

**PUBLIC WORKS MEMORANDUM  
29-2023**

**DATE:** Oct. 9, 2023  
**TO:** Honorable Mayor Meredith Leighty and City Council Members  
**THROUGH:** Heather Geyer, City Manager *hmg*  
Jason Loveland, Interim Deputy City Manager *AL2*  
**FROM:** Kent Kisselman, Public Works Director *KHK*  
**SUBJECT:** CR-125 – Automated Filter Backwash Engineering Design Services

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**PURPOSE**

To consider CR-125, a resolution approving a contract with Hazen and Sawyer, D.P.C. for engineering design services for the Automated Filter Backwash project.

**BACKGROUND**

The filters at the City’s Water Treatment Facility are aging and inefficient. Staff seeks to upgrade the filters to newer, more efficient, and higher-performing models.

On May 10, 2023, the City issued a Request for Proposal (RFP 2023-015) for Automated Filter Backwash Engineering Design Services. A mandatory pre-bid meeting was held on May 31, 2023, and on June 15, 2023, the City accepted one proposal from Hazen and Sawyer.

Hazen and Sawyer has been providing services at the facility for several years with excellent results. Staff has negotiated the proposed scope and fee for this project to ensure that it best meets the City’s needs.

**BUDGET/TIME IMPLICATIONS**

	<b>Amount</b>
Water Fund - ARPA	\$1,100,000
Hazen and Sawyer Engineering Design Services Contract	(\$399,140)
Contingency (10%)	(\$39,914)
<b>Budget Remaining</b>	<b>\$660,946</b>

\$1.1M was budgeted in 2023 for this project using ARPA funds. The engineering design phase would include a projected cost estimate for the to-be-determined facility improvements. The construction phase would be bid in 2024.

**STAFF RECOMMENDATION**

Attached is CR-125, a resolution that, if approved, would authorize the Mayor to execute a contract between the City and Hazen and Sawyer for the Automated Filter Backwash Engineering Design Services in an amount not to exceed \$399,140, and authorizes the City Manager, on behalf of the City, to approve minor changes in scope of services and execute relevant change orders up to the approved expenditure limit of \$439,054. Staff recommends approval of CR-125.

**STAFF REFERENCE**

If Council members have any questions, please contact Kent Kisselman, Director of Public Works at [kkisselman@northglenn.org](mailto:kkisselman@northglenn.org) or 303.450.4005.

CR-125 – Automated Filter Backwash Engineering Design Services  
Professional Services Agreement

SPONSORED BY: MAYOR LEIGHTY

COUNCIL MEMBER'S RESOLUTION

RESOLUTION NO.

No. CR-125  
Series of 2023

\_\_\_\_\_  
Series of 2023

A RESOLUTION APPROVING A PROFESSIONAL SERVICES AGREEMENT BETWEEN THE CITY OF NORTHGLENN AND HAZEN AND SAWYER, D.P.C. FOR ENGINEERING DESIGN SERVICES FOR THE AUTOMATED FILTER BACKWASH PROJECT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTHGLENN, COLORADO THAT:

Section 1. The Professional Services Agreement between the City of Northglenn and Hazen and Sawyer, D.P.C., attached hereto, in the amount of \$399,140.00 with a ten percent (10%) contingency of \$39,914.00 for a total amount not to exceed \$439,054.00 for engineering design services for the Automated Filter Backwash Project is hereby approved and the Mayor is authorized to execute same on behalf of the City of Northglenn.

DATED, at Northglenn, Colorado, this \_\_\_\_\_ day of \_\_\_\_\_, 2023.

\_\_\_\_\_  
MEREDITH LEIGHTY  
Mayor

ATTEST:

\_\_\_\_\_  
JOHANNA SMALL, CMC  
City Clerk

APPROVED AS TO FORM:

\_\_\_\_\_  
COREY Y. HOFFMANN  
City Attorney

**AGREEMENT FOR PROFESSIONAL SERVICES**

THIS AGREEMENT is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, by and between the City of Northglenn, State of Colorado (hereinafter referred to as the "City") and Hazen and Sawyer, D.P.C. (hereinafter referred to as "Consultant").

**RECITALS:**

A. The City requires professional services.

B. Consultant has held itself out to the City as having the requisite expertise and experience to perform the required work for the Project.

NOW, THEREFORE, it is hereby agreed for the consideration hereinafter set forth, that Consultant shall provide to the City, professional consulting services for the Project.

