up to two (2) hours of coordination with CCD about streetlight ownership
- Site visit to observe existing electrical conditions, if required
- Establish basis of design
- Lighting design
 - Lighting layout
 - Luminaire selection
 - Lighting calculations
- Power source locations
- Utility coordination
- Tabulation of approximate quantities
- Opinion of Probable Cost

- Up to one (1) submittal (30% set)
- Attendance at two (2) hour 30% Review meeting in Denver, CO

60% Design (DOR)

- Incorporate comments from 30% Review, up to one (1) comment response
- Lighting design
 - Final lighting layout
 - Lighting details
 - Luminaire schedule
- Electrical design
 - Panel schedules
 - Meter power pedestals
 - Conduit routing
- Utility Coordination
- Specifications
- Tabulation of Approximate Quantities
- Opinion of Probable Cost
- Up to one (1) submittal (60% set)
- Attendance at two (2) hour 60% Review meeting in Denver, CO

95% Design (FOR)

- Incorporate comments from 60% Review, up to one (1) comment response
- Lighting design
 - Final lighting layout
 - Lighting details
 - Luminaire schedule
- Electrical design
 - Panel schedules
 - One-line diagrams
 - Meter power pedestals, including short circuit calculations and feeder sizing
 - Circuiting and conduit, including voltage drop calculations and conduit sizing
 - Electrical details
- Utility Coordination
- Specifications
- Tabulation of Approximate Quantities
- Opinion of Probable Cost
- Up to one (1) submittal (90% set)
- Attendance at two (2) hour 95% Review meeting in Denver, CO

100% Design (Bid Set)

- Incorporate comments from 95% review, up to one (1) comment response
- Lighting Design
- Electrical design
- Specification revisions
- Tabulation of Approximate Quantities
- Opinion of Probable Cost
- Up to one (1) submittal (Bid Set)
- Up to one (1) submittal (stamped set)

Project Management

- Team coordination meeting(s), up to twenty-four (24)
- Monthly invoices with progress reports

This scope of work is based upon normal project progress and within the time schedule agreed upon, without major redesign or change order work. Additional fees will be required if project timing is extended or project is put on hold and restarted at later date. If the project timing exceeds one year, additional services rates may increase.

The scope is based on documents and conversations on 3/7/22, 3/9/22, 4/13/22, 4/28/22, 5/12/22, 9/16/2022, and 1/20/2023.

Not included in this scope of work but is available for extra services:

- Additional site visits or meetings
- Additional submittals
- Post design services or services during construction
- Xcel Work order form, BCL applications, and/or meter address applications
- Electrical engineering for non-lighting electrical infrastructure (e.g. traffic signals, ITS equipment, electrical vehicle (EV) infrastructure, electrical receptacles, holiday lighting, smart city and/or small cell infrastructure).
- Significant lighting and/or electrical redesign eight (8) weeks prior to issuing the 95% (FOR) submittal based on client changes such as: changes in streetlight ownership, addition of new electrical service(s), or a change from resetting existing streetlights to new streetlight installation.
- Any development, design, or detailing of custom luminaires
- Lighting for public artwork or art lighting
- Drafting on non-digital backgrounds such as *.pdf or *.jpg files
- Value engineering

Specific exclusions from this scope are as follows:

- Structural engineering
- Equipment procurement
- Commissioning
- Survey control map or Right-of-Way plans
- Subsurface Utility Engineering
- Communication wiring to Traffic Signals

Client will supply Clanton and Associates with review materials and backgrounds in AutoCAD or Micro Station format. Reimbursable expenses shall include printing costs or overnight delivery associated with the project and shall be charged in addition to the compensation for professional services. Payment for services is expected within 30 days of invoice unless other arrangements are made in writing.

Additional services shall be charged per the rates approved in the contract.

EXHIBIT A-3

Washington Street – Design Work
RS&H

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Work hour breakdown

Employee	Nancy Clanton	Annie Kuczkowski	Brandon Renouf	Travis Babcock	David Schmitt	Mary Beth Chasen
Title	CEO	Associate	Senior Designer I	Designer II	Engineer I	CADD Technician
Rate	\$325	\$220	\$155	\$135	\$130	\$100
Hours	16	122	90	42	188	137
Total	\$5,200	\$26,840	\$13,950	\$5,670	\$24,440	\$13,700

Work shall commence upon receipt of a signed copy of this agreement. This agreement is valid for 60 days.



CLANTON & ASSOCIATES

1/31/2023

DATE

RS&H

DATE

January 31, 2023

Dave Duszak

RS&H

4582 South Ulster St, Suite 1100

Denver, CO 80237

720-586-6674 | David.Duszak@rsandh.com

Re: Washington Street – post design services
Lighting and Electrical Design Consulting Proposal
Clanton Project #22022

Clanton and Associates proposes to undertake the lighting and electrical consulting for the Washington Street improvements in Denver, CO.

Design Work Total Fee (labor only): \$ 6,080

The scope of work includes:

1. Washington Street improvements between 47th Avenue and 52nd Avenue
2. Traffic signal electrical infrastructure for the new meter pedestals at 47th and 50th
3. Electrical infrastructure for railroad meter pedestal

Assumptions:

1. New streetlights will be owned and maintained by Xcel Energy
 - a. Continuous LED streetlights will be installed along the street
2. New pedestrian lights will be owned and maintained by Xcel Energy
3. New traffic signal infrastructure will be owned and maintained by CCD
4. Specifications will be issued in CDOT format
5. Electrical secondary infrastructure between power supply and signal for railroad crossing signals and streetlights.

Fees are billed hourly not to exceed the contract amount without prior approval. Invoicing will occur monthly based on hours worked. Design services shall include the following:

Construction Observation

- Up to two (2) team meetings by teleconferences (2 hours total)
- Review lighting equipment submittals (up to two (2) reviews included)
- Review electrical equipment submittals (up to two (2) reviews included)
- Respond to RFIs (up to eight (8) hours)
- Up to one (1) final site visit(s) to punch out project (up to eight (8) hours)
- Punch List

This scope of work is based upon normal project progress and within the time schedule agreed upon, without major redesign or change order work. Additional fees will be required if project timing is extended or project is put on hold and restarted at later date. If the project timing exceeds one year, additional services rates may increase.

EXHIBIT A-3

Washington Street – post design services
RS&H

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The scope is based on documents and conversations on 3/7/22, 3/9/22, 4/13/22, 4/28/22, 5/12/22, 9/16/2022, and 1/20/2023.

Not included in this scope of work but is available for extra services:

- Additional site visits or meetings
- Additional submittals
- Plan revisions
- As-builts
- Xcel Work order form, BCL applications, and/or meter address applications
- Value engineering

Specific exclusions from this scope are as follows:

- Structural engineering
- Equipment procurement
- Commissioning
- Survey control map or Right-of-Way plans
- Subsurface Utility Engineering
- Communication wiring to Traffic Signals

Client will supply Clanton and Associates with review materials and backgrounds in AutoCAD or Micro Station format. Reimbursable expenses shall include printing costs or overnight delivery associated with the project and shall be charged in addition to the compensation for professional services. Payment for services is expected within 30 days of invoice unless other arrangements are made in writing.

Additional services shall be charged per the rates approved in the contract.

Work hour breakdown

Employee	Annie Kuczkowski	Brandon Renouf	David Schmitt
Title	Associate	Senior Designer I	Engineer I
Rate	\$260	\$185	\$160
Hours	15	4	9
Total	\$3,900	\$740	\$1,440

Work shall commence upon receipt of a signed copy of this agreement. This agreement is valid for 60 days.



CLANTON & ASSOCIATES

01/31/2023

DATE

RS&H

DATE



May 6, 2022
(Revised May 10, 2022)

RS&H, Inc.
Dave Duszak, PE, PTOE
4582 South Ulster Street, Suite 1100
Denver, CO 80237

**RE: Proposal for Geotechnical Engineering Services (Revision 2)
Washington Street Livability Project (East 47th Avenue to East 52nd Avenue)
City and County of Denver, Colorado**

Dear Mr. Duszak:

This letter summarizes our proposed scope of services and estimated costs to provide geotechnical engineering services for the proposed Washington Street Livability project in the Globeville neighborhood in the City and County of Denver (CCD), Colorado. Washington Street is an asphalt-paved, north-south vehicle and truck route located north of downtown Denver that classifies as an Arterial roadway as per the 2017 City and County of Denver Street Classifications map. Washington Street services primarily industrial and commercial/retail development including gas stations, liquor stores, local small businesses, and large industrial employers. The project site contains historical land use and is known to contain contaminated materials in the upper reaches of the ground surface.

This proposal that addresses the geotechnical exploration for final design for the project corridor supersedes the proposal Geocal previously submitted (dated November 2, 2018) to TSH, Inc. (now RS&H, Inc.) regarding the preliminary geotechnical exploration for Phase #1 (Washington Street from 47th Avenue north to the CCD limits: 10% to 30% design). We are assuming that multiple mobilizations may be needed for this project depending on whether a preliminary geotechnical exploration is requested by CCD and/or directed by the procedural requirements outlined by the National Environmental Policy Act (NEPA). Geotechnical and design work related to the INVEST program associated with this project are not included within this proposal but are included in a subsequent proposal to RS&H.

Proposed Construction

We understand that CCD, in association with the Department of Transportation and Infrastructure (DOTI) and Federal Highway Association (FHWA), are planning to improve the Washington Street corridor between East 47th Avenue and East 52nd Avenue. Based on information in the FHWA grant provided to Geocal by RS&H, the roadway and multimodal improvements along the Washington Street corridor may include, but are not limited to, the following:

- A more efficient lane configuration for Washington Street that requires shifting the roadway alignment slightly to the east (no widening of the roadway anticipated),
- New pavement for Washington Street (new asphalt or concrete pavement),
- Widened pedestrian sidewalks,

EXHIBIT A-3

Dave Duszak, PE

Proposal for Geotechnical Engineering Services

Washington Street Livability Project (East 47th Avenue to East 52nd Avenue)

May 6, 2022 (Revised May 10, 2022)

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- Bicycle paths/lanes,
- Smart-traffic signals at the intersections of 47th Avenue and 50th Avenue,
- A traffic signal on either side of the Burlington Northern Santa Fe (BNSF) railroad tracks,
- Energy efficient utilities (e.g., streetlights),
- Vegetated planters between the roadway pedestrian walkways,
- Americans with Disability Act (ADA) compliant improvements, and
- Improved access to transit (e.g., enhanced Regional Transportation District (RTD) bus stops).

Site Geology

Published geologic mapping (*Geologic Map of the Commerce City Quadrangle, Adams and Denver Counties, Colorado*, U.S. Geological Survey. Geologic Quadrangle Map GQ-1541, 1980) indicates that the surficial soil at the site consist of Post-Piney Creek Alluvium (light to dark brown clay, silt, sand, and gravel) overlying Broadway Alluvium (pink to light brown well-stratified sands and gravels). Artificial fill is denoted on the map northeast of the intersection of Washington Street and East 52nd Avenue. The artificial fill is noted as consisting of clay, silt, sand, and gravel with the possibility of containing various debris and deleterious material including, but not limited to, building debris, coal, vegetation, trash, and other debris. The thickness of the surficial soils at the project area is estimated at approximately 30 feet to 40 feet beneath existing grades. The Denver Formation (bedrock) underlies the surficial soils. The Denver Formation is indicated as consisting of bluish gray to brown claystone interbedded with sandstone, siltstone, shale, and conglomerate. Groundwater is estimated at approximately 10 feet to 20 feet beneath existing grades. The depth to groundwater is expected to fluctuate depending on seasonal weather and precipitation variations.

Proposed Scope of Work

Based on the FHWA grant provided by RS&H, we estimate that a total of 17 geotechnical borings will be drilled along the Washington Street corridor. The following table summarizes the proposed geotechnical exploration:

Feature	No. of Borings	Approximate Boring Location	Approximate Depth
Washington Street Pavement	11	Existing Washington Street	5 feet to 10 feet
Signal Poles at 47 th Avenue	2	Northwest/Northeast Corners	25 feet
Signal Poles BNSF Railroad Crossing	2	North/South sides of railroad	25 feet
Signal Poles at 50 th Avenue	2	Southeast/Northwest Corners	25 feet

If the scope of the project 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 RS&H to ensure that all required information will be captured. As the design currently exists, our field exploration will consist of the following:

- 1) **Predrilling Operations:** Prior to the field work, we will apply for all necessary permits for our operations including, but not limited to, a Public Works Permit through CCD. Upon receiving the necessary permit(s), a field geologist will stake the approved boring locations and provide our drilling subcontractors with a proposed boring location map for use in calling in utilities. We have assumed

EXHIBIT A-3

Dave Duszak, PE

Proposal for Geotechnical Engineering Services

Washington Street Livability Project (East 47th Avenue to East 52nd Avenue)

May 6, 2022 (Revised May 10, 2022)

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that some utility site meetings and boring location adjustments may be required prior to drilling. Borings may be drilled on or near private property in which case private utility locates will be needed. We are assuming that a private utility locator will be needed, and that RS&H will coordinate with the private property owners for access for Geocal to perform the geotechnical exploration on their property. Also, the pavement and signal pole borings proposed near 48th Avenue will be drilled beyond the BNSF Railroad Right-of-Way (ROW). Coordination with BNSF is not anticipated prior to field work.

- 2) **Drilling Operations:** After utilities have been cleared, a Geocal field geologist and subcontracted drillers will mobilize to the site to commence soil sample collection. Borings will be drilled with a truck-mounted drill rig equipped with either 6-inch solid-stem augers or 4¼-inch inside-diameter (I.D.) hollow-stem augers. The existing pavement will be cored and the pavement thickness will be measured. A Geocal field engineer or geologist will log the borings, record groundwater levels (if encountered), record the results of the penetration tests, and obtain representative soil samples. Soil (and bedrock if encountered) will be sampled with modified California and split spoon samplers using procedures similar to ASTM D 1586. Disturbed bulk samples will be collected from each of the borings within about the upper 5 feet of pavement subgrade.

Additionally, a manual pavement condition survey (performed in accordance with the Colorado Department of Transportation (CDOT) 2021 M-E Pavement Design Manual) will be conducted of the existing pavement along the project corridor to identify areas of increased distress and/or failure. This will be conducted either during the staking of the boring locations or concurrent with drilling. The results of the pavement distress survey, the field exploration, and the laboratory testing will be used to perform a Life Cycle Cost Analysis (LCCA) for the pavement along the project corridor.

The borings will be backfilled and abandoned pursuant to CCD requirements immediately after drilling unless a monitoring well is expected to be installed in the boring. We are assuming that placing possibly contaminated auger cuttings can be used as backfill to abandon the borings. However, our cost provides for drumming a significant amount of cuttings and for disposal of the cuttings at the Denver Arapahoe Disposal Site (DADS). At least four (4) drums are expected to contain contaminated material (asbestos, contaminated soil, decontamination water, other waste/debris) for disposal at DADS. We will supplement the onsite backfill materials with imported sand and gravel. Based on the current scope, we anticipate the field work will be completed within about five (5) business days.

- 3) **Environmental:** We understand that Pinyon Environmental, Inc. (Pinyon) is involved in the environmental data review for contaminated materials and will assist us during drilling if it is determined that monitoring during drilling is necessary. We have not included the fees related to environmental monitoring during drilling. However, we have included the disposal fees of the contaminated materials in this proposal.
- 4) **Traffic Control:** We are assuming that traffic control will be required for the borings drilled through the Washington Street pavement. For borings drilled off the roadway, but still in the ROW, we are assuming that no traffic control except for signs and cones will be needed.