**I. SCOPE OF SERVICES**

Consultant shall furnish all labor and materials to perform the work and services required for the complete and prompt execution and performance of all duties, obligations, and responsibilities for the Project which are described or reasonably implied from **Exhibit A** which is attached hereto and incorporated herein by this reference.

**II. THE CITY'S OBLIGATIONS/CONFIDENTIALITY**

The City shall provide Consultant with reports and such other data as may be available to the City and reasonably required by Consultant to perform hereunder. No project information shall be disclosed by Consultant to third parties without prior written consent of the City or pursuant to a lawful court order directing such disclosure. All documents provided by the City to Consultant shall be returned to the City. Consultant is authorized by the City to retain copies of such data and materials at Consultant's expense.

**III. OWNERSHIP OF WORK PRODUCT**

The City acknowledges that the Consultant's work product is an instrument of professional service. Nevertheless, the products prepared under this Agreement shall become the property of the City upon completion of the work.

**IV. COMPENSATION**

A. In consideration for the completion of the services specified herein by Consultant, the City shall pay Consultant an amount not to exceed three hundred ninety-nine thousand one hundred forty dollars (\$399,140). Payment shall be made in accordance with the schedule of charges in **Exhibit B** which is attached hereto and incorporated herein by this reference. Invoices will be itemized and include hourly breakdown for all personnel and other charges. The maximum fee specified herein shall include all fees and expenses incurred by Consultant in performing all services hereunder.

B. Consultant may submit monthly or periodic statements requesting payment. Such request shall be based upon the amount and value of the work and services performed by Consultant under this Agreement except as otherwise supplemented or accompanied by such supporting data as may be required by the City.

1. All invoices, including Consultant's verified payment request, shall be submitted by Consultant to the City no later than the twenty-fourth (24th) day of each month for payment

pursuant to the terms of this Agreement. In the event Consultant fails to submit any invoice on or before the twenty-fourth (24th) day of any given month, Consultant defers its right to payment pursuant to said late invoice until the twenty-fourth (24th) day of the following month.

2. Progress payments may be claimed on a monthly basis for reimbursable costs actually incurred to date as supported by detailed statements, including hourly breakdowns for all personnel and other charges. The amounts of all such monthly payments shall be paid within thirty (30) days after the timely receipt of invoice as provided by this Agreement.

C. The City has the right to ask for clarification on any Consultant invoice after receipt of the invoice by the City.

D. In the event payment for services rendered has not been made within forty-five (45) days from the receipt of the invoice for any uncontested billing, interest will accrue at the legal rate of interest. In the event payment has not been made within ninety (90) days from the receipt of the invoice for any uncontested billing, Consultant may, after giving seven (7) days written notice and without penalty or liability of any nature, suspend all work on all authorized services specified herein. In the event payment in full is not received within thirty (30) days of giving the seven (7) days written notice, Consultant may terminate this Agreement. Upon receipt of payment in full for services rendered, Consultant will continue with all authorized services.

E. Final payment shall be made within sixty (60) calendar days after all data and reports (which are suitable for reproduction and distribution by the City) required by this Agreement have been turned over to and approved by the City and upon receipt by the City of Consultant's certification that services required herein by Consultant have been fully completed in accordance with this Agreement and all data and reports for the Project.

**V. COMMENCEMENT AND COMPLETION OF WORK**

Within seven (7) days of receipt from the City of a Notice to Proceed, Consultant shall commence work on all its obligations as set forth in the Scope of Services or that portion of such obligations as is specified in said Notice. Except as may be changed in writing by the City, the Project shall be complete, and Consultant shall furnish the City the specified deliverables as provided in **Exhibit A**.

**VI. CHANGES IN SCOPE OF SERVICES**

A change in the Scope of Services shall constitute any material change or amendment of services or work which is different from or additional to the Scope of Services specified in Section I of this Agreement. No such change, including any additional compensation, shall be effective, or paid unless authorized by written amendment executed by the City. If Consultant proceeds without such written authorization, then Consultant shall be deemed to have waived any claim for additional compensation, including a claim based on the theory of unjust enrichment, quantum meruit or implied contract. Except as expressly provided herein, no agent, employee, or representative of the City shall have the authority to enter into any changes or modifications, either directly or implied by a course of action, relating to the terms and scope of this Agreement.

**VII. PROFESSIONAL RESPONSIBILITY**

A. Consultant hereby warrants that it is qualified to assume the responsibilities and render the services described herein and has all requisite corporate authority and professional licenses in good standing, required by law.

B. The work performed by Consultant shall be in accordance with generally accepted professional practices and the level of competency presently maintained by other practicing professional firms in the same or similar type of work in the applicable community.

C. Consultant shall be responsible for the professional quality, technical accuracy, timely completion, and the coordination of all designs, drawings, specifications, reports, and other services furnished by Consultant under this Agreement. Consultant shall, without additional compensation, correct or resolve any errors or deficiencies in his designs, drawings, specifications, reports, and other services, which fall below the standard of professional practice, and reimburse the City for construction costs caused by errors and omissions which fall below the standard of professional practice.

D. Approval by the City of drawings, designs, specifications, reports, and incidental work or materials furnished hereunder shall not in any way relieve Consultant of responsibility for technical adequacy of the work. Neither the City's review, approval or acceptance of, nor payment for, any of the services shall be construed to operate as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement, and Consultant shall be and remain liable in accordance with applicable performance of any of the services furnished under this Agreement.

E. The rights and remedies of the City provided for under this Agreement are in addition to any other rights and remedies provided by law.

## **VIII. INDEMNIFICATION**

A. **INDEMNIFICATION – GENERAL:** The City cannot and by this Agreement does not agree to indemnify, hold harmless, exonerate or assume the defense of the Consultant or any other person or entity whatsoever, for any purpose whatsoever. Provided that the claims, demands, suits, actions or proceedings of any kind are not the result of professional negligence, the Consultant, to the fullest extent permitted by law, shall defend, indemnify and hold harmless the City, its Council members, officials, officers, directors, agents and employees from any and all claims, demands, suits, actions or proceedings of any kind or nature whatsoever, including worker's compensation claims, in any way resulting from or arising from the services rendered by Consultant, its employees, agents or subconsultants, or others for whom the Consultant is legally liable, under this Agreement; provided, however, that the Consultant need not indemnify or save harmless the City, its Council members, its officers, agents and employees from damages resulting from the negligence of the Council members, officials, officers, directors, agents and employees.

B. **INDEMNIFICATION FOR PROFESSIONAL NEGLIGENCE:** The Consultant shall, to the fullest extent permitted by law, defend, indemnify and hold harmless the City, its Council members, and any of its officials, officers, directors, and employees from and against damages, liability, losses, costs and expenses, including reasonable attorneys fees, but only to the extent caused by or arising out of the negligent acts, errors or omissions of the Consultant, its employees, agents or subconsultants, or others for whom the Consultant is legally liable, in the performance of professional services under this Agreement. The Consultant is not obligated under this subparagraph IX.B. to indemnify the City for the negligent acts of the City, its Council members, or any of its officials, officers, directors, agents and employees.

C. **INDEMNIFICATION – COSTS:** Consultant shall, to the fullest extent permitted by law, defend, investigate, handle, respond to, and provide defense for and defend against, any such liability, claims or demands at the sole expense of Consultant or, at the option of the City, agrees to pay the City or reimburse the City for the defense costs incurred by the City in connection with any such liability, claims or demands. Consultant shall, to the fullest extent permitted by law, defend and bear all other costs and expenses related thereto, including court costs and attorney fees, whether or not any such liability, claims or demands alleged are groundless, false or fraudulent. If it is determined by the final judgment of a court of any competent jurisdiction that such injury, loss or damage was caused in

whole or in part by the act, omission or other fault of the City, its Council members, officials, officers, directors, agents and employees, the City shall reimburse Consultant for the portion of the judgment attributable to such act, omission or other fault of the City, its Council members, officials, officers, directors, agents and employees.

D. To the extent this Agreement is subject to C.R.S. § 13-50.5-102(8), Contractor's liability under this provision shall be to the fullest extent of, but shall not exceed, that amount represented by the degree or percentage of negligence or fault attributable to Contractor, any subcontractor of Contractor, or any officer, employee, representative, or agent of Contractor or of any subcontractor of Contractor. If Contractor is providing architectural, engineering, surveying or other design services under this Agreement, the extent of Contractor's obligation to defend, indemnify and hold harmless the City may be determined only after Contractor's liability or fault has been determined by adjudication, alternative dispute resolution or otherwise resolved by mutual agreement of the Parties, as provided by C.R.S. § 13-50.5-102(8)(c).