EXHIBIT A-3

Dave Duszak, PE

Proposal for Geotechnical Engineering Services

Washington Street Livability Project (East 47th Avenue to East 52nd Avenue)

May 6, 2022 (Revised May 10, 2022)

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- 5) **Groundwater:** We are assuming that no groundwater monitoring wells will be installed for this project. However, groundwater observations will be made at the time of drilling.
- 6) **Lab Testing:** Samples (excluding samples that are determined to be contaminated by Pinyon or contain deleterious material) collected during drilling will be transported to our laboratory, and selected soil samples will be programmed for testing. Typical laboratory tests will include gradation, Atterberg limits (liquid and plastic limits), moisture content, dry unit weight, swell-compression, unconfined compressive strength, R-value, and chemical tests including water-soluble sulfates, water-soluble chlorides, pH, and resistivity. Test results will be used to inform geotechnical recommendations for design.
- 7) **Geotechnical Reporting:** A single report will be prepared under the direction of a Colorado-registered professional engineer that will contain the results of our field exploration and laboratory testing programs. The results will be evaluated to provide geotechnical recommendations for design of the improvements along Washington Street including new pavement and signal pole foundations. Geocal's written report will be written to summarize at least the following:
 - Introduction and proposed construction,
 - Site geology and physical description of the site,
 - Brief review of field and laboratory procedures,
 - Subsurface conditions encountered (soils, bedrock, and groundwater),
 - Results of the field and laboratory testing,
 - Results of the pavement condition survey,
 - Foundation recommendations for signal poles (in accordance with the latest edition of the *CDOT M&S Standards*),
 - Subgrade preparation for the roadway as well as the bus pads along the route in accordance with the latest edition of the *RTD Bus Infrastructure Design Guidelines and Criteria*,
 - Results of the LCCA (in accordance with CDOT procedures), and
 - Pavement design recommendations for Washington Street in accordance with the *2019 Metropolitan Government Pavement Engineers Council (MGPEC) Pavement Design Standards*.

Exclusions: The following items are excluded from this estimate but, if requested, may be added to our scope with additional costs:

- Time and materials for groundwater monitoring wells,
- Decontamination impoundment (and associated equipment and costs),
- Subsurface exploration and recommendations for utility installation, and
- Percolation tests for planters/landscaping along alignment.

Assumptions: In preparing this estimate, we have made the following assumptions:

- The applicable permitting entity for this project is CCD. A Public Works Permit will be applied for prior to performing the field work. All permitting fees (if incurred) will be waived.

EXHIBIT A-3

Dave Duszak, PE

Proposal for Geotechnical Engineering Services

Washington Street Livability Project (East 47th Avenue to East 52nd Avenue)

May 6, 2022 (Revised May 10, 2022)

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- CCD will allow unrestricted weekday, daylight hours for field operations. Geocal will abide by the time restrictions as indicated by CCD and DOTI.
- Cut and fill depths along the alignment will be nominal.
- Some utility site meets and boring adjustments will be needed depending on the locations of utilities.
- A private utility locator will be needed for the borings proposed to be drilled on private property.
- RS&H will coordinate with the private property owners for access for Geocal to perform the geotechnical exploration on their property.
- Pavement and signal pole borings that are planned to be drilled on Washington Street near 48th Avenue will be drilled beyond the BNSF Railroad ROW. No coordination will be conducted with the railroad for field operations.
- Traffic control will be required for the borings drilled within the existing pavement of Washington Street. Only signs and cones will be needed for the borings drilled beyond the pavement of Washington Street.
- The field exploration may require at least two mobilizations: one mobilization for preliminary design and one mobilization for final design (depending on project timeline as determined by RS&H/CCD).
- No groundwater monitoring wells are expected to be installed.
- Geocal will work to minimize damage to existing grass/landscaping if a boring is drilled off the roadway in grassy/landscaped areas. However, Geocal is not responsible for restoration costs if the grasses/landscaping are damaged by the drill rig during the field exploration.
- Some potholing of the boring locations may be needed prior to drilling due to the potential for old/abandoned utilities to be present in the subgrade.
- Pinyon will supply Health & Safety monitoring and guidance during field operations. Pinyon will also arrange waste profiles and obtain approved manifests for disposal at DADS for contaminated soil and groundwater.
- The new pavement for Washington Street will be either asphalt or concrete. However, overlay of the existing pavement in certain sections may also be considered. Pavement designs for the cross-streets along Washington are beyond the scope of this project.
- The LCCA will be conducted in addition to performing the pavement design in accordance with MGPEC procedures.
- The pavement condition survey may be conducted concurrently with the drilling in order to minimize the amount of traffic control needed for the field work.
- RS&H/CCD will provide Geocal with the information needed to perform the LCCA (i.e., traffic data, volumes, cost, etc).

Proposed Schedule and Fee

Due to the potential for unmarked/abandoned utilities to exist in the subgrade, potholing of the site may also be needed. If it is determined that potholing is needed, an additional \$2,000.00 potholing charge will be added to our proposed fee. Our proposed fee to conduct the field work and report preparation is estimated at:

Price without Potholing: \$61,074.00

Price with Potholing: \$63,074.00

EXHIBIT A-3

Dave Duszak, PE

Proposal for Geotechnical Engineering Services

Washington Street Livability Project (East 47th Avenue to East 52nd Avenue)

May 6, 2022 (Revised May 10, 2022)

Page 6 of 6

Our proposed fee to perform the work is summarized in the attached Table 1. This estimate will not be exceeded without prior approval. We can initiate work within three weeks of being given Notice-To-Proceed (NTP), with the initial activity being coordination with RS&H and CCD regarding site access and the locations of the exploratory borings. After the permit is approved/received from CCD, the borings will be staked, and utilities cleared. We estimate that our drilling program will require about five (5) business days to complete, and a draft report of our findings should be available within about 2 months of NTP. Specific times may vary depending on equipment/driller availability, permitting issues, weather, site access, and utility clearances. Significant delays may also occur if adverse hazardous materials are encountered. We will keep you informed of our progress and any information available.

We appreciate having the opportunity to assist you with this project. If you have any questions or need additional information, please feel free to give us a call at (303) 337-0338.

Sincerely,

GEOCAL



Matthew Coen, E.I.
Staff Engineer



Nur Hossain, Ph.D., P.E.
Principal Engineer

Attachment: Table 1 – Cost Estimate for Geotechnical Engineering Services

MC-NH/P22.2000.031

EXHIBIT A-3

Table 1 - Cost Estimate for Geotechnical Engineering Services (Revision 2)					
Washington Street Livability Project (47th Avenue to 52nd Avenue)					
City and County of Denver, Colorado					
GEOCAL May 10, 2022 (P22.2000.031: RS&H)					
Drill 17 borings (11 pavement borings and 6 signal pole borings). The pavement borings will be drilled to depths ranging from approximately 5 feet to 10 feet beneath existing grades. The signal pole borings will be drilled to maximum depths of 25 feet. Geocal project management, field engineering, drill supervision and lab analysis will be from Centennial. Drilling and traffic control sub-contractors will be from Denver. Five (5) business days are anticipated to complete the field work.					
Item	Title/Classification	Unit	Quantity	Unit Price	Amount
Pre-Drill Field Engineering & Project Planning					
Project Meetings & Communications with Client	Senior Project Manager	Hour	12	\$ 198.00	\$ 2,376.00
<u>Pre-Drill Coordination</u> -Applying for required permits/coordination with the City and County of Denver and RS&H -Scheduling drilling, traffic control, environmental, soil disposal -Arranging UNCC utility clearances through drill contractor -Utility clearances	Geologist	Hour	16	\$ 100.00	\$ 1,600.00
Staking/Site Meet(s) -Staking 17 boring locations -Assumes at least 2 site meets (with Client/Utility Personnel) -Pavement Condition Survey	Geologist	Hour	14	\$ 100.00	\$ 1,400.00
Geotech Drilling Supervision , plus directly related time					
Pre-trip supply load, post-drill cleanup, stage and review logs/samples, backfill gravel material, replenish equipment	Geologist	Hour	5	\$ 100.00	\$ 500.00
Drill site activities includes logging borings, abandoning borings, etc. (5 days x 8 hrs/day)	Geologist	Hour	40	\$ 100.00	\$ 4,000.00
Decontamination of equipment and post-drill clean-up, dispose of geotechnical samples not cleared for analysis	Geologist	Hour	5	\$ 100.00	\$ 500.00
Backfilling sand	-	Bag	15	\$ 12.00	\$ 180.00
Bentonite	-	Bag	13	\$ 32.00	\$ 416.00
Asphalt Cold Patch	-	Bag	8	\$ 24.00	\$ 192.00
Laboratory Testing					
Materials Technician	Materials Technician	Each	76	\$ 85.00	\$ 6,460.00
Laboratory Manager	Laboratory Manager	Each	8	\$ 100.00	\$ 800.00
Report Preparation & Design Review Services					
Graphics/CAD, figures, logs/location map, lab data	Geologist	Hour	20	\$ 100.00	\$ 2,000.00
Pavement Distress Survey summary, pictures	Geologist	Hour	8	\$ 100.00	\$ 800.00
Figures check, site description, data, analysis, geotechnical recommendations, pavement design, draft and final report	Project Engineer	Hour	56	\$ 125.00	\$ 7,000.00
Perform LCCA in accordance with CDOT procedures	Project Engineer	Hour	50	\$ 125.00	\$ 6,250.00
Assistance with developing pavement related specifications, design & cost estimate review	Project Engineer	Hour	40	\$ 125.00	\$ 5,000.00
Project Manager, reviewing report, Client follow-up meetings, etc.	Senior Project Manager	Hour	10	\$ 198.00	\$ 1,980.00
Principal Engineer, report review	Principal-In-Charge	Hour	3	\$ 245.00	\$ 735.00
					\$ 42,189.00
Other Direct Costs (Billed at Cost)					
Sub-Contracted Costs, Drilling (Denver)					
Utility clearance	-	Lump Sum	2	\$ 200.00	\$ 400.00
Geotech Drill Days - Truck-mounted rig with SSA/HSA (5 days)	-	Hour	40	\$ 200.00	\$ 8,000.00
Sub-Contracted Costs, Decontamination					
Transport of soil cuttings to Denver Arapahoe Disposal Site, four drums	-	Hour	4	\$ 100.00	\$ 400.00
Support Truck for crew transport and to transport water, drums, steam cleaner and decontamination equipment.	-	Day	5	\$ 300.00	\$ 1,500.00
Flatbed trailer	-	Day	5	\$ 150.00	\$ 750.00
55 Gal Drums for drill cuttings and decon water	-	Each	4	\$ 60.00	\$ 240.00
Drummed Soil, Waste, Debris, PPE Disposal Fee - asbestos contaminated soils	-	Each	4	\$ 145.00	\$ 580.00
Sub-Contracted Costs, Private Utilities					
Private Utility Locator	-	Hour	3	\$ 260.00	\$ 780.00
Sub-Contracted Costs, Traffic Control (Denver)					
Traffic Control Supervisor, truck + equipment	-	Day	4	\$ 735.00	\$ 2,940.00
Flaggers (x 2)	-	Day	4	\$ 480.00	\$ 1,920.00
Signs, Cones, Arrowboard, Equipment Rental	-	Day	5	\$ 275.00	\$ 1,375.00
					\$ 18,885.00
Estimated Geotechnical Total (without potholing):					\$ 61,074.00
Sub-Contracted Costs, Potholing (if needed)					\$ 2,000.00
Estimated Geotechnical Total (with potholing):					\$ 63,074.00
NOTES/ASSUMPTIONS: (1) The only permitting authority for this project is the City and County of Denver (Public Works Permit). Any associated fees will be waived. (2) CCD will allow unrestricted weekday, daylight hours for field operations. Geocal will abide by the time restrictions as indicated by CCD and DOTI. (3) Some utility site meets and boring adjustments will be needed depending on the locations of utilities. (4) A private utility locator will be needed for the borings proposed to be drilled on private property. (5) RS&H will coordinate with the private property owners for access for Geocal to perform the geotechnical exploration on their property.					

EXHIBIT A-3



Table 1
Cost Estimate 2nd Rate Steet for
Construction Testing and Documentation Services
Washington Street Improvements (47th to 52nd)
City and County Denver

Personnel	Unit	Rate	Quantity	Amount
Principial In Charge	Hour	\$ 257.25		\$ -
Senior Project Manager	Hour	\$ 207.90		\$ -
Construction Manager	Hour	\$ 199.50		\$ -
Project Engineer	Hour	\$ 131.25		\$ -
Staff Engineer	Hour	\$ 105.00		\$ -
Geologist	Hour	\$ 105.00		\$ -
Operations Manager	Hour	\$ 194.25	60	\$ 11,655.00
Laboratory Manager	Hour	\$ 105.00		\$ -
Senior Constrtuction Inspector	Hour	\$ 131.25	210	\$ 27,562.50
Construction Inspector	Hour	\$ 110.25		\$ -
Senior Materials Technician	Hour	\$ 99.75		\$ -
Materials Technician	Hour	\$ 89.25	2,800	\$ 249,900.00
subtotal:				\$ 289,117.50

Direct Costs

Proctor	Each	\$ 131.25	10	\$ 1,312.50
Gradation	Each	\$ 68.25	10	\$ 682.50
Atterberg	Each	\$ 68.25	10	\$ 682.50
Micro Devals	Each	\$ 199.50	2	\$ 399.00
Direct Shear	Each	\$ 446.25	0	\$ -
Asphalt Content	Each	\$ 115.50	18	\$ 2,079.00
Max Theoretical Value (Rice)	Each	\$ 89.25	18	\$ 1,606.50
Thickness Cores	Each	\$ 31.50	40	\$ 1,260.00
Hveem/Stability	Each	\$ 126.00	9	\$ 1,134.00
Voids/VMA	Each	\$ 341.25	9	\$ 3,071.25
R-value	Each	\$ 498.75	2	\$ 997.50
LA Abrasion	Each	\$ 288.75	2	\$ 577.50
Asphalt Content Calibration	Each	\$ 525.00	2	\$ 1,050.00
Concrete Cylinders (set of 6)	Each	\$ 33.00	100	\$ 3,300.00
subtotal:				\$ 18,152.25

Estimated Total Cost: \$ 307,269.75

This estimate is based on the anticipated day count and the quantities found within the conceptual level project documents. Preliminary and Final Design documents were not yet developed at the time of this estimate. We have also assumed that the contractor will perform coring on the HMA for thickness/density verifications. Actual invoiced amount will be a function of contractors' efficiency and the total will be more or less than the estimated total shown. This anticipated duration of this project is expected to be 24 months. Services will be charged portal to portal from our office in Centennial and the unit rates identified include vehicle mileage, standard tools and equipment. These rates suitable for overtime services as well. Other civil inspections and tests requested and not identified in this proposal can be provided upon request. The above quoted rates are from our proposed 2022 rates for the Washington Street contract. This estimate does include providing services for completing the documentation required in the CDOT Field Materials Manual for Local Agency Projects.

EXHIBIT A-3

H. C. Peck & Associates, Inc.

RS&H/CITY & COUNTY OF DENVER WASHINGTON STREET IMPROVEMENTS - 47TH TO 52ND SCOPE OF SERVICES - TIME & COST ESTIMATES

This Scope of Services - Time & Cost Estimate is predicated on the following assumptions as of October 5, 2022 - acquisition of property/property rights from 50 parcels with 38 (effective) owners; one billboard, plus acquisition of property rights/modified license agreement to cross BNSF Right of Way. Relocation efforts are not included herein. If agreement cannot be reached to acquire property through negotiated settlements, the file or files will be turned over for condemnation. All the following activities will be performed in compliance with applicable law, policies, guidelines and procedures.