## **IX. INSURANCE**

A. Consultant agrees to procure and maintain, at its own cost, a policy or policies of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by Consultant pursuant to Section IX, above. Such insurance shall be in addition to any other insurance requirements imposed by this Agreement or by law. Consultant shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to Section IX, above, by reason of its failure to procure or maintain insurance, or by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types.

B. Consultant shall procure and maintain and shall cause any subcontractor of Consultant to procure and maintain, the minimum insurance coverages listed below. Such coverages shall be procured and maintained with forms and insurers acceptable to the City. All coverages shall be continuously maintained to cover all liability, claims, demands, and other obligations assumed by Consultant pursuant to Section IX, above. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage.

1. Worker's Compensation Insurance to cover obligations imposed by applicable laws for any employee engaged in the performance of work under this Contract, and Employer's Liability Insurance with minimum limits of five hundred thousand dollars (\$500,000) each incident, five hundred thousand dollars (\$500,000) disease - policy limit, and five hundred thousand dollars (\$500,000) disease - each employee.

2. Commercial general liability insurance with minimum combined single limits of one million dollars (\$1,000,000) each occurrence and two million dollars (\$2,000,000) general aggregate. The policy shall be applicable to all premises and operations. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, products, and completed operations. The policy shall contain a severability of interests provision.

3. Professional liability insurance with minimum limits of six hundred thousand dollars (\$600,000) each claim and one million dollars (\$1,000,000) general aggregate.

C. The policy required by paragraph 2. above shall be endorsed to include the City and the City's officers, employees, and consultants as additional insureds. Every policy required above shall be primary insurance, and any insurance carried by the City, its officers, its employees, or its consultants shall be excess and not contributory insurance to that provided by Consultant. No additional insured endorsement to the policy required by paragraph 1. above shall contain any exclusion

for bodily injury or property damage arising from completed operations. Consultant shall be solely responsible for any deductible losses under any policy required above.

D. The certificate of insurance provided for the City shall be completed by Consultant's insurance agent as evidence that policies providing the required coverages, conditions, and minimum limits are in full force and effect, and shall be reviewed and approved by the City prior to commencement of the Agreement. No other form of certificate shall be used. If the City is named as an additional insured on any policy which does not allow for the automatic addition of additional insureds, the Consultant's insurance agent shall also provide a copy of all accompanying endorsements recognizing the City as an additional insured. The certificate shall identify this Agreement and shall provide that the coverages afforded under the policies shall not be cancelled, terminated or materially changed until at least thirty (30) days prior written notice has been given to the City. The completed certificate of insurance shall be sent to:

City of Northglenn  
Attn: Risk Manager  
11701 Community Center Drive  
Northglenn, Colorado 80233-8061

E. Failure on the part of Consultant to procure or maintain policies providing the required coverages, conditions, and minimum limits shall constitute a material breach of agreement upon which the City may immediately terminate this Agreement, or at its discretion, the City may procure or renew any such policy or any extended reporting period thereto and may pay any and all premiums in connection therewith, and all monies so paid by the City shall be repaid by Consultant to the City upon demand, or the City may offset the cost of the premiums against any monies due to Consultant from the City.

F. The City reserves the right to request and receive a certified copy of any policy and any endorsement thereto.

G. The parties hereto understand and agree that the City, its officers, and its employees, are relying on, and do not waive or intend to waive by any provision of this Agreement, the monetary limitations (presently three hundred fifty thousand dollars (\$350,000) per person and nine hundred ninety thousand dollars (\$990,000) per occurrence) or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, Colo. Rev. Stat., §§ 24-10-101, et seq., as from time to time amended, or otherwise available to the City, its officers, or its employees.

#### **X. NON-ASSIGNABILITY**

Neither this Agreement, nor any of the rights or obligations of the parties hereto, shall be assigned by either party without the written consent of the other.

#### **XI. TERMINATION**

This Agreement shall terminate at such time as the work in Section I is completed and the requirements of this Agreement are satisfied, or upon the City's providing Consultant with seven (7) days advance written notice, whichever occurs first. In the event the Agreement is terminated by the City's issuance of said written notice of intent to terminate, the City shall pay Consultant for all work previously authorized and completed prior to the date of termination. If, however, Consultant has substantially or materially breached the standards and terms of this Agreement, the City shall have any remedy or right of set-off available at law and equity. If the Agreement is terminated for any reason other than cause prior to completion of the Project, any use of documents by the City thereafter shall be at the City's sole risk, unless otherwise consented to by Consultant.