	Sr. Project Manager Hrs	Project Manager Hrs	Sr. R/W Agent Hrs	Agent III Hrs	Agent II Hrs	Total \$
Principal: oversight/troubleshooting (120 hrs at \$168/hr.)						\$20,160.00
Principal: assistance with the BNSF acq. (48 hrs at \$168/hr.)						\$8,064.00
1 Project administration, which includes the creation, maintenance and periodic distribution of project status reports, project meetings, coordination with the project team, appraisers, CDOT, landowners and landowners' counsel, assistance with CDOT ROW clearance and yearly FHWA reporting requirements.	800					\$120,000.00
2 Prepare 51 narrative appraisals for affected properties and billboard per the CDOT Manual (cost + 5%) *See note below.						\$455,175.00
3 Prepare/send: Notices of intent, offer letters, final offer letters, conveyance documents, and any additional correspondence with property owners.	160				400	\$64,000.00

EXHIBIT A-3

H.C. Peck & Associates, Inc.

October 5, 2022

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4	Conduct negotiations with each owner for the acquisition of the property to be acquired based on the approved fair market value.	200	240	300	300	\$123,600.00
5	Processing PSAs	220				\$33,000.00
6	Obtain tax prorations and partial releases of financial encumbrances.			160	500	\$67,920.00
7	File closeout/QA/QC/distribution	80		165	165	\$46,980.00
8	Estimate of Reimbursable Expenses.					\$3,000.00
TOTAL TIME & COST ESTIMATE		<u>1460</u>	<u>240</u>	<u>625</u>	<u>1365</u>	<u>\$941,899.00</u>

Project tasks may (as appropriate or convenient) be performed by any member of our management or staff.

*The need to fully appraise project parcels will be determined once impacts to parcels are known. For those not appraised, Waiver Valuations (based on appraisal data) will be prepared and processed. The level of effort for this work product typically does not exceed \$500 each.

The appraisers with whom we work strive to meet the 90-day deadline as proscribed in CRS 38-1-121, but for a multitude of reasons H.C. Peck & Associates, Inc. will not guarantee this window will be met. There are many reasons why: i) given the relatively small number of eminent domain-qualified appraisers, most are working on multiple projects simultaneously; ii) in connection with the forgoing, actual start of the valuation process as opposed to anticipated start (i.e., project delays); iii) delays (not caused by the appraiser) in confirming comparable sales; iv) non-responsive landowners; v) uncooperative landowners, both in terms of meeting onsite and in providing information that may affect land value or highest and best use; vi) delays in the receipt of engineering plans and specs; and vii) last but not least, having to prepare for and participate in litigation-related matters on short notice.

Title work, closing services, and title insurance are not included in this Cost Estimate (all covered via CCD direct bill). Peck will conduct closings at the (Division of Insurance) posted fee. Currently, that fee is \$600/closing but may increase in 2023. As requested, Peck can provide title insurance through our underwriter, Westcor Land Title Insurance Company, for an additional charge (posted rates).

Litigation support will be billed at \$200.00/hour and is not included in this cost estimate. (This rate does not include the project appraisers.)

EXHIBIT A-3

H.C. Peck & Associates, Inc.

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H. C. Peck & Associates, Inc. will not be responsible for any delays by other consulting firms, nor any delays caused by Federal, State, or City officials. Notwithstanding any other provisions hereof, this Right-of-Way Cost Estimate is conditional upon and subject to the aforementioned assumptions. In the event other matters are required to be performed outside those described in the Scope of Work per the contract, negotiations exceed the industry standards for a "good faith effort to negotiate", or there are changes in the pertinent information provided at the inception of the project, H. C. Peck & Associates, Inc. reserves the right to amend its Right-of-Way Cost Estimate.

HOURLY RATES

* Principal	\$168.00
* Sr. Project Manager	\$150.00
* Project Manager	\$133.00
* Sr. Right of Way Agent	\$125.00
* Right of Way Agent III	\$112.00
* Right of Way Agent II	\$100.00
* Right of Way Agent I	\$85.00
* Title Staff	\$137.00

Proposed Cost Estimate and the above rates do not include the following expenses reimbursable at

Reproduction Costs (third party)

Wire Transfers

Above reimbursable expenses are estimated to be: \$3,000.00

The above cost estimate is based upon average negotiation times and average expenses for a typical project and is intended to be used to establish a working budget for this project. Actual hours performing the work based upon certified time sheets and actual expenses will be billed on a monthly basis as work progresses. Invoices are due 30 days from receipt.

By: J E Parker, Jr. E.V.P.
H. C. Peck & Associates, Inc.

Date: 10/5/22

SCOPE OF SERVICES

Based on the correspondence with RS&H in spring and summer 2022, we understand that the following urban design and streetscape services will be required to complete the full design of Washington Street from 47th Avenue to 52nd Avenue based on the recently awarded FHWA RAISE grant.

The scope of work to be performed in connection with this agreement is as follows:

Task One | Project Management

This task is in support of RS&H's management of the project with the City and County of Denver. Livable Cities Studio's efforts in this task are to support the overall team and would include the following:

- Attend project kick-off meeting
- Attendance at up to twenty-six (26) bi-weekly consultant team meetings
- Attendance at up to twenty (20) PMT/technical team meetings with the City of Denver
- Monthly invoicing and reporting
- Coordination of tasks related to the landscape architecture scope of work

Task Two | Community Engagement

Livable Cities Studio will assist RS&H in stakeholder and community engagement for scope areas related to landscape and urban design throughout the duration of the project.

Task Description

- Attend up to two (2) public meetings
- Participate in up to four (4) stakeholder meetings
- Preparation of boards or exhibits for public and stakeholder meetings with a focus on urban design, streetscape, and landscape content.

The following products will be prepared/delivered:

1. Meeting display boards specific to landscape and urban design scope for three (3) public meetings
2. Develop presentation slides for streetscape and urban design scope for 3 stakeholder meetings

Task Three | Signage and Wayfinding Design

Vision and Strategy: Before a sign system can be designed for the corridor, the team and Stakeholders will meet as part of the Community Engagement and Stakeholder Meetings to establish a collective and shared vision for the focus area of the corridor. The results will inform the strategic foundation for the planning and design of the signage and wayfinding elements as they relate to the Washington Street corridor. The meeting will include a verification of the strategy and design principles that will guide the schematic design options. *Note: A tour of the site will be necessary with the team and Stakeholders as part of the Kick-Off Meeting.*

The following products will be prepared/delivered:

1. Meeting display boards specific to Signage and Wayfinding for one (1) public meeting
2. Develop presentation slides for streetscape for Signage and Wayfinding for one (1) stakeholder meeting
3. Summary document of the results of the Vision and Strategy established during the meetings

Corridor Sign Location Plan and Schematic Design for Determined Elements (30% design)

Based on the Vision and Strategy results, we will prepare and present the Draft Identity and Wayfinding Elements Plan to the City and other Stakeholders to begin to determine the location, quantities and function of all proposed elements. It will address the following anticipated types:

- Vehicular: Welcome to Globeville Entry Sign (and both Denver and Adams County entrances), Vehicular Directional and Corridor Banners on light posts.
- Pedestrian: Pedestrian Directional system, Globeville Historic Interpretive (story telling) system.
- Bicycle: Wayfinding for cyclists can be considered based on AASHTO Standards and Guidelines.

With the determination of the family of sign types, a schematic design direction for each will be established. The presented drawings will include *two to three* possible variations of *schematic design including*, format, size, colors, proposed products and materials. The goal is to establish a preferred direction for each element. Historic research will be necessary to address the possible story telling opportunities.

Note: Other sign elements may be required based on the findings of the Sign Location Plan. It is assumed the standard required Vehicular Regulatory Signs (Stop, Speed Limit, etc.) will be included as part of the Engineer's scope of work.

The following products will be prepared/delivered:

1. Draft Sign Location Plan specific to Signage and Wayfinding for one (1) stakeholder meeting. The plan can also be presented during one of the public meetings
2. Summary document of the preferred Schematic Design direction for each element established during the meeting(s)

Design Development and Cost Budgeting for all Sign Elements (60% design)

Based on the selected preferred concept direction established in Schematic Design, we will prepare and present to the City and Stakeholders a refined final design direction with a complete family of sign elements and expanded details. We anticipate specifying available products for banner armature/connections.

Note: All site signs will comply with ADA requirements for mounting heights, acceptable typefaces, size, contrast and materials.

We will obtain cost estimates from two (2) Regional Sign Contractors to verify the desired sign elements are within the established budget(s).

The following products will be prepared/delivered:

1. Developed Sign Location Plan for Signage and Wayfinding for one (1) stakeholder meeting
2. Summary document of the developed design of the sign program
3. Cost estimates from two (2) Regional Sign Contractors

Design Intent Drawings for Fabrication (100% design)

A complete sign program Design Intent Document will be prepared that provides more in-depth element component construction details for the identity elements. Renderings of sign program design(s) and some key details will be included. Although the document will contain specific fabrication details, specifications and notes, it is in lieu of traditional Architectural Construction Documents. As an alternative, these design intent drawings can be integrated into the Landscape Architect's 100% Design drawing set. *Note: The final selected sign fabricator will provide final contract Shop Drawings during the fabrication process.*

The following products will be prepared/delivered:

1. Design Intent Drawings for fabrication

Exclusions

- *Special formatting of design documents and/or presentations to other authorities (CDOT, etc.) or groups not noted (these can be billed on an hourly basis, if required)*
- *Coordination of Bidding, Fabrication and Installation*

Task Four | Preliminary Design (30%)

Livable Cities Studio will build upon the previous planning efforts and partially complete analysis work completed in 2019 to develop preliminary design plans for urban design, streetscape and placemaking. Preliminary design packages will be submitted to the City through the ER process as part of the 30% design submittals.

Task Description

- Review of relevant planning work, grant application, and other documents.
- Reassess and conduct contextual inventory and analysis along with site visit.
- Precedent research identifying similar streetscapes and projects that can be used to inform the design features, character, design, cost, implementation, and maintenance assumptions for the project.

- Develop conceptual design framework to guide overall character and improvements related to realignments at select key intersections, including the integration of innovative public spaces, wayfinding, signage, etc.
- Integration of bicycle and pedestrian facilities with the streetscape design, including creative ways to effectively demarcate pedestrian and bicycle zones.
- Develop up to three (3) renderings, visualizations, illustrations and illustrative concepts for stakeholder meetings, Public Meetings and for the City's use, including boards and PowerPoint presentations.
- Develop up to four (4) renderings or exhibits showing options for level of design (green infrastructure, landscape, trees, materials, etc.) to be used in property owner conversations about a special district. Conversations will be led by others.
- Prepare 30% design for the landscaping and streetscape, including full streetscape design concepts and 30% design for sidewalk paving and streetscape elements such as furnishings, plantings, signage and wayfinding, and design of street side stormwater planters.
- Select preliminary list of plant materials, plant character types, and general locations of plants that will be low maintenance, capable of being planted in innovative stormwater facilities and reflect the community's vision of an innovative and sustainable community.
- Support electrical and lighting analysis and design to coordinate street and pedestrian light locations with the preferred streetscape module.
- Support corridor water quality design as it pertains to corresponding streetscape and landscape elements.
- Calculate quantities for and develop streetscape, landscape quantity tabulations for preliminary review.
- Coordinate Livable Cities work with other consultants retained by Civil Engineer.

The following products will be prepared/delivered:

1. Memorandum and/or exhibit summarizing site visit observations and summary of previous plans and studies.
2. Analysis exhibits and design framework with goals and objectives
3. Up to four (4) renderings / exhibits for special district conversations.
4. Precedent images/boards to help confirm preferences and design parameters
5. Preliminary Design (30%) landscape sheets to be included in the Civil Engineer's design package, including the following:
 - a. General Landscape Notes
 - b. Planting Plan(s)
 - c. Layout and Materials Plans
 - d. Preliminary Details
6. Preliminary Design level opinion of probable landscape construction cost and/or coordination with Civil Engineer.

Task Five | Landscape, Streetscape and Urban Design (60, 90, 100, bid)

Based on the Preliminary Design submittal, and considering comments received during the Preliminary Design Phase, Livable Cities will prepare Final Design drawings. The Final Design landscape documents will be included in the Civil Engineer's package and submitted through the City's ER process. Final Design packages will include 60%, 90%, 100% submittals, and Final Construction Documents. The general objective for this phase of the work is to prepare final documentation drawings that incorporate the most current information regarding construction practices.

Task Description

- Prepare layout plans for pedestrian pavements, planting areas and other streetscape elements.
- Prepare materials plan showing types of pavement, planting areas, and other site elements.
- Prepare planting plan showing tree and/or shrub and turf locations and a complete plant material schedule.
- Prepare details and reference sections of the above-described landscape materials with information required for construction, installation, and finishing of landscape components of the project.
- Layout of site furnishings.
- Coordinate and work with the team on the bike facility and multi-use path.
- Coordination of design with bus stops and transit features.
- Support RS&H design with aesthetic treatments and details.
- Design an irrigation system(s) for corridor landscaping.
- Support water quality analysis & design with regard to landscape design and the proposed water quality and any other water quality features integrated into the streetscape.
- Coordinate street light and pedestrian light locations with streetscape module.
- Prepare technical specifications for landscape improvements and/or site features described by the above listed drawings.
- Prepare up to three (3) illustrative renderings and visualizations to assist with public engagement.
- Develop 60%, 90% review, final review and 100% bid plans and specifications for landscape, streetscape, and irrigation.
- Develop streetscape, landscape and irrigation quantity tabulations for 30%, 90% review, final review and bid. Provide unit costs for pay items in the tabulations.
- Conduct/Attend coordination meetings with the City on streetscape and landscape irrigation.
- Design final irrigation system(s) for corridor landscaping.
- Develop final design plans for landscape and streetscape elements.

- Calculate quantities for and develop streetscape, landscape, and irrigation quantity tabulations for final review. Provide unit costs for pay items in the tabulations.
- Coordinate Livable Cities work with other consultants retained by Civil Engineer.

The following products will be prepared/delivered:

7. 60%, 90% and 100% Construction Documentation Package submittals as the City's ER process, including Landscape Plan Sheets for the overall Civil Engineer package, including the following:
 - a. General Landscape Notes
 - b. Planting Plans
 - c. Layout and Materials Plans
 - d. Irrigation Plans
 - e. Detail Sheet(s)
8. Final Construction Documentation Set
9. Final Specifications
10. Final Streetscape, Landscape, and Irrigation quantity calculations

Task Six | Construction Phase Services

Bidding Phase

The general objective for this phase of the work will be to assist in preparing the Bidding Package and associated information. Based on the approved 100% Construction Documents, Livable Cities will provide final quantities and drawings related to landscape items and assist in preparing the final package for bidding.

The specific tasks to be completed are as follows:

- Assist the project engineer preparing the final bidding material and package.
- Issue landscape documents as an integrated package with the full civil engineering package.
- Review documents to assure that there are no major errors or omissions.
- Assist in responding to bidder questions related to landscape items.
- Attend up to two (2) meetings with the City's Project Manager and/or project engineer on items designed by Livable Cities to review questions and facilitate understanding of the project scope.
- Prepare addenda as clarification is required

Construction Observation

The general objective for this phase of the work is to provide observation of the landscape construction process and ensure the quality of the final product. Livable Cities will make periodic visits to the site to become familiar with the progress and quality of construction and to determine whether the construction of the landscape work is proceeding in accordance with Livable Cities design intent and contract documents. During such visits and based on observations while at the site, Livable Cities will keep the Project Manager informed of the progress of construction. Livable

Cities may recommend rejection of work to the Project Manager if the contractor fails to conform to the contract documents.

The specific tasks to be completed are as follows:

- Attend up to eight (8) construction meetings, including pre-construction meeting, with contractor and their subcontractors.
- Review and approve shop drawings, samples, mock-ups, and other submissions of the contractor for compliance with construction documents.
- Respond to requests for information/clarifications. This scope includes an estimate for eight (8) requests for information/clarification or the equivalent of sixteen (16) hours of project work.
- Prepare and submit landscape architecture related field orders.
- Observe paving layouts and quality of workmanship of paving materials.
- Observe layout and installation of irrigation systems and specified coverage tests.
- Observe location and quality of plant material.
- Observe streetscape construction, grading, and installation of landscape items and streetscape elements.
- Conduct a completion punch list.
- Perform warranty inspections.