**XII. CONFLICT OF INTEREST**

The Consultant shall disclose any personal or private interest related to property or business within the City. Upon disclosure of any such personal or private interest, the City shall determine if the interest constitutes a conflict of interest. If the City determines that a conflict of interest exists, the City may treat such conflict of interest as a default and terminate this Agreement.

**XIII. VENUE**

This Agreement shall be governed by the laws of the State of Colorado, and any legal action concerning the provisions hereof shall be brought in the County of Adams, State of Colorado.

**XIV. INDEPENDENT CONTRACTOR**

Consultant is an independent contractor. Notwithstanding any provision appearing in this Agreement, all personnel assigned by Consultant to perform work under the terms of this Agreement shall be, and remain at all times, employees or agents of Consultant for all purposes. Consultant shall make no representation that it is the employee of the City for any purposes.

**XV. NO WAIVER**

Delays in enforcement or the waiver of any one or more defaults or breaches of this Agreement by the City shall not constitute a waiver of any of the other terms or obligation of this Agreement.

**XVI. ENTIRE AGREEMENT**

This Agreement and the attached **Exhibits A and B** is the entire Agreement between Consultant and the City, superseding all prior oral or written communications. None of the provisions of this Agreement may be amended, modified, or changed, except as specified herein.

**XVII. SUBJECT TO ANNUAL APPROPRIATION**

Consistent with Article X, Section 20 of the Colorado Constitution, any financial obligations of the City not to be performed during the current fiscal year are subject to annual appropriation, and thus any obligations of the City hereunder shall extend only to monies currently appropriated.

**XVIII. NOTICE**

Any notice or communication between Consultant and the City which may be required, or which may be given, under the terms of this Agreement shall be in writing, and shall be deemed to have been sufficiently given when directly presented or sent pre-paid, first class United States Mail, addressed as follows:

The City: City of Northglenn  
11701 Community Center Drive  
Northglenn, Colorado 80233-8061

Consultant: Hazen and Sawyer, D.P.C.  
77 Newbridge Road  
Hicksville, NY 11801



IN WITNESS WHEREOF, the parties hereto each herewith subscribe the same in duplicate.

**CITY OF NORTHGLENN, COLORADO**

By: \_\_\_\_\_

Meredith Leighty  
Print Name

Mayor  
Title Date

ATTEST:

\_\_\_\_\_  
Johanna Small, CMC Date  
City Clerk

APPROVED AS TO FORM:

\_\_\_\_\_  
Corey Y. Hoffmann Date  
City Attorney

**CONSULTANT:**

By: *[Signature]*

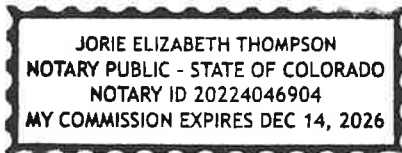
Steven D. Price  
Print Name

Associate Vice President 9/7/23  
Title Date

ATTEST:

By: *Jane Slupe*  
*Jane Thompson*  
Print Name

*Administrator* *9/7/2023*  
Title Date





## **Exhibit A**

### **Scope of Work for the City of Northglenn's Filter and Chemical Building Upgrades**

#### **Project Understanding**

This scope of work describes the tasks needed to complete the upgrades to the Filters and Chemical Building at the Northglenn Water Treatment Plant (WTP). The filter upgrades include addition of air scour to replace surface wash, replacement of valves and troughs, and evaluation of media replacement. The chemical building upgrades include the addition of 3 additional Alum storage tanks, replacement of 3 existing Caustic storage tanks, and miscellaneous upgrades to the chemical building including chemical feed panels, chemical feed and tank fill lines, instrumentation and alarms, and plumbing modifications for safety showers. These upgrades provide additional resiliency by eliminating single points of failure and replacing aging infrastructure.

#### **Scope of Work – Design, Permitting and Bid Phase Services**

##### **Task 1 – Project Management and Workshops**

Hazen will provide project management and coordination meetings throughout the project. Bi-weekly Teams meetings will be held to discuss the current project status and any coordination needs between City and Hazen staff. Additionally, Hazen will manage the project schedule and budget, and provide monthly invoices to the City.