EXHIBIT A-3

Section/Tasks	Livable Cities Studio				Hydro-Systems		Inherent Character			
	Principal 2	Project Designer 5	Project Designer 3	Project Designer 2	Senior Associate / Project Manager	Associate / Designer	Principal	Production Designer		
	\$180	\$130	\$100	\$90	\$125	\$115	\$100	\$65		Subtotal
Task 1 - Project Administration / Project Management										
Project management, administration, invoicing	18	36			4					\$ 8,420.00
Project Inception/Kick-off meeting	2	4	2	2						\$ 1,260.00
Bi-Weekly Consultant Team Meetings (26)	32	48	26		4	4				\$ 15,560.00
Bi-Weekly Technical/PMT Meetings (20)	16	28	20							\$ 8,520.00
Subtotal	68	116	48	2	8	4	0	0	SUBTOTAL	\$ 33,760.00
Task 2 - Stakeholder and Public Engagement										
Attend up to Public Meetings (2)	6	6	6							\$ 2,460.00
Participate in Stakeholder meetings (4)	12	12	12							\$ 4,920.00
Preparation of Exhibits or Boards	4	10	32	10						\$ 6,120.00
Subtotal	22	28	50	10	0	0	0	0	SUBTOTAL	\$ 13,500.00
Task 3 - Signage and Wayfinding Design										
Signage and Wayfinding Kick-off Vision	2	6	2				30	20		\$ 5,640.00
Public Meeting and Stakeholder Meeting(s)	4	4					32	24		\$ 6,000.00
Prepare Loc. Plan & Signage and Wayfinding Concepts (2-3)-30%	2	4					70	40		\$ 10,480.00
Prepare Developed Plan and Preferred Alternative-60%	2	2					80	40		\$ 11,220.00
Prepare Design Intent Drawings-100%		2					60	40		\$ 8,860.00
Attend meeetings with City staff		8					16	8		\$ 3,160.00
Subtotal	10	26	2	0	0	0	288	172	SUBTOTAL	\$ 45,360.00
Task 4 - Preliminary Design (30%)										
Review relevant planning work, grant and other docs	4	8	6	8						\$ 3,080.00
Reassess and conduct contextual inventory and analysis	4	8	24	8						\$ 4,880.00
Precedent research and develop conceptual framework	4	4	24	8						\$ 4,360.00
Support integration of bike and ped facilities	2	6	8							\$ 1,940.00
Support corridor water quality design	2	8	8							\$ 2,200.00
Prepare 30% Landscape Design Plans and Specs	8	20	80							\$ 12,040.00
Prepare list of plant materials	4	8	24	12						\$ 5,240.00
Prepare exhibits for special district conversations	2	4	32							\$ 4,080.00
Prepare renderings (3)	2	4	40							\$ 4,880.00
Calculate quantities		4	12							\$ 1,720.00
30% QA QC Review	6	8	2	2						\$ 2,500.00
Attend meeetings with City staff	6	10	8							\$ 3,180.00
Subtotal	44	92	268	38	0	0	0	0	SUBTOTAL	\$ 50,100.00
Task 5 - Construction Documents (60, 90, 100 and Bid Package)										
Prepare 60% Landscape Design Plans and Specs	36	60	320							\$ 46,280.00
Prepare 60% Irrigation Plans and Specs					4	10				\$ 1,650.00
60% Cost Estimate	2	8	20							\$ 3,400.00
60% QA QC Review	4	8	2							\$ 1,960.00
Prepare 90% Landscape Design Plans and Specs	30	60	300							\$ 43,200.00
Prepare 90% Irrigation Plans and Specs					8	20				\$ 3,300.00
90% Cost Estimate	2	8	20							\$ 3,400.00
90% QA QC Review	4	8	2							\$ 1,960.00
Prepare 100% Landscape Design Plans and Specs	12	32	180							\$ 24,320.00
Prepare 100% Irrigation Plans and Specs					8	16				\$ 2,840.00
100% Cost Estimate	2	8	12							\$ 2,600.00
100% QA QC Review	6	6	2							\$ 2,060.00
Final Bid Package - Construction Documents, Bid Tab, Specs	4	16	24		4	6				\$ 6,390.00
Attend meeetings with City staff	12	28	16							\$ 7,400.00
Subtotal	114	242	898	0	24	52	0	0	SUBTOTAL	\$ 150,760.00
Task 6 - Construction Phase Services										
Bidding Phase										\$ -
Construction Observation										\$ -
Subtotal	0	0	0	0	0	0	0	0	SUBTOTAL	\$ -
Hours Total	258	504	1,266	50	32	56	288	172		\$ 293,480.00
								Direct Costs		\$ 5,100.00
							Fee Total			\$ 298,580.00

EXHIBIT A-3

RATES FOR 2025 START

Section/Tasks	Livable Cities Studio				Hydro-Systems		Inherent Character			
	Principal 3	Senior Designer 2	Designer 5	Designer 4	Senior Associate / Project Manager	Associate / Designer	Principal	Production Designer		
	\$200	\$155	\$130	\$115	\$125	\$115	\$100	\$65		Subtotal
Task 1 - Project Administration / Project Management										
Project management, administration, invoicing										\$ -
Project Inception/Kick-off meeting										\$ -
Bi-Weekly Consultant Team Meetings (26)										\$ -
Bi-Weekly Technical/PMT Meetings (20)										\$ -
Subtotal	0	0	0	0	0	0	0	0	SUBTOTAL	\$ -
Task 2 - Stakeholder and Public Engagement										
Attend up to Public Meetings (2)										\$ -
Participate in Stakeholder meetings (4)										\$ -
Preparation of Exhibits or Boards										\$ -
Subtotal	0	0	0	0	0	0	0	0	SUBTOTAL	\$ -
Task 3 - Signage and Wayfinding Design										
Signage and Wayfinding Kick-off Vision										\$ -
Public Meeting and Stakeholder Meeting(s)										\$ -
Prepare Loc. Plan & Signage and Wayfinding Concepts (2-3)-30%										\$ -
Prepare Developed Plan and Preferred Alternative-60%										\$ -
Prepare Design Intent Drawings-100%										\$ -
Attend meeetings with City staff										\$ -
Subtotal	0	0	0	0	0	0	0	0	SUBTOTAL	\$ -
Task 4 - Preliminary Design (30%)										
Review relevant planning work, grant and other docs										\$ -
Reassess and conduct contextual inventory and analysis										\$ -
Precedent research and develop conceptual framework										\$ -
Support integration of bike and ped facilities										\$ -
Support corridor water quality design										\$ -
Prepare 30% Landscape Design Plans and Specs										\$ -
Prepare list of plant materials										\$ -
Prepare exhibits for special district conversations										\$ -
Prepare renderings (3)										\$ -
Calculate quantities										\$ -
30% QA QC Review										\$ -
Attend meeetings with City staff										\$ -
Subtotal	0	0	0	0	0	0	0	0	SUBTOTAL	\$ -
Task 5 - Construction Documents (60, 90, 100 and Bid Package)										
Prepare 60% Landscape Design Plans and Specs										\$ -
Prepare 60% Irrigation Plans and Specs										\$ -
60% Cost Estimate										\$ -
60% QA QC Review										\$ -
Prepare 90% Landscape Design Plans and Specs										\$ -
Prepare 90% Irrigation Plans and Specs										\$ -
90% Cost Estimate										\$ -
90% QA QC Review										\$ -
Prepare 100% Landscape Design Plans and Specs										\$ -
Prepare 100% Irrigation Plans and Specs										\$ -
100% Cost Estimate										\$ -
100% QA QC Review										\$ -
Final Bid Package - Construction Documents, Bid Tab, Specs										\$ -
Attend meeetings with City staff										\$ -
Subtotal	0	0	0	0	0	0	0	0	SUBTOTAL	\$ -
Task 6 - Construction Phase Services										
Bidding Phase	6	6			4					\$ 2,630.00
Construction Observation	12	64	16		16					\$ 16,400.00
Subtotal	18	70	16	0	20	0	0	0	SUBTOTAL	\$ 19,030.00
Hours Total	18	70	16	0	20	0	0	0		\$ 19,030.00
								Direct Costs		\$ -
								Fee Total		\$ 19,030.00



July 14, 2022

Mr. David Duszak, PE, PTOE
RS&H
4582 S Ulster St, Suite 1100
Denver, CO 80237

RE: Final Scope of Services for Washington St Final Design for OV Consulting, LLC

Dear Mr. Duszak:

Thank you for the opportunity to submit this final scope of work. OV Consulting is pleased to present this proposal to perform services related to the final design of Washington Street.

Task 1: Project Management/Meetings/Coordination for Multimodal Connectivity

We assume the following meetings:

- Kick-off Meeting (1 meeting)
- Bi-weekly team meetings for 4 months (10 meetings)
- Monthly team meetings for 14 months (14 meetings)
- Multimodal connectivity focus meetings (2 meetings)

In addition, we will perform monthly invoicing and project coordination as needed.

Deliverable: up to seventeen (17) meetings, monthly invoicing, project coordination

Task 2: Multimodal Connectivity Design Integration

OV Consulting will develop an advanced conceptual design that incorporates both previous work and current knowledge of the corridor to define key corridor characteristics and multimodal connectivity interface. A plan view exhibit of the corridor will be developed that integrates our knowledge of existing and planned multimodal facilities with roadway design elements and characteristics. The goal is to develop this material in the first 3-4 months of the project to help gain consensus on design direction for RS&H's final design activities.

Deliverable: Roll plot of Concept Design

Task 3: Design Criteria Assistance

A key design input is the design vehicle to be used at intersections to guide proper design. OV Consulting will develop background information based on knowledge of area operations and travel patterns to help guide the design vehicle selection process along the corridor.

Deliverable: Tech Memo outlining vehicle types, travel patterns and vehicle types in the corridor

Task 4: Plan Review and Input

A key design input is the design vehicle to be used at intersections to guide proper design. OV will review milestone designs for multimodal aspects.

Deliverable: Tech Memo outlining vehicle types, travel patterns and vehicle types in the corridor



PROPERTY OWNER & BUSINESS COORDINATION

AND POTENTIAL MAINTENANCE DISTRICT INVESTIGATION & EVALUATION

Task 5. Business Outreach and Overall Coordination with Washington Area

OV will work with the project team to organize and execute a business and property owner outreach effort, and integrate business and property owner needs with the design effort. All communication will support the finalization of design of the corridor, future access and operational needs and the evaluation of a potential special district.

Task 5.1 Project Management, Management Meetings and Design Team Coordination

OV Consulting will attend up to 18 Project Management or team management meetings over the course of the 18-month design schedule. Project management includes regular email communication and coordination with the Washington Design Team.

Deliverables: Monthly Project Manager Meetings (18 mtgs, 1hr/mtg); ongoing management communication (5 hrs/month)

Task 5.2 Communication Plan

Subtask 5.2 a: Develop Communication Plan for Property Owner and Business Outreach

OV will work with CIG and the design team to confirm a Communications Plan that lays out the communication strategy, key messages, roles, responsibilities and communication protocol, and identification of communication methods and tools related to property owner and business outreach along the corridor. Overall plan to be communicated and coordinated with project team.

Deliverable: Communications Plan document and team coordination

Task 5.2 b: Business and Property Owner Contact List and Parcel Mapping

OV Consulting will create the Business and Property Owner contact list and parcel mapping relevant to Washington Street parcels and those potentially impacted by design/construction/future maintenance district, and confirm with the design team, ROW Office, OCBE etc.

Deliverable: Contact list, parcel mapping and regular updates

Subtask 5.2 c: Communication with Business and Property Owners

OV will manage the identification and coordination of strategic communication with property owners, businesses, design team and real estate team throughout the design process.

- i. General monthly updates or blast email notifications are anticipated through final design. Support of design team in updates to Washington Area Community Advisory Group (CAG) is also anticipated at key design milestones.
- ii. The team will hold formal meeting opportunities or field visits to support design milestones with the 44 properties along the corridor. Two rounds of individual or small group meetings and related documentation or follow up are anticipated to support 30%, 60% and 90% design objectives. This effort will be organized and led by OV and attended as needed by design team members.



Deliverables: ongoing monthly business and property owner communication, support of Washington CAG updates, two rounds of property owner meetings and/or field visits (88 meetings), follow up coordination with design team members and documentation of all coordination or discussion.

Task 6. Maintenance District Investigation and Evaluation

Task 6.1 Maintenance District Investigation and Evaluation: OV will work with the project team and CLA, as well as key city staff to evaluation the structure, operations and feasibility of a future potential maintenance district along the corridor

The Maintenance District Evaluation will include the following steps:

- a. Communication with business/property owners will be needed to understand the goals and concerns of a potential district along the corridor. Three (3) corridor Property Owner meetings are anticipated during the evaluation; 1) initial investigation of concept, 2) district options and 3) evaluation and final recommendations. Where needed, the project team will meet with property owners to specifically discuss the district impacts and benefits, up to 15 individual meetings.
 - I. In support of this communication process RS&H will develop property specific exhibits for use at the property owner or group meetings. Per City parcel data, there are 44 property owners within the project limits. (Assuming 20 exhibits are developed under Task E, up to 24 additional exhibits will be developed).
 - II. Livable Cities Studio will prepare any necessary exhibits to explain the various streetscape elements to the community or other stakeholders. One exhibit will provide a summary matrix identifying who owns, operates, maintains, or replaces the various streetscape elements (furnishings, lights, wayfinding, etc.).
- b. Evaluation of goals and concerns and determination of related funding needs for capital projects, programming, operations or maintenance, or a combination of facets desired for corridor.
- c. Determination of the assessment scenario with support from OV including assessed value, lot or building square footage, linear front footage and future land use scenario for calculation of potential revenue stream. (this calculation is for purposes of evaluation and is not a financial forecast). Evaluation of potential appropriate organizational structures will include BID, GID, Maintenance Districts, Special Improvement District, etc.
- d. Draft Evaluation determining feasibility of the district, including district mechanism, programming and assessment.
- e. In coordination with OV, internal and external communication, to test the programming, planning and assessment draft plan with the larger community and develop Final Recommendations documentation. (The team will coordinate with city departments to discuss Final Recommendations but future legal work to establish the district, a financial forecast or the development of mechanisms to collect money for the district are not part of this scope.)



Deliverables: Three (3) Stakeholder Meetings and up to 15 individual property owner conversations, district options and feasibility evaluation, mapping and scenario development, draft documentation and final recommendations.

Please let me know your thoughts and comments on this draft scope of work and fee.