##### **Meetings and Workshops:**

- **Kickoff Meeting:** Up to three (3) Hazen staff are expected to attend this meeting in person. Prior to this workshop, a meeting agenda and any items that require City review or input will be provided. Summary meeting notes will also be provided within a week of the workshop to document decisions, outcomes, and other comments.
- **Status updates:** A 30 minute bi-weekly call will be held to provide an update on the project status. This will include ongoing activities that need coordination and provide updates to the design schedule and budget as needed.
- **Basis of Design Workshop:** Up to three (3) Hazen staff are expected to attend this meeting in person or via Teams call if the City prefers a virtual workshop. This workshop will review filter alternatives and cost implications for City Review. Summary meeting notes will also be provided within a week of the workshop to document decisions, outcomes, and other comments.



- 60% Design Workshop: Up to three (3) Hazen staff are expected to attend this meeting in person. Hazen will develop filter and chemical drawings to be reviewed at the 60 percent stage and review this set during a workshop with City staff. Hazen will also consider all City comments and provide a comment-resolution table.
- 90% Design Workshop: Up to three (3) Hazen staff are expected to attend this meeting in person. Hazen will develop filter and chemical drawings to be taken to a 90% Design level and all associated specification sections for City review. Attachment A lists the drawings that are anticipated for this project, and all drawings will be included in this phase. Hazen will also consider all City comments and provide a comment-resolution table.

## Task 2 – Filter Upgrades Design

Hazen will evaluate alternatives and design approaches for the filter upgrades for review with City staff. These alternatives include evaluations of blower sizing and location, filter troughs, media handling or replacement, valve and actuator types, and control station design. Hazen will provide operational benefits, considerations, and impact to project costs as a part of this evaluation. The selected alternatives will then be incorporated into the basis of design report.

Hazen will take the basis of design report to develop design documents for the demolition and design of the upgrades at the filter building. This will include detailed design drawings and associated specification sections. A list of anticipated drawings is included as Attachment A to this scope of work. Hazen will develop major drawings to be reviewed at the 60 percent stage and 90 percent design stage.

Hazen will perform the appropriate level of internal QA/QC for the design phases.

### Deliverables:

- Hazen will prepare workshop content for the basis of design workshop to evaluate the alternatives and design approaches for the filter upgrades.
- A Class IV cost estimate will be developed for the alternatives evaluation to show differences in construction and life cycle costs, as well as develop the initial estimate for overall project costs.
- Hazen will provide an electronic copy of the 60% milestone drawings, and the 90% milestone drawings and specifications.
- Hazen will provide a Class II cost estimate with the 90% design milestone for the engineer's opinion of probable construction cost (OPCC).

## Task 3 – Chemical Building Upgrades Design

Hazen will develop design documents for the demolition and design of the chemical upgrades including detailed plans and sections suitable for a contractor to bid and construct from. A list of anticipated



drawings is included as Attachment A to this scope of work. Hazen will develop major drawings to be reviewed at the 60 percent stage and 90 percent design stage.

Hazen will perform the appropriate level of internal QA/QC for the design phases.

Deliverables:

- Hazen will provide an electronic copy of the 60% milestone drawings, and the 90% milestone drawings.

#### Task 4 – Permitting and Funding Support

Hazen will provide EPA funding support to ensure project approach and requirements are met to comply with funding requirements to maximize the use of available funds. Any language that Contractors must comply with for labor wages, material purchase requirements, etc. will be included in the specifications.

Hazen will prepare a formal review package and have any required discussions prior to submitting a review package for approval of the filter upgrades to the Colorado Department of Public Health & Environment (CDPHE).

Assumptions for Task 1, 2, 3 and 4:

- No permitting submittals are required through CDPHE or through the Building or Fire Department for the upgrades inside the Chemical building. CDPHE submittals will only be required for the filter upgrades. The City will pay for all permits and permitting review costs.
- City reviews will be completed in ten business days.
- These design upgrades will not require site civil, architectural, or HVAC design. Any design efforts in these disciplines would be considered additional effort outside of this scope.
- Controls integration will be completed by Brownhill. Any additional I&C efforts required from Hazen outside of the listed drawings and associated specifications will be considered additional effort outside this scope of work.
- Services during construction level of effort will be determined after the full filter design approach has been determined and can be provided via amendment to this contract at the City's discretion.
- EPA funding support will consist of general guidance to maintain compliance with funding requirements and any associated specification language that Contractors must be made aware of for bidding and completing the work. It is assumed that no funding application or direct coordination with the EPA to secure funding would be required.
- The Chemical Building upgrades and Filter Upgrades will have the ability to be bid together or separately as desired by the City.



## Schedule

The following lists estimated milestones. Hazen will coordinate with Northglenn's Project Manager to maintain progress on this project.

- Notice to Proceed: September 8, 2023
- Detailed Design 60% Complete: December 2023
- Detailed Design 90% Complete: February 2024
- Construction Bid Documents: March 2024
- Construction NTP: April 2024



## Drawing List

The table below shows all anticipated drawings that will be included in the final set of drawings for this project.

### Filter Upgrades Sheet List

	Sheet No.	Drawing Type	Sheet Name
1	G-01	General	Cover Page
2	G-02	General	Drawing Index
3	G-03	General	Abbreviations and Legend
4	D-100	Structural	Filter Building Demolition Plan
5	S-100	Structural	Structural Notes and Details
6	S-101	Structural	Blower Pad and Pipe Support Plan
7	D-101	Mechanical	Filter Building Mechanical Demolition Plan
8	M-101	Mechanical	Filter Building Air Scour Upper Level Plan
9	M-102	Mechanical	Filter Building Lower Level Gallery Plan
10	M-103	Mechanical	Filter Building Air Scour Sections and Details
11	M-104	Mechanical	Filter Building Gallery Piping Sections and Details
12	M-105	Mechanical	Filter Box Section Underdrain and Media Details
13	M-106	Mechanical/Structural	Process Mechanical and Structural Support Plan
14	M-107	Mechanical/Structural	Process Mechanical and Structural Penetration Details
15	M-108	Mechanical/Structural	Process Mechanical and Structural Gallery Piping Sections and Details



16	E-01	Electrical	General Notes, Legend, and Symbols
17	E-02	Electrical	Electrical Abbreviations
18	E-100	Electrical	Filter Facility Power Plan I
19	E-101	Electrical	Filter Facility Power Plan II
20	E-102	Electrical	Filter Facility Power Plan III
21	E-103	Electrical	Demolition Single Line Diagrams
22	E-104	Electrical	Single Line Diagrams
23	E-105	Electrical	Electrical Equipment Elevations - Switchgear, MCCs
24	E-106	Electrical	Panel Schedules
25	E-107	Electrical	Riser Diagrams
26	E-108	Electrical	Control One Line Diagrams
27	E-109	Electrical	Elementary Control Schematics
28	E-110	Electrical	Conduit and Wire Schedules
29	I-01	I&C	I&C Symbols and Legend
30	I-02	I&C	Abbreviations
31	I-03	I&C	System Block Diagram
32	I-04	I&C	Surface Wash and Control System Demolition Overview
33	I-05	I&C	Filter 1 P&ID
34	I-06	I&C	Filter 2 P&ID
35	I-07	I&C	Filter 3 P&ID
36	I-08	I&C	Filter 4 P&ID
37	I-09	I&C	Filter 5 P&ID



38	I-10	I&C	Filter 6 P&ID
39	I-11	I&C	Filter 7 P&ID
40	I-12	I&C	Filter 8 P&ID
41	SD-01	Standard Details	Process Mechanical Standard Details
42	SD-02	Standard Details	Electrical Standard Details
43	SD-03	Standard Details	Structural Standard Details

**Chemical Building Upgrades Sheet List**

	Sheet No.	Drawing Type	Sheet Name
1	G-01	General	Cover Page and Drawing Index
2	G-02	General	Abbreviations and Legend
3	D-100	Structural/Mechanical	Chemical Building Demolition Plan
4	M-101	Mechanical/Plumbing	Chemical Building Mechanical and Plumbing Plan
5	M-102	Mechanical/Plumbing	Chemical Building Mechanical and Plumbing Sections and Details
6	M-103	Mechanical/Plumbing	Chemical Building Mechanical and Plumbing Sections and Details
7	E-01	Electrical	Legend and Symbols
8	E-02	Electrical	Chemical Building Plan
9	I-01	I&C	I&C Symbols and Legend
10	I-02	I&C	Control System Architecture
11	I-03	I&C	Alum Storage and Feed P&ID
12	I-04	I&C	Caustic Storage and Feed P&ID





13	I-05	I&C	Polymer Storage and Feed P&ID
14	SD-01	Standard Details	Process Mechanical Standard Details
15	SD-02	Standard Details	HVAC/Plumbing Standard Details
16	SD-03	Standard Details	Electrical Standard Details



### Fee

The overall fee and budgets for each task based on the scope of work above can be found in the table below. This fee includes a total of 2,296 engineering hours with a fee not to exceed \$399,140.