Sincerely,

Beth Vogelsang

EXHIBIT A-3

	Task	Notes	OV Consulting		OV Consulting								CLA				TOTAL Task Cost
			C. Vogelsang Principal \$175		B. Vogelsang Principal \$175		S. Moore Sr. Planner \$140		K. Rangel Engineer I \$115		Planner I \$110		Anna Jones Public Manager \$175		Nic Carlson Assist. Public Manager \$140		
			Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars	
Tasks 1-4 Design																	
Task 1	Project Management/Meetings/Coordination		64	\$ 11,200.00	0	\$ -	18	\$ 2,520.00	32	\$ 3,680.00	0	\$ -	0	\$ -	0	\$ -	\$ 17,400.00
	Total Task By Staff		64	\$ 11,200.00	0	\$ -	18	\$ 2,520.00	32	\$ 3,680.00	0	\$ -	0	\$ -	0	\$ -	
Task 2	Multimodal Connectivity		40	\$ 7,000.00	0	\$ -	0	\$ -	80	\$ 9,200.00	0	\$ -	0	\$ -	0	\$ -	\$ 16,200.00
	Total Task By Staff		40	\$ 7,000.00	0	\$ -	0	\$ -	80	\$ 9,200.00	0	\$ -	0	\$ -	0	\$ -	
Task 3	Design Criteria		24	\$ 4,200.00	0	\$ -	0	\$ -	8	\$ 920.00	0	\$ -	0	\$ -	0	\$ -	\$ 5,120.00
	Total Task By Staff		24	\$ 4,200.00	0	\$ -	0	\$ -	8	\$ 920.00	0	\$ -	0	\$ -	0	\$ -	
Task 4	Plan Review/Input		40	\$ 7,000.00	0	\$ -	0	\$ -	40	\$ 4,600.00	0	\$ -	0	\$ -	0	\$ -	\$ 11,600.00
	Total Task By Staff		40	\$ 7,000.00	0	\$ -	0	\$ -	40	\$ 4,600.00	0	\$ -	0	\$ -	0	\$ -	
Task 5	Business Outreach and Overall Coordination with Washington Area																\$ 114,235.00
5.1	Project Managment, Management Meetings & Design Team Coordination	Monthly meetings (18) & ongoing monthly team/city coordination	0	\$ -	120	\$ 21,000.00	22	\$ 3,080.00	0	\$ -	40	\$ 4,400.00	8	\$ 1,400.00	0	\$ -	
5.2a	Develop Communication Plan for Property Owner & Business Outreach	communication plan and related approvals	0	\$ -	15	\$ 2,625.00	0	\$ -	0	\$ -	20	\$ 2,200.00	0	\$ -	0	\$ -	
5.2b	Business and Property Owner Contact List & Parcel Mapping	GIS support/business & parcel mapping	0	\$ -	6	\$ 1,050.00	0	\$ -	0	\$ -	28	\$ 3,080.00	0	\$ -	0	\$ -	
5.2c	Communication with Business & Property Owners	monthly business communication, two rounds meetings/field visits, documentation and follow up (18 mos)	0	\$ -	220	\$ 38,500.00	50	\$ 7,000.00	0	\$ -	240	\$ 26,400.00	20	\$ 3,500.00	0	\$ -	
	Total Task By Staff		0	\$ -	361	\$ 63,175.00	72	\$ 10,080.00	0	\$ -	328	\$ 36,080.00	28	\$ 4,900.00	0	\$ -	
Task 6	Maintenance District Investigation & Assessment																\$ 31,210.00
6.1	Maintenance District Investigation & Assessment	three Property Owner Meetings and individual discussions; evaluation and recommendations, documentation	0	\$ -	50	\$ 8,750.00	24	\$ 3,360.00	0	\$ -	40	\$ 4,400.00	60	\$ 10,500.00	30	\$ 4,200.00	
	Total Task By Staff		0	\$ -	50	\$ 8,750.00	24	\$ 3,360.00	0	\$ -	40	\$ 4,400.00	60	\$ 10,500.00	30	\$ 4,200.00	
	Total All Tasks		168	\$ 29,400.00	411	\$ 71,925.00	114	\$ 15,960.00	160	\$ 18,400.00	368	\$ 40,480.00	88	\$ 15,400.00	30	\$ 4,200.00	\$ 195,765.00



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www.pinyon-env.com

May 2, 2022

Dave Duszak, PE
RS&H
4582 South Ulster Street, Suite 1100
Denver, CO 80237

Via email: David.Duszak@rsandh.com

Subject: Proposal to Provide Environmental Support through Final Design, Washington Street Improvements Phase I, 47th to 52nd, Denver, Colorado

Dear Mr. Duszak:

Pinyon Environmental, Inc. (Pinyon), is pleased to present this proposal to support RS&H and the City and County of Denver (CCD) to provide environmental support through final design with regards to the improvements to Washington Street between 47th and 52nd Avenues. Pinyon will be supporting the National Environmental Policy Act (NEPA) process, which is expected to take the project up to approximately 30% design. This proposal addresses environmental services needed up to 100% design and project advertisement.

The scope of services and schedule details for the proposed project are outlined in the attached Detailed Scope of Services.

Pinyon estimates the cost to complete this project, in accordance with the outlined services, will be **\$37,145** (Table I, Summary of Estimated Costs). Pinyon will invoice on a time and materials basis, in accordance with Pinyon's approved contract rates related to various DOTI contracts awarded in 2020 (attached).

To authorize the outlined scope of services, please issue a subcontract for review. Should you have any questions or require additional information, please do not hesitate to contact me at (303) 980-5200 or via email at partington@pinyon-env.com. Thank you for considering Pinyon for your environmental consulting needs.

Sincerely,

PINYON ENVIRONMENTAL, INC.

A handwritten signature in blue ink that reads "Brian R. Partington". The signature is fluid and cursive, with a large loop at the end of the last name.

Brian Partington
Principal

Cc: file

It is noteworthy that Pinyon will be conducting significant environmental evaluations under a separate task order related to the NEPA clearance. The following services are related to anticipated post-NEPA mitigations and development of specifications.

Task 1 – Project Management

Pinyon assumes the duration of the project will be approximately six months. Pinyon assumes attendance at one kickoff meeting, monthly PMT meetings, and 60% and 90% design meetings. Meetings are assumed to be attended virtually. Incidental telephone calls, email coordination, and monthly billing are also included in this fee.

Task 2 – Limited Sampling and Technical Memorandum

It is assumed that geotechnical drilling will be completed for the project by Geocal, which will provide an opportunity for environmental sampling to be completed concurrently. The Denver Department of Public Health and Environment (DDPHE) will require sampling for the project to support soil reuse decisions during construction and possibly to develop a waste profile at the Denver-Arapahoe Disposal Site (DADS). The following will be completed:

- Pinyon's sampling work will be coordinated with the geotechnical engineer's drilling to avoid duplication of costs. Geocal's scope as of the time of this proposal included drilling 11 pavement borings, and 6 signal pole borings, which would span five days.
- Pinyon will prepare a Health and Safety Plan (HASP) for drilling activities, to be used by Pinyon personnel. Pinyon will share the information presented in our HASP and related documentation with those that are interested. Pinyon's field representative will provide a Photoionization Detector (PID) to monitor atmospheric conditions in the vicinity of the drilling rig for volatile organic compounds (VOCs). Pinyon will share information regarding PID measurements with other project personnel. Pinyon will also field screen soil samples for the presence of potential subsurface impacts.
- During geotechnical drilling (which will be completed and paid for by others), Pinyon will collect up to 17 representative soil samples to evaluate whether the site soil is suitable for reuse on the project, or to support a waste profile application at DADS should soil need to be disposed of during construction. Pinyon assumes drilling will be completed over five days maximum. Should field screening indicate consistent soil conditions, Pinyon's field representative may elect to reduce the number of samples to reduce costs. This may include only sampling odd or even samples, with confirmation from DDPHE.
- Pinyon has included costs for soil logging for only two of the five days drilling to cover costs for field equipment (e.g., PID, GPS, expendables).
- The soil samples will be collected and submitted to Origins Laboratory, Inc. (Origins), of Denver, Colorado, for analysis of:
 - VOCs by Environmental Protection Agency (EPA) Method 8260D
 - Total Resource Conservation and Recovery Act (RCRA) 8 metals by EPA Methods 6010C and 7471
 - Toxicity Characteristic Leachate Procedure (TCLP) (as needed based on total results).
- Pinyon assumes that this roadway project will not result in excavations that would be deep enough to encounter groundwater. Therefore, no groundwater sampling is proposed for this project.



ATTACHMENT A – SCOPE OF SERVICES (CONT.)

- Pinyon will provide an EPA and state accredited Certified Asbestos Building Inspector to evaluate potential asbestos building materials (ACMs) identified during drilling. Up to four samples will be submitted to EMSL Analytical, Inc., for analysis of asbestos using polarized-light microscopy (PLM) techniques.
- It is assumed that soil cuttings will be placed back into the geotechnical holes. However, in the event that potential impacts are identified, Pinyon has included a contingent scope to manage investigation derived wastes (IDW). Pinyon will arrange to have IDW removed and disposed properly by a qualified vendor. Up to four, 55-gallon drums will be removed per this scope of work; we assume that the drillers will provide drums, and the drums will be staged proximate to the work area at a location that they may be easily retrieved later. If analytical data does not indicate environmental impacts, the soil will be thin spread on the ground surface and the drums removed from the project area.
- An Environmental Sampling Technical Memorandum will be prepared based on the information collected during the limited sampling. This memorandum will discuss the results, conclusions, and recommended next steps based on those findings.

Task 3 – Materials Management Plan

Using the information gathered above, and in other project phases, Pinyon will prepare a Materials Management Plan detailing management strategy for potentially impacted media. Note that this task was previously scoped and contracted; however, Pinyon expects that the existing pre-NEPA tasks will be closed out.

Task 4 – Specifications Support

Pinyon expects that environmental compliance on this project will be complicated. Pinyon will be available to assist in developing these specifications and identify appropriate pay items to include with the bidding documents.

Exclusions:

It is possible that additional work may be identified during the NEPA phase of the project that may be needed during the Design phase of the project. Any additions of scope not identified in this proposal are assumed to require a change order.



TABLE I – SUMMARY OF ESTIMATED COSTS

Task 1 - Project Management				
Description	Quantity	Unit	Rate	Extension
Labor Rates				
Senior Engineer/Scientist	32.0	hours	\$201.00	\$6,432.00
Project Assistant	5.0	hours	\$86.00	\$430.00
Task Subtotal				\$6,862.00
Task 3 – Limited Sampling and Technical Memorandum				
Description	Quantity	Unit	Rate	Extension
Labor Rates				
Senior Engineer/Scientist	1.0	hour	\$201.00	\$201.00
Project Manager	3.0	hours	\$153.00	\$459.00
Project Engineer/Scientist	70.0	hours	\$110.00	\$7,700.00
Drafting (Graphics)	4.0	hours	\$98.00	\$392.00
Equipment/Material Unit Rates				
Soil Logging/Screening	2.0	days	\$250.00	\$500.00
IDW Disposal (Estimate)	1.0	LS	\$2,500.00	\$2,500.00
Laboratory Rates				
Soil - Waste Profile Screen	17.0	EST	\$550.00	\$9,350.00
Point Count - 1 Week TAT (EMSL)	4.0	samples	\$10.50	\$42.00
Task Subtotal				\$21,144.00
Task 3 – Materials Management Plan				
Description	Quantity	Unit	Rate	Extension
Labor Rates				
Senior Engineer/Scientist	3.0	hours	\$201.00	\$603.00
Project Engineer/Scientist	20.0	hours	\$110.00	\$2,200.00
Task Subtotal				\$2,803.00
Task 4 – Specifications Support				
Description	Quantity	Unit	Rate	Extension
Labor Rates				
Senior Engineer/Scientist	30.0	hours	\$201.00	\$6,030.00
Project Manager	2.0	hours	\$153.00	\$306.00
Task Subtotal				\$6,336.00
Project Total				\$37,145.00



PINYON DOTI APPROVED CONTRACT RATES

The following rates apply to Pinyon's Attachment 5 Submittal:

Title/	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 environmental science.	\$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

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:

1. Mileage: Reimbursable at the current IRS Business Rate ONLY when Consultant is required to drive to a project located outside the City and County of Denver Boundary.
2. Actual cost of reproducing and printing reports, drawings, specifications and other work products, and the associated cost for shipping and handling. These reimbursable expenses pertain only to requests made to the Consultant from the City, and exclude intra-office printing, scanning and reproduction required by the Consultant to complete the work.

Actual cost for expendable supplies and services not normally used on a routine or normal basis in an architectural or engineering office (i.e., aerial photography) and which are provided especially under this Agreement for the benefit of the City



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January 25, 2023

Dave Duszak, PE
RS&H
4582 South Ulster Street, Suite 1100
Denver, CO 80237

Via email: David.Duszak@rsandh.com

Subject: Proposal to Provide Environmental Support during Construction Phase, Washington Street Improvements, 47th to 52nd, Denver, Colorado

Dear Mr. Duszak:

Pinyon Environmental, Inc. (Pinyon), is pleased to present this proposal to support RS&H and the City and County of Denver (CCD) to provide environmental support during the construction phase with regards to the improvements to Washington Street between 47th and 52nd Avenues. These services are specifically related to limited support related to Requests for Information and limited coordination.

Pinyon estimates the cost to complete this project, in accordance with the outlined services, will be **\$4,078** (Table I, Summary of Estimated Costs). Pinyon will invoice on a time and materials basis, in accordance with the attached schedule of unit rates.

To authorize the outlined scope of services, please issue a subcontract for review. Should you have any questions or require additional information, please do not hesitate to contact me at (303) 980-5200 or via email at partington@pinyon-env.com. Thank you for considering Pinyon for your environmental consulting needs.

Sincerely,

PINYON ENVIRONMENTAL, INC.

A handwritten signature in blue ink that reads "Brian R. Partington". The signature is fluid and cursive, with a large loop at the end of the last name.

Brian Partington
Principal

Cc: file



TABLE I – SUMMARY OF ESTIMATED COSTS

Task I - Project Management				
Description	Quantity	Unit	Rate	Extension
Labor Rates				
Senior Engineer/Scientist	16.0	hours	\$242.00	\$3,872.00
Project Assistant	2.0	hours	\$103.00	\$206.00
Task Subtotal				\$4,078.00

Title/	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.	\$265
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 environmental science.	\$242
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.	\$215
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.	\$184
Project Specialist	Reports to Regulatory and Oversight Agencies, Preparation of Permits, GIS Library Development and Data Analysis, Technical Review of Documents	\$ 153
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	\$132
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	\$113
Staff I Technician	Groundwater Sampling, Sampling During UST Removals, Surveyor's Assistant	\$91
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.	\$118
Project Assistant	Maintain Field Equipment, Data Management	\$103
Word Processing, Clerical	Word Processing, Clerical	\$81

June 3, 2022

Dave Duszak, PE, PTOE
RS&H
Senior Transportation Engineer
5690 DTC Blvd, Suite 345W
Greenwood Village, CO 80111

**SUBJECT: BNSF WASHINGTON STREET RAILROAD CROSSING (DOT#245283D),
Denver, CO FINAL DESIGN AND ADDITIONAL RAILROAD COORDINATION SERVICES**

Dave,

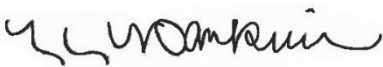
Per your request, we are pleased to submit this scope of work and fee to provide additional railroad crossing support and final design services at the Washington Street grade crossing (DOT#245283D) including review of the crossing design plans, preparation of the queue cutter traffic signal design and coordination with BNSF and the PUC. The project proposes to reconstruct Washington Street in the vicinity of the Washington Street grade crossing, modify the existing traffic signals at 47th Avenue/Washington Street, and at 50th Avenue/Washington Street. The following scope tasks are included:

- Coordination with Burlington Northern Santa Fe (BNSF), Colorado Public Utilities Commission (PUC), RS&H and the City and County of Denver (CCD).
- Review/comment on RS&H proposed design of the grade crossing.
- Prepare the design for the proposed northbound and southbound queue cutter signals

The scope and fee defined herein will supplement, but not supersede, the design review and railroad coordination services scope and fee dated September 14, 2021.

Thank you for the opportunity to support RS&H. If you have any questions, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'KHankinson'.

Karen Hankinson, P.E.
Vice President

Attachments: Scope of Work, Fee

Scope of Work

TASK 1.0 – ADDITIONAL PROJECT MANAGEMENT

RailPros to plan, organize, control and monitor RailPros project team activities. Manage service activities and deliverables to RS&H, BNSF, and PUC.