Northglenn Chemical Feed Upgrades Hazen Fee Estimate August 18, 2023																
		Mech	HVAC	Struct	Mech	Elec	Mech	Mech	Ecc	Struct	GEN	Gen				
		JC	JP	WC	MR	TV	EP	VH	JN	AS	CAD	CAD				
		SA	PE	A	A	SPE	SPE	PE	FE	PE	SR Tech	Tech	Total	Labor	Expense	Total
Task	Description	\$ 260	\$ 150	\$ 230	\$ 230	\$ 190	\$ 95	\$ 175	\$ 175	\$ 175	\$ 55	\$ 125	Hours	\$	\$	\$
<b>100</b>	<b>Task 1 - Project Management</b>	15	0	0	56	0	48	0	0	0	0	0	169	\$ 35,600	\$ -	\$ 35,600
110	Kickoff Workshop	4			4		4						12	\$ 2,740		\$ 2,740
120	Project Coordination Meetings and Project Management				20		20						103	\$ 22,200		\$ 22,200
130	Basis of Design Workshop	4			4		8						15	\$ 3,520		\$ 3,520
140	60% Design Workshop	4			4		8						15	\$ 3,520		\$ 3,520
150	90% Design Workshop	4			4		8						15	\$ 3,520		\$ 3,520
<b>200</b>	<b>Task 2 - Filter Upgrades Design</b>	40	0	24	48	88	280	180	268	140	100	500	1588	\$ 284,220	\$ -	\$ 284,220
201	Filter Alternatives Evaluation			9	16		40	40		40			152	\$ 29,400		\$ 29,400
202	Basis of Design Report	4		4	4		16	24		4			63	\$ 11,600		\$ 11,600
203	Alternatives Cost Estimates						40						43	\$ 7,800		\$ 7,800
210	Design - Process/Mechanical	24			10		200	100					364	\$ 71,940		\$ 71,940
211	Design - Structural			16									159	\$ 26,180		\$ 23,180
212	Design - Electric					80			261	140			341	\$ 6,100		\$ 6,100
213	Design - Civil												3	\$ -		\$ -
214	Design - Cost Estimate						80						83	\$ 15,600		\$ 15,600
215	Design - HVAC/Plumb												3	\$ -		\$ -
216	Design - Arch												3	\$ -		\$ -
217	Design - CAD										100	500	603	\$ 78,000		\$ 78,000
220	QA/QC	16		8	8	8							43	\$ 9,400		\$ 9,400
230	Bid Package Coordination												3	\$ -		\$ -
260	Expenses												3	\$ -	\$ 1,000	\$ 1,000
<b>300</b>	<b>Task 3 - Chemical Upgrades Design</b>	12	40	16	9	45	24	60	100	24	20	90	462	\$ 76,190	\$ 500	\$ 77,280
310	Design - Process/Mechanical	4			8		20	60					92	\$ 17,280		\$ 17,280
311	Design - Structural			8						24			32	\$ 6,040		\$ 6,040
312	Design - Electric					40			103				143	\$ 25,300		\$ 25,300
313	Design - Civil												3	\$ -		\$ -
314	Design - Filter Estimate												3	\$ -		\$ -
315	Design - HVAC/Plumb		40										43	\$ 6,000		\$ 6,000
316	Design - Arch												3	\$ -		\$ -
317	Design - CAD										30	90	123	\$ 15,900		\$ 15,900
320	QA/QC	8		8	8	8	4						23	\$ 6,200		\$ 6,200
330	Bid Package Coordination												3	\$ -		\$ -
360	Expenses												3	\$ -	\$ 500	\$ 500
<b>400</b>	<b>Task 4 - Permitting and Funding Support</b>	24	0	0	24	0	24	32	0	0	0	0	104	\$ 22,840	\$ -	\$ 22,840
410	EPA Funding Support	8			16		24	32					32	\$ 7,840		\$ 7,840
420	CDPHE Coordination and Permitting	0			0		24	32					72	\$ 14,200		\$ 14,200
	<b>Total</b>	<b>92</b>	<b>40</b>	<b>40</b>	<b>176</b>	<b>136</b>	<b>376</b>	<b>192</b>	<b>268</b>	<b>164</b>	<b>130</b>	<b>690</b>	<b>7296</b>	<b>\$ 348,640</b>	<b>\$ 500</b>	<b>\$ 399,140</b>