RailPros Activities

- Participate in Project Team Coordination conference calls (6 total)

Task Deliverables

- Conference call participation
- Monthly invoices

Meetings

- Conference Calls (up to 6 meetings total)

TASK 2.0 – FINAL DESIGN AND COORDINATION

RailPros will review the RS&H provided street improvement and signing and striping design at the Washington Street grade crossing in accordance with MUTCD and BNSF design standards. RailPros will also complete final design plans, specifications and estimate for the proposed queue cutter signals at the crossing which will be interconnected to BNSF's railroad signal system. Utilizing RS&H's 60% plans for street improvements and signing and striping, RailPros will prepare a preemption measurement exhibit for the Washington Street crossing to assist in calculating the appropriate preemption timing. RailPros will calculate appropriate preemption timing for the queue cutter and determine detection placement for queue cutter operations. Based on the preemption timing calculations RailPros will complete a BNSF preemption request form. RailPros will coordinate with RS&H, BNSF, JLL, Colorado Public Utilities Commission (PUC) and any other relevant agencies throughout this process.

RailPros Activities

- Review and comment on the street improvement and signing and striping (60%, 90% and Final Design) at the Washington Street crossing.
- Prepare bi-directional queue cutter design plans (60%, 90%, Final Design) at the Washington Street crossing.
- Prepare a preemption measurement exhibit to support the preemption calculations.
- Prepare queue cutter preemption calculations
- Prepare BNSF preemption request form
- Prepare specifications and estimate for queue cutter design
- Coordinate CAD files with RS&H.
- Coordinate and provide review comments.
- Coordinate with BNSF and PUC and assist RS&H in responding to comments.
- Coordinate with RS&H, BNSF and JLL
- Review easement area and legal description for compliance with BNSF requirements

Task Deliverables

- Review comments on the street improvement and signing and striping (60%, 90% and Final Design) at the Washington Street crossing.
- Preemption measurement exhibit
- Queue cutter design plans
- Preemption calculations
- Queue cutter specifications and estimate
- BNSF Preemption request form
- Final PUC application
- Review comments on easement and legal descriptions

Meetings

- Participate in 4 conference calls with the project team to discuss review comments. (60%, 90% and Final Design + additional one (1) coordination meeting)

Project Assumptions

- RS&H will furnish survey base maps with established engineering stationing, mile posts and ROW boundary.
- RS&H will complete existing utility research and provide utility base map information in MicroStation format.
- RS&H will complete street improvement and signing and striping designs.
- RS&H will provide proposed easement area and legal description for RailPros' review.
- Roadway cross section and profile will match existing railroad grade. RS&H will be responsible for matching the roadway profile with the railroad profile and for sidewalk and roadway design.
- No railroad track design will be required as part of this project.
- Traffic Control or Stage Construction design will be completed by RS&H.
- RS&H will provide RailPros with MicroStation files and pen tables to be utilized for the RailPros prepared exhibits and design plans.
- RS&H will supply the ProjectWise license if ProjectWise access is required.
- Traffic signal design for adjacent intersections is not included in RailPros scope and will be completed by others.
- Traffic Signal Timing, Traffic Signal Controller Bench Testing, and Traffic Signal / RR Signal Cutover Support are not included in this scope of work but can be provided.
- Outstanding work items from previous contract will continue.
- Bidding assistance and Construction Management are not included in this scope of work.

Fee

RailPros is proposing a total fixed fee cost of \$68,509.80 to provide the tasks outlined in this proposal. A cost breakdown is provided in the fee schedule attached. Invoices will be submitted monthly based on completion of work.

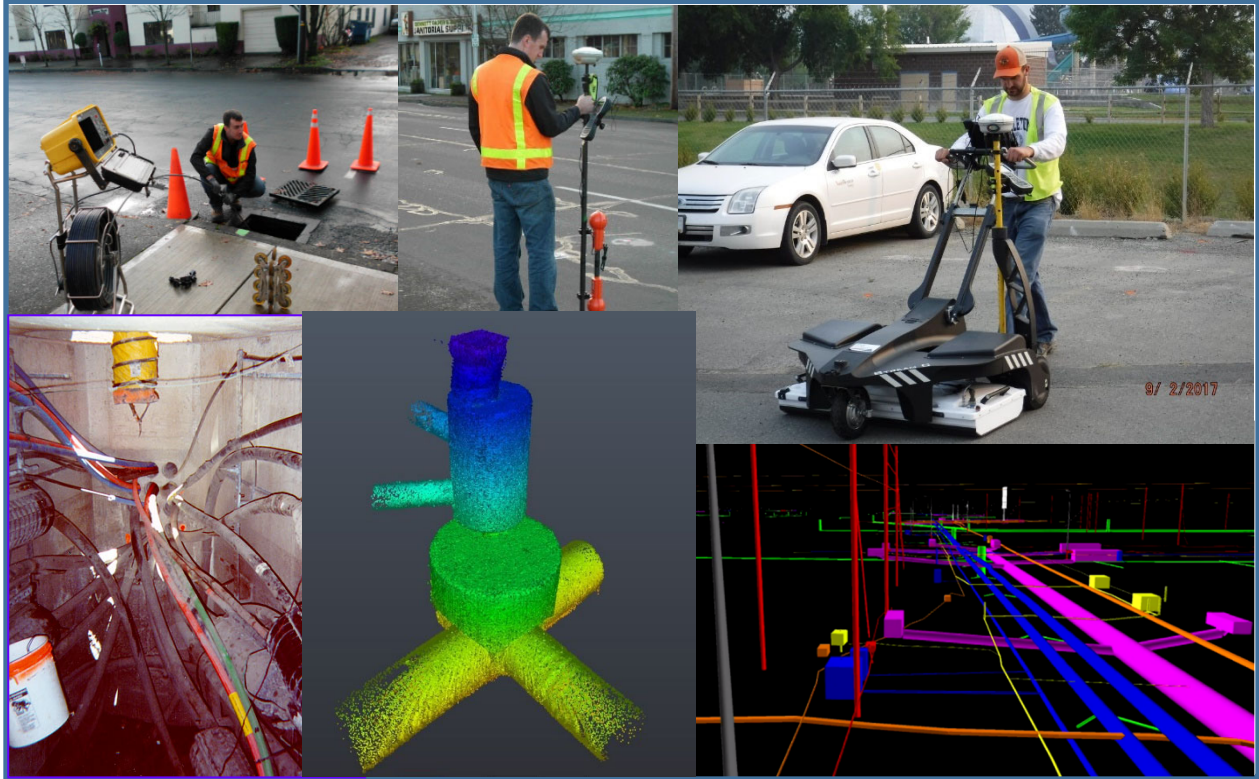
Schedule

Work scope defined herein is anticipated to be completed by December 31, 2024. If for some reason the project schedule extends beyond this period, contract is open to extension or renegotiation based on current billing rates.

EXHIBIT A-3

RailPros Fee Proposal - Washington Street Railroad Crossing (DOT#245283D) Final Design and Coordination Services						
Task Description	Grade Crossing Technical Lead	Senior Traffic Engineer	Design Engineer	Administrator	Total Hours	Labor Cost
	\$324.00	\$257.46	\$120.00	\$87.00		
TASK 1.0 - PROJECT MANAGEMENT - ADDITIONAL WORK						
Additional Project Management	4	12		8	24	\$5,081.52
Additional Meetings - up to 2 Conference Calls (2 meetings total)	2	4	2		8	\$1,917.84
Subtotals	6	16	2	8	32	\$6,999.36
TASK 2.0 - FINAL DESIGN AND COORDINATION						
Review roadway design plans (60%, 90%, Final)	6	12	24		42	\$7,913.52
Prepare queue cutter plans (60%, 90%, Final)	20	56	80		156	\$30,497.76
Prepare queue cutter specifications and estimate (90%, Final)	4	8	8		20	\$4,315.68
Prepare preemption measurement exhibit	2	4	8		14	\$2,637.84
Prepare preemption calculations and BNSF preemption request form	4	12	24		40	\$7,265.52
Coordinate with BNSF and PUC	4	16	16		36	\$7,335.36
Meetings - up to 4 Conference Calls (4 meetings total)		6			6	\$1,544.76
Subtotals	40	114	160	0	314	\$61,510.44
SUBTOTAL	46	130	162	8	32	\$68,509.80
ODC (Mileage/Gas/Meals, Airfare, Car rental, and Hotel)						\$0.00
TOTAL						\$68,509.80

EXHIBIT A-3



May 19, 2022

DETAILED WORK PLAN FOR UTILITY ENGINEERING

SUE Phase 1 & 2: Utility Designating and Locating

Washington Street Improvements – Denver, Colorado

Submitted to:

RS&H

RS&H, Inc.

5690 DTC Blvd, Suite 345W
Greenwood Village, Colorado 80111
p. 303.771.6200

Submitted by:

Utility Mapping Services, Inc.

www.umsi.us



15065 W. 44th Ave.
Golden, CO 80403
p. 720.230.0780

DETAILED WORK PLAN FOR UTILITY ENGINEERING
SUE Phase 1 & 2: Utility Designating and Locating**Washington Street Improvements – Denver, Colorado****Section 1 - Executive Summary of Scope of Work**

Utility Mapping Services (UMS) scope of work is to perform additional utility engineering (UE) services which encompasses subsurface utility engineering (SUE). For this SUE effort, UMS will serve as a sub-consultant for RS&H, Inc. (a.k.a. "Client") which is the prime consultant under contract with the City and County of Denver (CCD, a.k.a. "Owner").

The UE effort encompasses designating utilities within areas identified by the Client and locating buried utilities using vacuum excavations (test holes) at discrete locations identified by the Client and/or Owner. This work will be performed in accordance with CCD design standards and procedures, along with the American Society of Civil Engineers Construction Institute Standard 38 (ASCE/CI 38-02). Refer to the original SUE Phase 1 work plan dated January 18th, 2019, for all guidelines, definitions, limitations, etc. which are also applicable to this submittal. Included with this proposal are the following activities:

- Records research to obtain updated record information.
- A comparison of the newly acquired records versus records obtained in 2019.
 - All work does NOT include any field comparisons or verification.
- QL* B Utility Designating at project limit extension areas identified by the Client/Owner.
 - The additional areas are shown in green in Figures 1-3 below.
- 3-D QL A Utility Locating at up to 80 locations to be identified by the Client/Owner.
 - Work includes field investigation, vacuum excavations (test holes), and depiction of utility infrastructure depth information at discrete locations.
 - GPS survey operations to record utility location and depth information.
- Populating utility data repository with test hole results (digital data and images).
- QA and QC review of submittal documents
 - Review field data and project submittals.
- Updating existing utility CAD file
- Updating existing utility plan sheets

**Note: QL refers to the quality level as described in ASCE/CI 38-02 Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data.*

EXHIBIT A-3

Utility Engineering Scope of Work
SUE Phase 1 & 2 Utility Designating and Locating

Washington Street Improvements
Denver, Colorado

Figure 1: Additional utility designating areas between 51st Avenue and 49th Avenue.

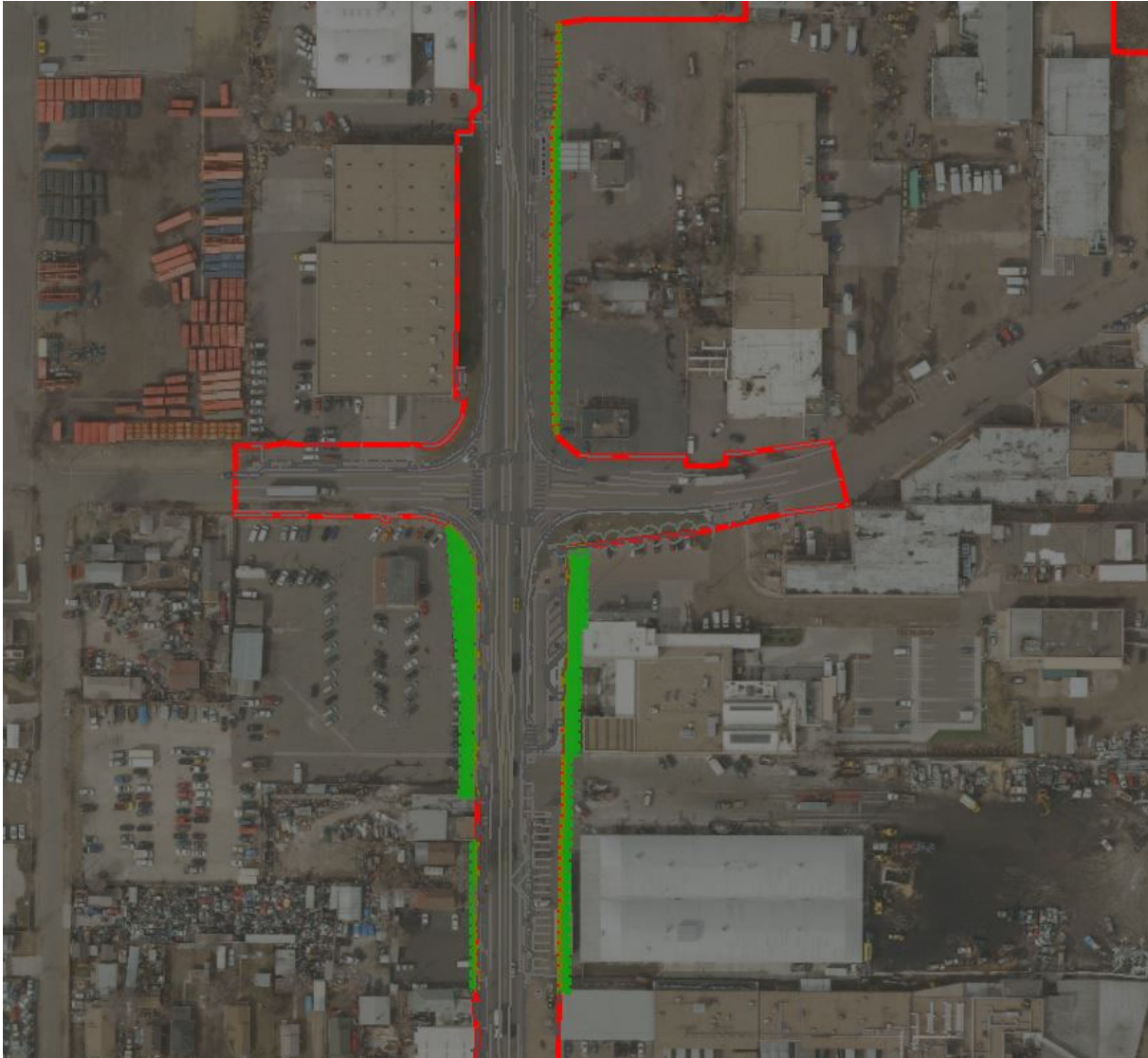


EXHIBIT A-3

Utility Engineering Scope of Work
SUE Phase 1 & 2 Utility Designating and Locating

Washington Street Improvements
Denver, Colorado

Figure 2: Additional utility designating areas between 49th Avenue and Elk Place.

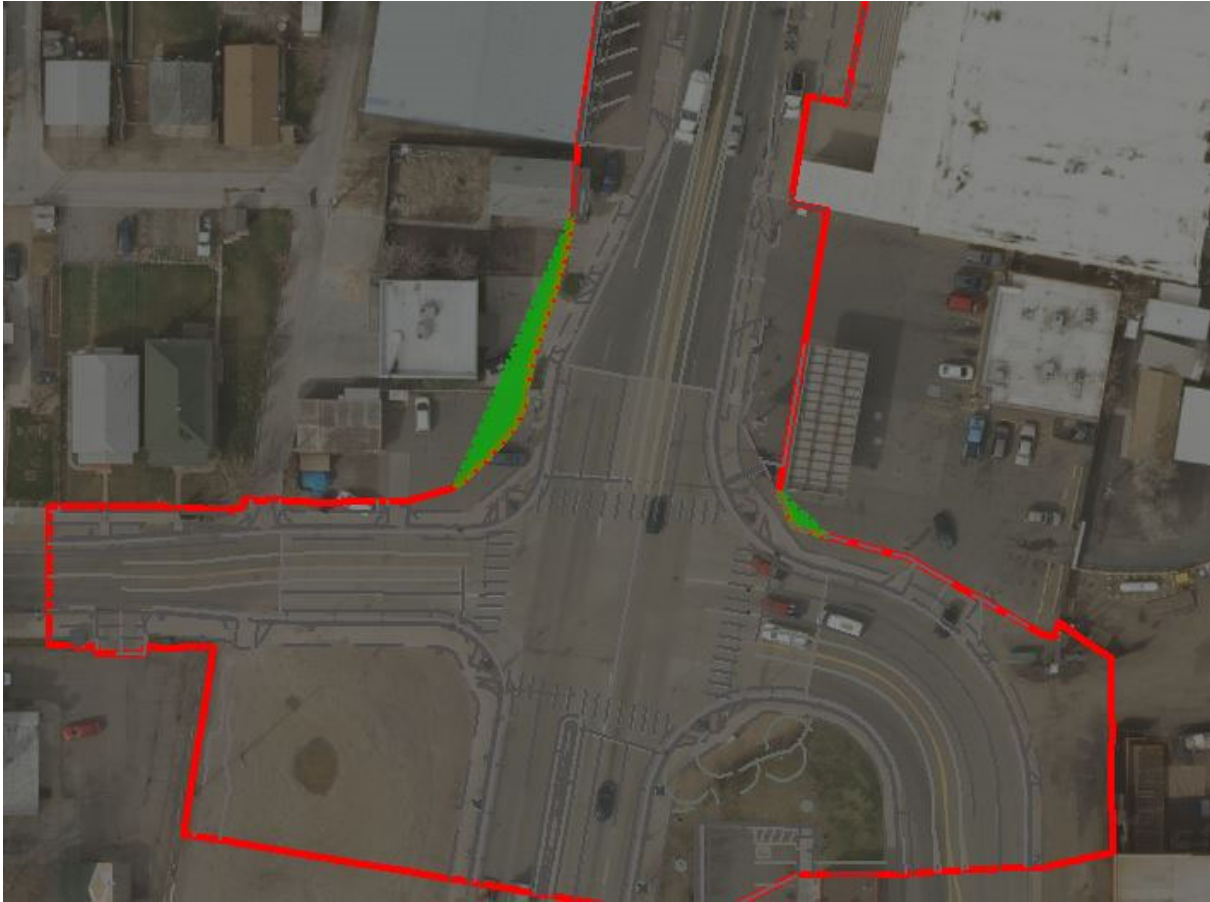


EXHIBIT A-3

Utility Engineering Scope of Work
SUE Phase 1 & 2 Utility Designating and Locating

Washington Street Improvements
Denver, Colorado

Figure 3: Additional utility designating areas at 47th Avenue.



Section 2 - Project Deliverables

Utility Engineering deliverables include digital submittals of the following:

- An updated CAD utility reference file depicting the results of the Phase 2 investigation and the additional QL B investigation.
- Testhole summary report (pdf format).
- An updated set of P.E. sealed SUE existing utility plans.
- A P.E. sealed Phase 2 report summarizing this investigation along with highlights of unusual findings.

In addition, UMS will provide ongoing interpretive support to assist design engineers and utility coordinators with subsequent findings and ensure submitted data is properly understood and utilized.

EXHIBIT A-3

Section 3 - Project Assumptions

Phase 2 assumptions include:

- Up to 70 excavations in asphalt/concrete pavement which will require concrete/asphalt coring.
- The remaining 10 test holes are assumed to be in the dirt, outside of the pavement areas.
- Extreme weather conditions can significantly impact crew production rates and schedules. For this submittal, UMS assumes the project corridor will be clear of snow and ice during all field operations. UMS will keep the Client apprised of any schedule delays or budget impacts should current conditions effect the SUE field campaign.
- Client or Owner will obtain all necessary permits, right-of-entries, etc. (including private land access and railroad access) to allow UMS field personnel to work in areas outside of public right-of-way limits.
- UMS assumes that all work will take place during normal daytime working hours (7am to 5pm). Any work required outside of these hours, or any limitations applied to these work hours may result in additional costs and may affect the schedule UMS deliverables schedule.
 - UMS has not included any costs related to night work in this estimate. Should nighttime work be required, any equipment, special PPE, traffic control, lighting, coordination, and preparation, permitting etc. will need to be added to the Phase 2 cost estimate.
- Sufficient project survey control exists along the project corridor for GPS survey operations; consequently, labor for establishing survey control is not included within this scope of work and the associated cost estimate. In addition, UMS assumes survey control will be accessible and visibly marked throughout the duration of the SUE investigation.
- Each excavation is accessible to the vac truck and crew.
- Excavations which fail to expose the targeted utility after attaining a reasonable depth (6-7') will still be considered a completed excavation.
- A possibility exists that existing conditions (i.e. groundwater, large boulders) may prevent crews from exposing the targeted utility. In addition, utilities may be installed at a depth beyond the limits of the vacuum excavation equipment.
- Excavations are located outside of areas which require special repair measures (sidewalks, planters, driveways, etc.). Backfilling of each excavation will be accomplished with the use of native material. Special sidewalk repairs, hot patch repairs, T-patch repairs, etc. are not included with this proposal.
- Surface restoration for excavations in asphalt will be completed using a cold patch repair.
- A maximum of 14 days of special traffic control measures has been included with this proposal.

UMS will perform the following coordination activities:

- Work closely with the Client and Owner to facilitate the orderly progress and timely completion of the approved tasks.

EXHIBIT A-3

- Coordinate the work effort with the Client to discuss progress and resolve problems.
- Upon request provide the Client copies of logs and/or correspondence that document work-related communications between utility owners, outside agencies, and/or private landowners.
- Coordinate operations with private and public utility infrastructure owners.
- Provide all necessary equipment, supplies, and support personnel to secure data outlined in this section.

Section 4 - Limitations

Refer to the original Phase 1 work plan dated January 28, 2019, and Phase 1 summary report dated February 03, 2022, for descriptions of the data limitations which are also applicable to this submittal.

Section 5 - Cost Estimate

Estimate included as a separate attachment.

Section 6 - Project Schedule

UMS can typically begin work within **two to three weeks** of receiving notice-to-proceed (NTP).

Permit approval time and seasonal requirements can impact the overall schedule. Based on assumed conditions identified in this scope of work, the following is a description of the estimated project schedule:

- The initial effort will consist of coordinating with the vac truck and traffic control subcontractors to develop a project schedule. UMS personnel will mark the proposed test hole locations a minimum of 2 business days in advance of any excavations, per the One-Call requirements. The actual field effort start date will be dependent on the vac truck crew availability at time of the Notice to Proceed.
- QL B utility designating operations are estimated to require approximately (2) 8-hour workdays.
- Utility locating field operations are estimated to require approximately (14) 8-hour workdays.
- Final Phase 2 utility locating submittals will require **three to four weeks after all field work has been completed** to include CADD drawing and utility database preparation, along with completion of QA review, summary report and discrepancy resolution efforts.

EXHIBIT A-3

Utility Mapping Services, Inc.

Cost Proposal for Phase 2 QL A Utility Investigation and QL B Extensions

Project Name: Washington Street

UMS Project No: 11176.2

Date: June 8, 2022

Owner: City and County of Denver

Contact: Dave Duszak, PE

Address: 4582 South Ulster Street, Suite 1100, Denver, CO 80237

Phone: 720-586-6674

Email: david.duszak@rsandh.com



Utility Mapping Services, Inc.

15065 W. 44th Ave.

Golden, CO 80403

720.230.0780

www.umsi.us

email: cgreer@umsi.us

Subsurface Utility Engineering - Phase 2 Investigation:

Assuming 80 vacuum excavation holes on utilities less than 7-feet in depth, 70 holes in pavement, and 10 in dirt.

Records research and a full review/comparison to previously completed SUE mapping.

Additional SUE investigation at limit extensions.

Updating SUE sheet layout

Project Task No.	Project Task Description	Project Manager	Project Engineer	Senior Engineer	Principal Engineer	Field Ops Manager	Field Specialist II	Field Specialist I	Staff Engineer	Office Manager	Total Hours
2100	Work Plan, H&S, Traffic, Permits	44		4	4	16	2		8	2	80.0
2150	Records Research and Review	24									24.0
2200	Mobilization					34	4		8		46.0
2300	Test Hole Staking/Designating					16	16		16		48.0
2400	Utility Locating					112					112.0
2500	Engineering Survey								16		16.0
2600	CADD Development	40									40.0
2700	Database Development	18									18.0
2800	Project Documentation & QA/QC	16		4	4	16	2		8		50.0
2900	Submittal Preparation	40		4	4					2	50.0
Phase II Hours		182.0	0.0	12.0	12.0	194.0	24.0	0.0	56.0	4.0	484
Rates		184.75	158.80	190.54	190.58	147.35	131.13	110.72	153.70	154.58	
Total		33624.50	0.00	2286.48	2286.96	28585.90	3147.12	0.00	8607.20	618.32	79156.48
Labor Costs											79156.48

UMS Services 79156.48

Vacuum Excavation Truck and Crew	ea	80.00	685.00	54800.00
Pavement Repair and Resurfacing	ea	70.00	225.00	15750.00
Permits	ea	1.00	5000.00	5000.00
Traffic Control (does not include flaggers)	day	14.00	1800.00	25200.00

Vendor Services, Permits, Traffic Control 100750.00

*traffic control, vac truck and permit costs are approximate; actual costs will be invoiced.

THIS ESTIMATE IS VALID FOR 60 DAYS FROM THE DATE POSTED AT THE TOP OF THIS PROPOSAL

SUE Phase 2 Total \$179,906.48

CONSULTANT TEAM MEMBERS**PRIME CONSULTANT:** RS&H, Inc.

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.
Managing Principal	General oversight, contracting, resource allocation, Q/A	\$298.00
Project Manager	Planning, directing, scheduling of RSH staff and coordination of subs	\$285.00
Prof. Engineer - 5	PE responsible for large & complex projects	\$285.00
Prof. Engineer - 4	PE typically with 12+ yrs exp., engineering specialist	\$260.00
Prof. Engineer - 3	PE typically with 8+ yrs exp., major responsibility technical	\$193.00
Prof. Engineer - 2	PE typically w/ 5–10 yrs exp, responsible for tech performance	\$173.00
Prof. Engineer - 1	PE typically with 4-7 yrs exp., working with supervision	\$155.00
EIT – 3	Typically 3+ yrs exp., coordinates technical work	\$140.00
EIT – 2	Typically 2+ yrs exp.	\$120.00
EIT - 1	Entry level engineer	\$114.00
Resident Const Eng	Associates or BS degree and 15+ years exp.	\$270.00
Const Obser – 2	Typically 10-15 yrs, provide oversight of construction project	\$185.00
Const Obser - 1	Typically 5-10 years, provide oversight of construction project	\$135.00
Technician – 2	Typically 2-5 yrs, on site record observations, Technical Train/Cert.	\$110.00
Technician - 1	Typically 0-2 yrs, on site record observations	\$70.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 2.95.

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-1

SUB-CONSULTANT TEAM MEMBERS

FIRM NAME: RS&H, 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.
Designer – 4	15+ yrs exp. w/associate degree, overall design delivery responsibility	\$215.00
Designer – 3	10+ yrs exp. w/associates degree, multi discipline coordination	\$175.00
Designer – 2	8+ yrs exp. w/associates degree, eng calcs, 3D, supervisor	\$140.00
Designer – 1	4-8 yrs, assists in design	\$113.00
CAD Operator	Entry level designer	\$95.00
Project Controls	Cost controls, budgeting and invoicing	\$180.00
Admin III	Administrative support, contract administration	\$150.00
Admin II	Clerical support, meeting minutes, and office administration	\$105.00
Admin I	Clerical support	\$85.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 2.95.

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-1

SUB-CONSULTANT TEAM MEMBERS

Firm Name: 105 West, Inc.

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.
Dir.of Survey/Mapping	Project Principal/Perform Survey work and ROW work	\$140
Project Surveyor	Manage Projects/day-to-day field operations & surveying	\$120
Survey Technician	Perform all types of surveying required for completion	\$100
Party Chief	Perform field work and coordination	\$95
Instrument Operator	Assist Party Chief in performing field work/coordination	\$70
Administrative	Perform administrative duties	\$70
Survey Crew (1-Man)	Perform field work and coordination	\$135
Survey Crew (2-Man)	Perform field work and coordination	\$165
Survey Manager	Manage Projects/Perform Survey work and ROW work	\$135

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 2.7.

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

EXHIBIT B-1

REIMBURSABLE EXPENSES

Sub-Consultant: 105 West, Inc.

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

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

Actual Costs

<u>Item</u>	<u>Charge Rate</u>
Copies (8 1/2 x 11")	\$ <u>0.12</u> / each
Copies (8 1/2 x 14")	\$ <u>0.14</u> / each
Red-line copies	\$ <u>N/A</u> / S.F.
Reproducibles	\$ <u>N/A</u> / page

EXHIBIT B-1

SUB-CONSULTANT TEAM MEMBERS

FIRM NAME: CIG Public Relations

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	Executive oversight	\$215.00
Chief Creative Officer	Creative oversight	\$195.00
Senior Counselor	Executive oversight	\$195.00
Sr. Strategic Director	Strategic counsel	\$190.00
Counselor II	Project oversight	\$170.00
Counselor I	Project oversight and coordination	\$141.00
Account Supervisor	Project management	\$129.00
Creative Art Director	Creative project management and graphic design	\$126.00
Associate Creative Director	Creative projects coordination and graphic design	\$115.00
Video Editor/Videographer	Video production	\$115.00
Senior Associate	Project management and coordination	\$121.00
Associate II	Mid-level project management and coordination	\$99.00
Graphic designer	Graphic design	\$95.00
Associate I	Project support	\$84.00
Administrative	Project administration	\$84.00
Specialist	Entry-level project support	\$68.00
Account coordinator	Entry-level project support	\$37.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.

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-1

SUB-CONSULTANT TEAM MEMBERS

Firm Name: CLA (CliftonLarsonAllen LLP)

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.
Public Manager	District formation/feasibility	\$175
Accounting	Accounting & forecasting / assessment scenarios	\$150
Assistant Public Manager	District formation/feasibility assistance	\$140

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 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-1

SUB-CONSULTANT TEAM MEMBERS

FIRM NAME: Clanton & Associates

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.
Chief Executive Officer	Visioning, Project Approach, Quality Control	\$ 325
President	Contracts, Staffing, Project Oversight, Professional Engineer, Quality Control	\$ 310
Principal	Contracts, Staffing, Project Oversight, Professional Engineer, Quality Control	\$ 235
Associate	Contracts, Staffing, Project Oversight, Professional Engineer, Quality Control	\$ 220
Business Development Manager	Business Development	\$ 210
Senior Engineer II	Project Management, Electrical Engineering, Quality Control	\$ 210
Senior Engineer I	Project Management, Electrical Engineering, Quality Control	\$ 175
Engineer II	Lighting Design, Electrical Engineering, Project Support	\$ 145
Engineer I	Lighting Design, Electrical Engineering, Project Support	\$ 130
Senior Designer II	Project Management, Lighting Design, Quality Control	\$ 200
Senior Designer I	Project Management, Lighting Design, Quality Control	\$ 155
Designer II	Lighting Design, Project Support	\$ 135
Designer I	Lighting Design, Project Support	\$ 125
Intern	Lighting Design, Electrical Engineering, Project Support	\$ 100
Production Manager	CADD Production, Deliverables Management, Quality Control	\$ 195
Senior CADD Technician	CADD Production	\$ 130
CADD Technician	CADD Production	\$ 100
Marketing Manager	Marketing, Proposal Development, Contract Review	\$ 95
Office Manager	Invoicing, Office Administration,	\$ 95

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-1
CONSULTANT TEAM MEMBERS for CCD Projects
Key Personnel Billing Rates, 2022

Prime Consultant: Geocal

Title/Classification	Responsibilities	Rate/Hr.
Principal-In-Charge/Project Manager	Oversees contract execution and management, client interaction, overall quality management and document control, insures that systems and processes are in-place, commits resources, negotiates and signs agreements. Provides high level expertise and oversee specific task orders that involve technical expertise in geotechnical engineering	\$245
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.	\$198
Construction Manager	Construction Engineer provides plan reviews, analysis and approval of drawings, design engineering review, resident engineer, reviews plans and documents prepared by others, reviews construction schedule, pay requests.	\$190
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.	\$125
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.	\$100
Geologist	Conducts site subsurface investigations including stake borings, permitting, arranging for drilling and traffic control subcontractor, logs borings, research of site geology, sampling the soils, bedrock, and groundwater, and assist with report preparation	\$100
Operations Manager for Construction Services	Over sees construction quality services including inspections, materials testing, documentation including (local agency), checking resource allocation, calibration and field management	\$185
Laboratory Manager	Oversees the laboratory operations including AASHTO quality management, equipment calibration, training & records, and application of ASTM and AASHTO procedures for materials testing in the lab.	\$100
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	\$105
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	\$125
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.	\$85
Senior Materials Technician / Technician Supervisor	Provides review of quality assurance testing for soils, concrete and asphalt, and other materials, interfaces with client and aids in trouble shooting materials issues, interprets test results for client. Schedules personnel, maintains resource allocation and assists with calibrations.	\$95

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.00

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-1

SUB-CONSULTANT TEAM MEMBERS

Firm Name: H.C. Peck & Associates, 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	Overall project management; acquisition of property rights; business and residential relocations	168
Sr. Project Manager	Day to day project management; acquisition, relocation	150
Project Manager	Day to day project management; acquisition; relocation	133
Sr. ROW Agent	Acquisition; relocation	125
ROW Agent III	Acquisition; relocation	112
ROW Agent II	Acquisition; acquisition support; relocation	100
ROW Agent I	Acquisition support	85
Title Staff	Title research; title commitments	137

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

The City will not compensate the consultant for expenses such as postage, mileage, parking, or telephone costs. Reproduction 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-1

SUB-CONSULTANT TEAM MEMBERS

FIRM NAME: Hydrosystems-KDI, Inc.

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.
Principle	Main Contact, Contracts, Oversee team members	\$140.00
Senior Associate / Project Manager	Attend meetings, Oversee Design Team, QC/ reviews, specifications, cost estimates	\$125.00
Associate / Designer	Irrigation Design, cost estimates, specifications	\$115.00
Site Personnel	Site meetings, observations, submittal reviews, RFI's, reports	\$105.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.25.

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-1

SUB-CONSULTANT TEAM MEMBERS

FIRM NAME: Inherent Character, LLC

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	Lead Design, Project Management	\$100
Designer	Graphic Design, Production Design	\$65

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 2.0.

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-1

SUB-CONSULTANT TEAM MEMBERS

FIRM NAME: Livable Cities Studio, Inc.

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 4	Responsible for strategic direction, vision and overall leadership for the company. Company executive.	\$ 225
Principal 3	Responsible for strategic direction and company vision. A senior officer of the company; Project leadership. Extensive knowledge of design practices.	\$ 200
Principal 2	A senior officer of the company; Lead project and development of content. Extensive knowledge of design practices	\$ 180
Principal 1	A senior officer of the company; Lead project and development of content. Lead project and development of content, complex project management.	\$ 160
Senior Designer 2	Lead design and project management. Develops scopes and budgets. Provides day-to-day technical management.	\$155
Senior Designer 1	Lead design and project management. Develops scopes and budgets. Provides day-to-day technical management.	\$145
Designer 6	Project management. Develops scopes and budgets. Provides day-to-day technical management of task. Development of content and technical design.	\$140
Designer 5	Project management. Develops scopes and budgets. Provides day-to-day technical management of task. Development of content and technical design.	\$130
Designer 4	Project management. Development and advancement of design content.	\$115
Designer 3	Some project management, design production and technical design resolution.	\$100
Designer 2	Design production. Research and design production.	\$90
Designer 1	Performs design production work directed by mid and senior level staff.	\$75
Administrative Support	Provides a wide variety of administrative and staff support services.	\$80
Intern	Students in a design discipline who assists with project development under the direction of design professional.	\$60

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.0.

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.

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SUB-CONSULTANT TEAM MEMBERS

FIRM NAME: OV Consulting

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	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.

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-1
SUB-CONSULTANT TEAM MEMBERS

Firm Name: Pinyon Environmental, Inc.

Category: _____

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).

Title/	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 environmental science.	\$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

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:

- (1) Mileage: Reimbursable at the current IRS Business Rate ONLY when Consultant is required to

EXHIBIT B-1

- drive to a project located outside the City and County of Denver Boundary.
- (2) Actual cost of reproducing and printing reports, drawings, specifications and other work products, and the associated cost for shipping and handling. These reimbursable expenses pertain only to requests made to the Consultant from the City, and exclude intra-office printing, scanning and reproduction required by the Consultant to complete the work.
 - (3) Actual cost for expendable supplies and services not normally used on a routine or normal basis in an architectural or engineering office (i.e. aerial photography) and which are provided especially under this Agreement for the benefit of the City.

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SUB-CONSULTANT TEAM MEMBERS

Firm Name: Utility Mapping Services, Inc.

Title/Classification	Responsibilities	Rate/Hr.
Utility Coord. Manager	Overseeing Utility Coordination efforts regarding the project.	\$183.28
Principal Engineer	Project oversight. QA/QC. Submittal Preparation. Engineer of Record.	\$190.58
Senior Engineer	Project oversight. QA/QC. Submittal Preparation.	\$190.54
Senior Geophysicist	Coordinating field work and processing advanced geophysical investigations.	\$175.64
Project Manager	Project management. Meetings. QA/QC Submittal preparation.	\$184.75
SUE Field Ops. Manager	Field management. QA/QC. Utility Designating and Locating.	\$147.35
Office Manager	Accounting. Invoicing.	\$154.58
Project Engineer	CADD Development. Database Development Engineering Survey. QA/QC. Submittal Prep.	\$158.80
Staff Engineer	CADD Development. Database Development Engineering Survey. QA/QC.	\$153.70
SUE Field Specialist II	Field Designating and Locating.	\$131.13
SUE Field Specialist I	Field Designating and Locating.	\$110.72
GIS IT Specialist	Database Development.	\$114.69

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.1464

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SUB-CONSULTANT TEAM MEMBERS

FIRM NAME: RailPros

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.
Grade Crossing Technical Lead	Design and Oversight related to grade crossing and queue cutter	\$324.00
Senior Traffic Engineer	Technical traffic engineering design. Coordination with BNSF, JLL, and PUC.	\$257.46
Designer	Prepares calculations, plans, specifications and estimate	\$120.00
Administrator	Manages files, travel, and submittals	\$87.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.

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.

SUB-CONSULTANT TEAM MEMBERS

FIRM NAME: Olsson, Inc.

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.
Grade Crossing Technical Lead	Design and Oversight related to grade crossing and queue cutter	\$324.00
Senior Traffic Engineer	Technical traffic engineering design. Coordination with BNSF, JLL, and PUC.	\$257.46
Designer	Prepares calculations, plans, specifications and estimate	\$120.00
Administrator	Manages files, travel, and submittals	\$87.00

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.16.

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 reproduces, 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.

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REIMBURSABLE EXPENSES

Sub-Consultant: Utility Mapping Services, Inc.

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

Actual Costs

<u>Item</u>	<u>Charge Rate</u>
GSA Meals (Travel Day)	\$57.00/day
GSA Meals (Full Day)	\$76.00/day
GSA Lodging	\$195.00/day

Vendor Items and items to be invoiced at cost. These can vary depending on project needs/requirements.

<u>Item</u>
Vacuum Excavation Truck and Crew
Asphalt Coring Equipment Rental
Permits (City, County, CDOT)
Flowable Fill
Asphalt Repair
Backfill and Patching
Traffic Control Services
Airfare
Car Rental

SUB-CONSULTANT TEAM MEMBERS**FIRM NAME:** RS&H, Inc.

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.
Managing Principal	General oversight, contracting, resource allocation, Q/A	\$362.22
Project Manager	Planning, directing, scheduling of RSH staff and coordination of subs	\$346.42
Prof. Engineer - 5	PE responsible for large & complex projects	\$346.42
Prof. Engineer - 4	PE typically with 12+ yrs exp., engineering specialist	\$316.03
Prof. Engineer - 3	PE typically with 8+ yrs exp., major responsibility technical	\$234.59
Prof. Engineer - 2	PE typically w/ 5–10 yrs exp, responsible for tech performance	\$210.28
Prof. Engineer - 1	PE typically with 4-7 yrs exp., working with supervision	\$188.40
EIT – 3	Typically 3+ yrs exp., coordinates technical work	\$170.17
EIT – 2	Typically 2+ yrs exp.	\$145.86
EIT - 1	Entry level engineer	\$138.57
Resident Const Eng.	Associates or BS degree and 15+ years exp	\$328.19
Const Obser – 2	Typically 10-15 yrs, provide oversight of construction project	\$224.87
Const Obser - 1	Typically 5-10 years, provide oversight of construction project	\$164.09
Technician – 2	Typically 2-5 yrs, on site record observations, Technical Train/Cert	\$133.71
Technician - 1	Typically 0-2 yrs, on site record observations	\$85.09

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.1.

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.

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SUB-CONSULTANT TEAM MEMBERS

FIRM NAME: RS&H, Inc.

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.
Designer – 4	15+ yrs exp. w/associate degree, overall design delivery responsibility	\$261.33
Designer – 3	10+ yrs exp. w/associates degree, multi discipline coordination	\$212.71
Designer – 2	8+ yrs exp. w/associates degree, eng calcs, 3D, supervisor	\$170.17
Designer – 1	4-8 yrs, assists in design	\$137.35
CAD Operator	Entry level designer	\$115.47
Project Controls	Cost controls, budgeting and invoicing	\$218.79
Admin III	Administrative support, contract administration	\$182.33
Admin II	Clerical support, meeting minutes, and office administration	\$127.63
Admin I	Clerical support	\$103.32

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.1.

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.

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SUB-CONSULTANT TEAM MEMBERS

FIRM NAME: Clanton & Associates

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.
Chief Executive Officer	Visioning, Project Approach, Quality Control	\$ 495
President	Contracts, Staffing, Project Oversight, Professional Engineer, Quality Control	\$ 365
Principal	Contracts, Staffing, Project Oversight, Professional Engineer, Quality Control	\$ 275
Associate	Contracts, Staffing, Project Oversight, Professional Engineer, Quality Control	\$ 260
Business Development Manager	Business Development	\$ 250
Senior Engineer II	Project Management, Electrical Engineering, Quality Control	\$ 250
Senior Engineer I	Project Management, Electrical Engineering, Quality Control	\$ 210
Engineer II	Lighting Design, Electrical Engineering, Project Support	\$ 175
Engineer I	Lighting Design, Electrical Engineering, Project Support	\$ 160
Senior Designer II	Project Management, Lighting Design, Quality Control	\$ 240
Senior Designer I	Project Management, Lighting Design, Quality Control	\$ 185
Designer II	Lighting Design, Project Support	\$ 165
Designer I	Lighting Design, Project Support	\$ 150
Intern	Lighting Design, Electrical Engineering, Project Support	\$ 120
Production Manager	CADD Production, Deliverables Management, Quality Control	\$ 230
Senior CADD Technician	CADD Production	\$ 150
CADD Technician	CADD Production	\$ 125
Marketing Manager	Marketing, Proposal Development, Contract Review	\$ 115
Office Manager	Invoicing, Office Administration,	\$ 115

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.

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CONSULTANT TEAM MEMBERS for CCD Projects Key Personnel Billing Rates 2024

Prime Consultant: **GEOCAL**

Title/Classification	Responsibilities	Rate/Hr.
Principal-In-Charge/Project Manager	Oversees contract execution and management, client interaction, overall quality management and document control, insures that systems and processes are in-place, commits resources, negotiates and signs agreements. Provides high level expertise and oversee specific task orders that involve technical expertise in geotechnical engineering	\$257.25
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.	\$207.90
Construction Manager	Construction Engineer provides plan reviews, analysis and approval of drawings, design engineering review, resident engineer, reviews plans and documents prepared by others, reviews construction schedule, pay requests.	\$199.50
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.	\$131.25
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.	\$105.00
Geologist	Conducts site subsurface investigations including stake borings, permitting, arranging for drilling and traffic control subcontractor, logs borings, research of site geology, sampling the soils, bedrock, and groundwater, and assist with report preparation	\$105.00
Operations Manager for Construction Services	Over sees construction quality services including inspections, materials testing, documentation including (local agency), checking resource allocation, calibration and field management	\$194.25
Laboratory Manager	Oversees the laboratory operations including AASHTO quality management, equipment calibration, training & records, and application of ASTM and AASHTO procedures for materials testing in the lab.	\$105.00
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	\$110.25
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	\$131.25
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.	\$89.25
Senior Materials Technician / Technician Supervisor	Provides review of quality assurance testing for soils, concrete and asphalt, and other materials, interfaces with client and aids in trouble shooting materials issues, interprets test results for client. Schedules personnel, maintains resource allocation and assists with calibrations.	\$99.75

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

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SUB-CONSULTANT TEAM MEMBERS

FIRM NAME: Livable Cities Studio, Inc. (2025 rates)

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 5	Responsible for strategic direction, vision and overall leadership for the company. Company executive.	\$ 250
Principal 4	Responsible for strategic direction, vision and overall leadership for the company. Company executive.	\$ 225
Principal 3	Responsible for strategic direction and company vision. A senior officer of the company; Project leadership. Extensive knowledge of design practices.	\$ 200
Principal 2	A senior officer of the company; Lead project and development of content. Extensive knowledge of design practices	\$ 180
Principal 1	A senior officer of the company; Lead project and development of content. Lead project and development of content, complex project management.	\$ 160
Senior Designer 2	Lead design and project management. Develops scopes and budgets. Provides day-to-day technical management.	\$155
Senior Designer 1	Lead design and project management. Develops scopes and budgets. Provides day-to-day technical management.	\$145
Designer 6	Project management. Develops scopes and budgets. Provides day-to-day technical management of task. Development of content and technical design.	\$140
Designer 5	Project management. Develops scopes and budgets. Provides day-to-day technical management of task. Development of content and technical design.	\$130
Designer 4	Project management. Development and advancement of design content.	\$115
Designer 3	Some project management, design production and technical design resolution.	\$100
Designer 2	Design production. Research and design production.	\$90
Designer 1	Performs design production work directed by mid and senior level staff.	\$80
Administrative Support	Provides a wide variety of administrative and staff support services.	\$100
Intern	Students in a design discipline who assists with project development under the direction of design professional.	\$75

Multiplier, which when multiplied by the direct labor rate yields the above hourly billing rate: 3.0.

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.

Title/	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.	\$265
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 environmental science.	\$242
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.	\$215
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.	\$184
Project Specialist	Reports to Regulatory and Oversight Agencies, Preparation of Permits, GIS Library Development and Data Analysis, Technical Review of Documents	\$ 153
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	\$132
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	\$113
Staff I Technician	Groundwater Sampling, Sampling During UST Removals, Surveyor's Assistant	\$91
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.	\$118
Project Assistant	Maintain Field Equipment, Data Management	\$103
Word Processing, Clerical	Word Processing, Clerical	\$81